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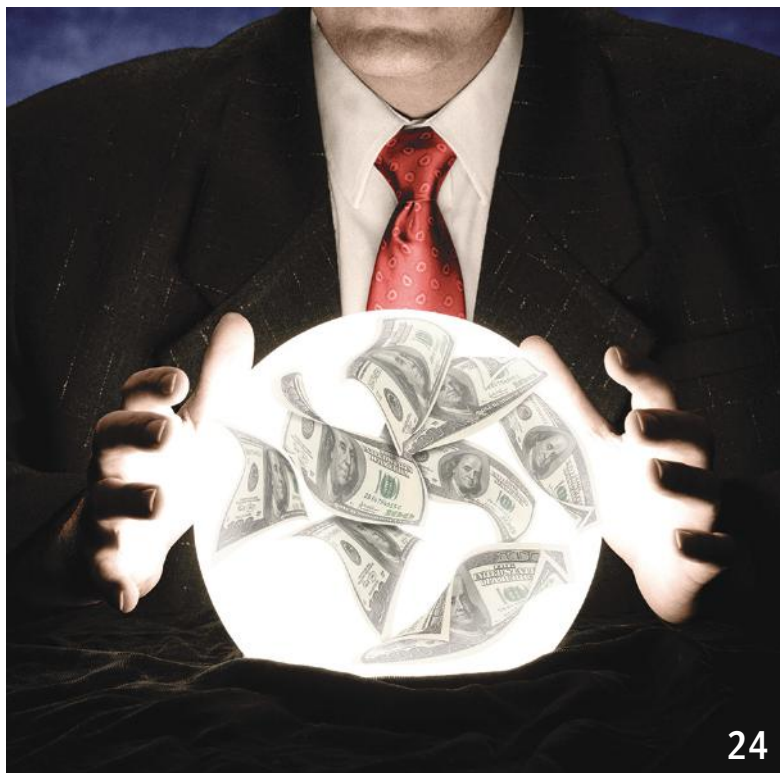
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Trive Capital is a Dallas, Texas based private equity firm managing over \$2 billion in capital. Trive focuses on investing equity and debt in what it sees as strategically viable middle-market companies with the potential for transformational upside through operational improvement. We seek to maximize returns through a hands-on partnership that calls for identifying and implementing value creation ideas. The Trive team is comprised of seasoned investment professionals who have been involved in over 70 middle-market transactions representing in excess of \$6 billion in revenue across Trive's targeted industry sectors and situations.



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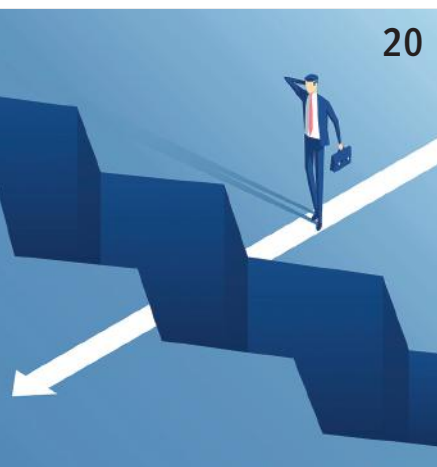
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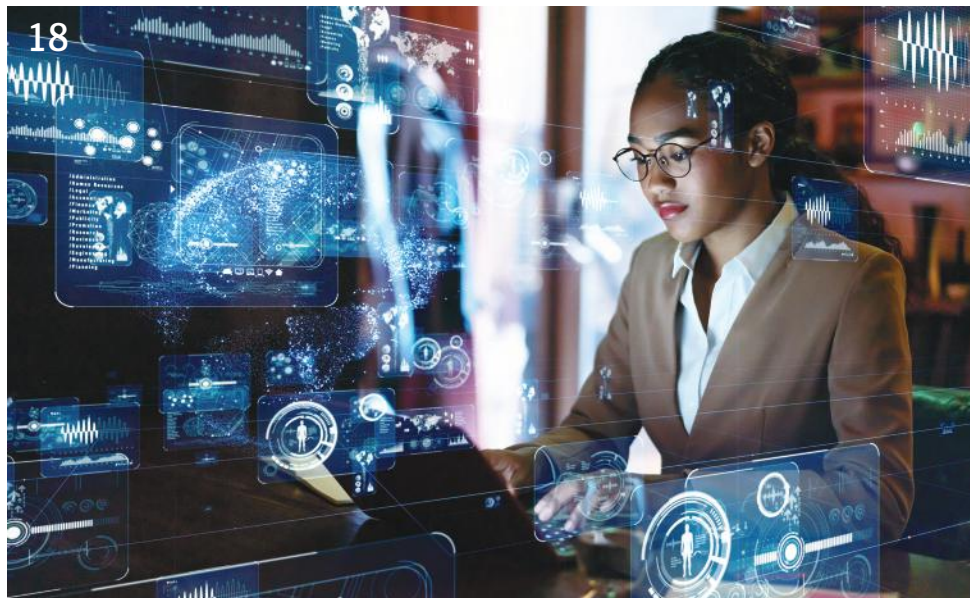
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Predictions Season

December brings a ton of prognosticating about the year ahead. The predictions from consultants, researchers, and other “experts” fall into two categories: (1) the overly obvious and (2) the overly precise. I’m determined, in 2020, to be more pessimistic about the second kind. (The first kind I just ignore.)

I’m behind the curve on this, because I only recently read Nassim Nicholas Taleb’s “The Black Swan: The Impact of the Highly Improbable.” But I think corporate finance, even the entire C-suite, has yet to assimilate his ideas.

The book reinforces what “common sense” already tells us: trying to forecast the future based on historical data, without accounting for the unexpected, the random, and the unpredictable, is not very smart.

And yet, corporate finance and many other disciplines continue to do it—and base decisions on those forecasts. Take a recent story pitch that hit my inbox, from highly reputable IDC. The email is full of forecasts about the direction and pace of financial services technology adoption in the next three to five years.

One of the more questionable divinations: by 2022, 50% of global tier one banks will be using quantum computing to review portfolio allocations, algorithmic trading, and pricing strategies. I don’t know how this number was generated, but it is definitely overly precise,

self-serving, and, in my opinion, unknowable. Quantum computing is in only the test-case phase at financial institutions. Given how slowly banks adopt new systems and how often we as a society severely overestimate a new technology’s importance, three years seems awfully optimistic. And what if none of the tests are successful? Or a better technology comes along?

If IDC wanted to convey real information, it would focus on a range of possible outcomes: for example, “the percentage of banks adopting quantum computing by 2022 could be 50%, according to our models, or it could be zero.” As Taleb writes, “the worst case is far more consequential than the forecast itself.”

Better than trying to predict or listening to experts’ predictions, organizations should invest in preparedness, according to Taleb. A good thing for CFOs to ponder as a new year dawns.

Vincent Ryan
Editor-in-Chief

EDITOR’S PICKS

DISRUPTION

According to “**Why Companies Do ‘Innovation Theater’ Instead of Actual Innovation,**” organizations tend to run hackathons, design-thinking classes, and ideation sessions, all of which rarely deliver deployable products. What companies need to tackle are the layers of processes that reduce the ability to be agile and lean. Read more on the Harvard Business Review website.

INVESTMENT

How can SoftBank’s Vision Fund rebound from the WeWork debacle? David Erickson, senior fellow at Wharton, says it should hire seasoned executives with domain expertise to assist its portfolio companies. For the \$185 million it is paying WeWork’s founder for consulting, for example, it might persuade successful real estate investors to lend a hand. Read more on the Knowledge@Wharton website.

RISK

In “**How Do You Get Corporate Strategy to Engage with Climate Change,**” Rafael Ramirez, professor at Oxford University, asks why corporate strategists are slow to realize that Earth is in a climate emergency. In a strategy vacuum, he says, functions and departments like risk management are setting the agenda for what to do about global warming. Read more on what is required to move climate change up the strategy agenda. Visit Knowledge@Wharton.

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“Fears Over Digitalization Efforts Top Execs’ Worry List” (CFO.com, Oct. 25) drew an enthusiastic response from Constance Minc, CFO of IFS, a digitalization-enabling software company.

“I applaud the sentiment of your article,” Minc wrote. “It echoes our everyday customer conversations. A culture of change must come first, and that includes the finance organization. **Finance often needs to transform itself—to literally change its form.**

“I have held leadership roles in business operations,” she continued, “which has brought me rich insight into how to re-engineer finance departments and why it’s so important.”

“Companies Move to Limit Employees’ Health Costs” (CFO.com, Nov. 4) described how most large and midsize employers hit “pause” in 2019 on again raising workers’ out-of-pocket costs for health services.

“Good article,” one audience member allowed. **“Unfortunately, the article sounds as if there is little the CFO at a company of 100 or 500 employees can do to compete for employees or improved bottom lines. That couldn’t be further from the truth.”**

Every technique mentioned in the article, he added, is available in one form or another to smaller employers.

“It may not be as robust as at larger firms, but it’ll be far more robust than what they do now, which is almost nothing. Why? Brokers who serve that audience of CFOs are compensated via transaction costs. If those CFOs take the time to find a broker that aligns compensation with results—lower health claims—both can win.”

Another reader offered a more radical idea: “Employers have no business paying for employee health care. **The imbalance in tax treatment for employer-paid insurance and individual plans is one reason for the high cost of individual plans.** We should let the marketplace work and keep our health information to ourselves.”

“The Two Faces of Private Equity” (CFO.com, Oct. 31) noted that while some PE firms invest in and enhance the value of their portfolio companies, others resort to slashing expenses in a bid to lieu potential acquirers by prettying up the books.

A disapproving reader responded, “I’m not aware of that. With plenty of ‘dry powder’ [waiting to be invested], founders can select a PE firm whose vision and culture are aligned with their own. And **it’s difficult to imagine that a PE firm that isn’t creating value—selling an enterprise for more than it paid—will be around long enough to raise another fund.**”

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CFO PUBLISHING LLC

is a wholly owned subsidiary of Argyle Executive Forum LLC, 50 Broad St., 1st Floor, New York, NY 10004 argyleforum.com

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STATS OF THE MONTH



CFO C.V.

15%

Projected rate of CFO turnover in 2019*

53

Average age of sitting CFOs

39%

CFOs with a public accounting background

13%

CFOs with investment banking experience

21%

CFOs holding at least one external public board seat

Source: Crist Kolder Associates

*All numbers are as of Aug. 1, 2019, for companies in either the Fortune 500 or S&P 500 (675 total companies)

M&A

Deals Made in Downturns Create More Value

While it's prudent to conserve cash in a weak economy, it's actually a good time to consider an acquisition. **By David McCann**

● If there indeed is an economic downturn ahead, what should companies do during it?

Perhaps they should acquire a company. Extensive research by Boston Consulting Group found that deals made in a weaker economy are associated with greater shareholder return than those made in a strong economy.

BCG studied 51,600 acquisitions by publicly traded strategic buyers, with a value of at least \$250 million, from 1980 through 2018. It compared (1) acquiring companies' cumulative abnormal stock returns (CARs) from three days before deal announcements to three days after (i.e., "announcement returns"), against (2) acquirers' "relative total shareholder return" (RTSR) one year and two years after acquisitions.

Abnormal returns are the difference between actual stock returns and those predicted by a capital markets model. RTSR is total shareholder return compared with a set of comparable companies, which BCG derived using an industry classification from the Refinitiv database.

In an index where the average RSTR value was set at 100, the average RSTR one year after deals made in strong economies registered 99.7. But the average RSTR a year following deals made in weak economies was almost seven percentage points higher, at 106.4. The gap widened to nine percentage points two years after acquisitions.

To determine whether the economy was strong or weak in each year, BCG looked at



the inflation-adjusted global GDP growth rate. It defined the top third of all growth rates in the observation period as strong years and the bottom third as weak years.

Interestingly, in a weak economy, acquisitions of businesses outside the buyer's industry ("noncore" deals) created more value—3.9 percentage points higher one-year RTSR—than those within the buyer's industry.

Conversely, in a strong economy noncore deals destroyed value for the buyer (one-year RTSR of -1%), while core deals preserved value (one-year RTSR of 0.0%).

The research also found that "experienced buyers" in particular excelled in weak economies. BCG defined those as having completed at least four acquisitions in the data sample, while "occasional buyers" were those that completed one to three transactions.

Experienced buyers produced two-year RTSR of 1.1% in strong economies and a remarkable 7.3% in weak economies.

Occasional buyers delivered two-year RTSR of 1.4% in weak economies, but a horrific -13.8% in strong ones.

Despite the findings, BCG suggested that the prospect of an upcoming economic slowdown has steered companies away from deals since early 2018. After strong deal activity in the first quarter of last year, the pace has plummeted since.

“With concerns mounting that a downturn may be near, shareholders are losing their appetite for risk and are scrutinizing more carefully an acquisition’s potential to create value,” said BCG.

Traditionally, the firm noted, investors have reacted to the announcement of public-to-public

deals by pricing targets’ shares somewhere near the bid price, while acquirers’ stock fell on concerns of earnings dilution, poor fit, and excessive diversification, among others.

From 2012 through 2017, however, CARs centered around deal announcement dates were positive for both targets and acquirers, indicating that investors were placing their bets on deal-makers.

That trend reversed for acquirers in 2018, with such CARs falling to an average of -0.4%, although that was still better than the average since 1990 of -1.1%.

BCG offered the following advice: **During downturns**, “Have the courage to stay the course. A company that

has a well-considered transformation strategy should not alter its plans when it faces the prospect of a negative short-term reaction by capital markets. Although core segment deals are greeted more favorably by markets around announcement dates, medium-term value creation is higher for companies that make bold moves to acquire attractive targets beyond their core industry.”

During a strong economy, “Resist the temptation to go on a buying spree or to follow the crowd in acquiring the most sought-after assets.... Corporate decision-makers who simply follow the herd, without a clear strategic rationale, will eventually destroy shareholder value.” **CFO**

COMPENSATION

Performance-Based Pay Under Fire

The wisdom of awarding performance shares is called into question.

- The Council of Institutional Investors has overhauled its executive compensation policy, urging companies to dial back the complexity of their pay plans and set longer periods for measuring performance for incentive awards.

The new policy suggests that companies explore adopting plans composed of just salary and restricted shares that vest over five years or more. Historically, a majority of time-vesting restricted stock awards have vested over three years.

The policy also recommends that companies consider barring the CEO and CFO from selling stock awarded to them until after they depart.

Perhaps most controversially, the policy suggests that boards and investors step up their scrutiny of performance-vesting shares, which vest upon the achievement of corporate performance milestones. “Steadily rising average pay, even when market performance is mediocre, suggests that pay for performance can be a mirage,” says CII

executive director Ken Bertsch.

Boards may not be easily convinced. According to compensation consultant Farient Advisors, 83% of S&P 500 companies offered long-term incentives (LTIs) paid as performance shares in 2018. That was up from 50% in 2009.

Ironically, while CII is calling for greater scrutiny of performance shares, Farient notes that their increasing prevalence “has been driven largely by the efforts of influential institutional investors and their proxy advisers to promote what they believe to be a more shareholder-friendly award than restricted stock or stock options.”

But according to both CII and Farient, there are significant downsides to performance shares.

For one, they can be difficult for investors to understand. “Performance-based compensation plans are a major source of today’s complexity and confusion in executive pay,” CII’s policy states. They’re also costly. Farient found that from 2008 through 2017, CEOs who received a significant portion of their LTI awards in performance shares were awarded median grant values roughly 35% higher than those CEOs who received only restricted stock or stock options.

Worst of all, performance shares don’t in fact improve market performance. “It is exceedingly difficult to find any relationship between the bonus rewards received by managers and value created for their shareholders,” Farient writes. | **D.M.**



HEALTH CARE

Annual U.S. Health Care Waste Nears \$1T

● Roughly a quarter of all U.S. health care spending is waste, according to a new study in the *Journal of the American Medical Association*. It estimates the total annual waste is between \$760 billion and \$935 billion.

The biggest culprit is unnecessary administrative complexity (see chart below). “This is waste that comes when government agencies, payers, and others create inefficient or misguided rules,” the study says. “For example, payers may fail to standardize forms, thereby consuming limited physician time in needlessly complex billing procedures.”

Next comes “pricing failure,” which happens when prices “migrate far from those expected in well-functioning markets—that is, the actual costs of production plus a fair profit.” For example, notes the study, U.S. prices for diagnostic procedures such as MRI and CT scans are several times higher than identical procedures in other countries.

Another category of waste, care delivery failures, comes with poor execution or lack of widespread adoption of known best practices, such as for preventive care and patient safety.

Waste in the form of over-treatment or low-value care is “rooted in outmoded habits, supply-driven behaviors, and ignoring science.” Examples include excessive use of antibiotics and use of surgery when watchful waiting is better.

There’s also waste related to fraudsters issuing fake bills and running other scams, as well as “procedures of inspection and regulation that everyone faces because of the misbehaviors of a very few.”

Finally, there’s waste related to failure to coordinate care among providers, resulting in complications, hospital readmissions, declines in functional status, and increased dependency, especially for the chronically ill. | D.M.

Adding Up the Waste

Type of Waste	Annual Amount
Administrative complexity	\$266 billion
Pricing failure (overcharging)	\$231-241 billion
Care delivery failure	\$102-166 billion
Overtreatment/low-value care	\$76-101 billion
Waste related to fraud/abuse	\$59-84 billion
Coordinated care failure	\$27-78 billion

Source: “Waste in the U.S. Health Care System,” *Journal of the American Medical Association*, Oct. 7, 2019



RETIREMENT PLANS

GE Freezes Pension Plans

● General Electric said in October that it would freeze pensions for about 20,000 salaried employees and take other pension-related steps as part of its restructuring plan to reduce debt.

The measures are expected to reduce GE’s pension deficit by about \$5 billion to \$8 billion and industrial net debt by about \$4 billion to \$6 billion. The ailing conglomerate’s traditional pension plans, which were underfunded by \$27 billion as of the end of 2018, are one of its biggest liabilities.

In addition to the pension freeze, GE will pre-fund about \$4 billion to \$5 billion of its estimated minimum requirements for 2021 and 2022 under the Employee Retirement Income Security Act. It will do that by using a portion of the \$38 billion in cash it’s collecting from the sale of various businesses.

“Returning GE to a position of strength has required us to make several difficult decisions, and [the] decision to freeze the pension is no exception,” said Kevin Cox, chief human resources officer at GE. “We carefully weighed market trends and our strategic priority to improve our financial position with the impact to our employees.”

The company is going through a restructuring in response to pressure from inadequate cash flow, a struggling power business, and a debt load that was about \$106 billion as of June 30.

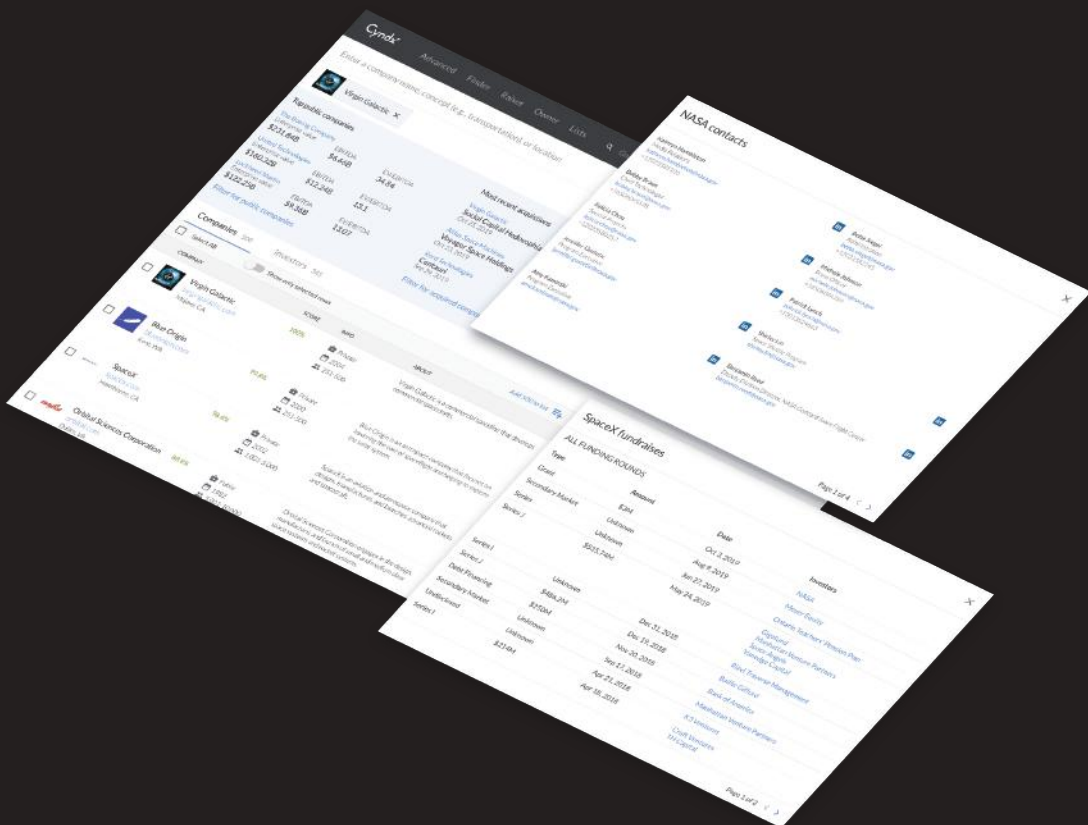
GE is among the relatively few large U.S. manufacturers that still allows workers to accrue traditional pension benefits, although it closed its plan to new participants in 2012.

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REGULATION

Fed OKs Bank Rule Rollbacks

● The Federal Reserve in October
● voted to loosen liquidity and capital requirements for large U.S. banks that were imposed as part of the post-crisis Dodd-Frank Wall Street Reform and Consumer Protection Act.

The Fed adopted the changes by a 4-1 vote, saying it was seeking to “tailor its regulations for domestic and foreign banks to more closely match their risk profiles.”

The new rules would divide banks with \$100 billion or more in total assets into four categories based on, among



Jerome Powell, Chair of the Federal Reserve

other things, asset size, nonbank assets, and off-balance-sheet exposure. The higher the risk category, the greater the compliance requirements.

The Fed estimates the changes will result in a decrease of 0.6%, or about \$11.5 billion, in required capital for those banks and a 2% drop in required liquid assets.

“Our rules keep the toughest requirements on the largest and most complex firms,” Fed chairman Jerome Powell said in a news release. “In this way, the rules maintain the fundamen-

tal strength and resiliency that has been built into our financial system over the past decade.”

However, Lael Brainard, the only Fed governor to vote against the new rules, warned that they would weaken the “safeguards at the core” of the post-crisis regulatory system.

“At a time when the large banks are profitable and providing ample credit, I see little benefit to the banks or the system from the proposed reduction in core resilience that would justify the increased risk to financial stability in the future,” Brainard said.

For the largest banks, including Bank of America, JPMorgan Chase, and Citigroup, the Fed is also easing the requirement that they explain how they would wind down their operations, allowing them to produce “living-will” plans every four years rather than every year.

The banking industry supported the changes. | M.H

AUTOMATION

RPA Slow to Penetrate Financial Reporting

● Fewer than a third of finance departments that have
● deployed robotic process automation (RPA) have used it in conjunction with financial reporting, according to Gartner.

Gartner interviewed more than 150 corporate accounting leaders to determine the main benefits of implementing software bots for that purpose.

“While 88% of corporate controllers expect to implement RPA by next year, we routinely encounter hesitations when it comes to applying RPA to financial reporting processes,” says Dennis Gannon, research vice president in Gartner’s finance practice.

“When viewed from a narrow ROI perspective, financial reporting appears to be a low priority compared with other business initiatives,” Gannon says. “Departments that have experimented with RPA in their reporting processes, however, report a series of additional ben-

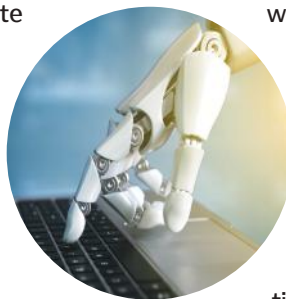
efits, from less staff time fixing mistakes to more time allocated to higher-value work.”

Gartner’s analysis revealed three roadblocks finance experiences when considering RPA for financial reporting: hesitancy to remove human judgment from the process; a perception of low ROI; and process standardization delays before implementation.

RPA is best applied to manual, repetitive actions that humans otherwise complete with computers. Relying on staff to perform certain steps deemed to benefit from human judgment limits the upside of RPA’s benefits while still introducing human error and the need for rework, according to Gartner.

With respect to ROI, most accounting leaders are forced to prioritize RPA activities based on a lack of resources and their role in managing a cost center, where they’re constantly asked to do more with less. Using a typical cost-centric ROI formula focused on employee time savings tends to deprioritize RPA opportunities within financial reporting, Gartner said.

Finally, many accounting leaders believe a process must be standardized before RPA can be implemented. In fact, however, the technology can be deployed to handle individual steps within a process. | D.M.



INTERNATIONAL TRADE

Optimism Reigns On North America Deal

● Will the new United States-Mexico-Canada Agreement, which was agreed to by the leaders of the participating countries in November 2018, ultimately be ratified by legislatures? And if so, what will result from it?

People who are interested in those questions prominently include North American business leaders. In a TMF Group study, 1,500 such leaders—500 from each country—were asked for their views on the agreement.

The results of the study, performed by Wakefield Research, conveyed an overall tone of optimism. Two-thirds (68%) of participants believed that the USMCA will be ratified by all three nations. Mexican participants



were the most optimistic (88%), followed by those in Canada (60%) and the United States (56%).

Respondents from Mexico also overwhelmingly expected the deal to have a positive economic impact within two years of implementation, with 70% of them saying so. Again, those from the United States (55%) and Canada (45%) were less optimistic.

And more than half of respondents said they believed that more foreign companies will invest in, or trade more, with each respective market if the USMCA is swiftly implemented.

“For [companies that] want to take advantage of this, the key is not to sit and passively watch the political process unfold,” said Mark Weil, TMF Group’s chief executive. “Even with a deal, firms wishing to export or invest will face complexities. So, it is wise to begin contingency planning now for both scenarios: ratification and failure.”

There was broad agreement by all three countries on factors that have held back cross-border investment. They cited international trade tariffs as the top factor, followed by complexities around taxes, the cost of transporting goods, and compliance with local rules and regulations. | D.M.

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Trade wars. Stock market gyrations. Fluctuating interest rates. The economy is in a constant state of flux, but CFOs don't always have access to accurate, detailed, forward-looking economic insights to successfully navigate the turbulent waters that may lie ahead.

Leaders leverage best-in-class economic intelligence, which provides them with the ability to systematically identify and quantify the influence economic factors have on business outcomes. Meaningful economic intelligence goes beyond examining the past and assessing risk—it is predictive.

Economic intelligence is comparable to IT security, according to Richard Wagner, CEO and President of Prevedere, a leader in cloud-based predictive analytics software for economic intelligence. "Economic intelligence allows you to monitor, protect against, and signal the risks to your business," he says.

CFOs are under pressure to be more predictive, but some have a blind spot when it comes to strategic and operational planning. Incomplete internal data and sketchy external data do not provide a strong enough pulse on what is driving the market.

Clearly, senior finance professionals understand the value of economic intelligence, but many lack a clear path to taking advantage of it.

In a survey of 200 C-level executives and vice presidents conducted by Prevedere, 66% of respondents feel that incorporating external data will result in significant improvement to financial forecasting.

In the same survey, 69% of respondents say that most of their planning processes fail to incorporate external data. Only 30% of respondents say they are incorporating predictive analytics into their planning processes.

In separate Prevedere research, 60% of respondents say that finding the right data is the biggest challenge for data and analyt-

ics initiatives. A greater number of respondents (68%) say that they are not satisfied with their ability to understand the impact of external factors.

Better Planning, Less Risk When You Boost Economic Intelligence

CFOs are struggling to integrate economic intelligence into their planning processes. Big decisions within organizations are too often made with PowerPoint and Excel spreadsheets focusing largely on internal performance data, only perhaps loosely referencing general market indicators like GDP or interest rates.

While some organizations struggle, there are clear financial benefits to improving economic intelligence. According to a report by Gartner and the Wharton School of Business at the University of Pennsylvania, organizations with a set of leading business indicators earn almost 3% higher returns on assets and a greater than 5% return on equity.

Among the top-line advantages of economic intelligence are lower operating costs and working capital requirements due to better operations and resource planning.

While those are resource-saving benefits, focusing on economic intelligence also helps companies better pinpoint the economic signals that are directly tied to

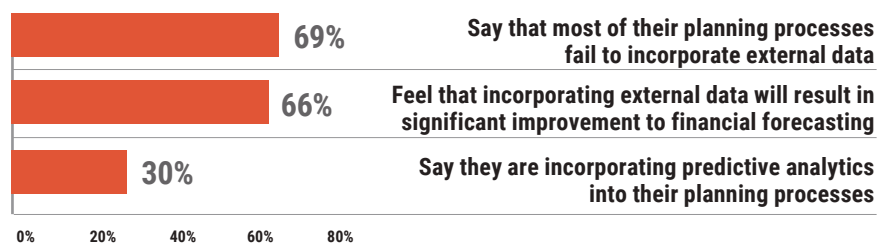
5 KEY QUESTIONS to gauge the need for an economic intelligence initiative:

1. Have you missed an earnings forecast and did not know the reasons for it?
2. Do you carry significant inventory or working capital to buffer against changes in market demand?
3. Do you lack confidence or experience bias in your internal forecasts?
4. Were you slow to see a new growth opportunity?
5. Do you systematically track the leading external indicators that impact your business?

their business outcomes.

When organizations have a pulse on changing consumer behavior and attitudes, they can outperform the competition. Being able to react quickly to market conditions and changing customer

In a survey of 200 C-level executives and vice presidents*



*Survey conducted by Prevedere

sentiment ensures that the company has the right inventory and the right delivery mechanisms in place to meet demand.

A higher level of economic intelligence increases the success rate of strategic and financial plans, helping to better identify market opportunities while mitigating the risk of future downturns and unexpected market shifts.

The end result is that companies that leverage economic intelligence are more confident in their decision-making and their ability to plan for and communicate about—particularly to investors—the future of their business.

Strategies for Boosting Economic Intelligence

Smart leaders take a proactive approach by consistently monitoring and mitigating risk to boost their economic intelligence. It is not simply about identifying the right leading signals; they also use predictive analytics to model the impact on future business outcomes.

Modern CFOs are leveraging tools such as artificial intelligence, along with leading economic indicators, to provide a view of future business opportunities and become more informed about the

In a survey of 125 IT and business professionals*



*Survey conducted by Prevedere in partnership with Prosper Insights & Analytics

global economies in which they operate. “Technological advances such as machine learning helps companies quickly collect and classify data from the internet of things, economic trends, consumer behavior, and online activity,” says Andrew Duguay, Chief Economist, Prevedere.

Using fully integrated economic intelligence solutions bolsters agility. For example, the impact of potential declines in the price of oil on profit is available instantly, and the results can be analyzed in a few minutes or hours. Another benefit: Internal data science teams no longer have to struggle to keep pace with business requests to perform statistical analysis, given its productivity benefits.

To fully achieve economic intelligence, it is critical to understand the unique

economic factors that impact the business, and often down to the product category, geography, or sales channel level. Companies need to quantify which economic drivers are leading signals for their current and future business objectives. The most reliable way to accomplish that today is through predictive analytics.

Once key economic insights are identified, the next step is to systematically incorporate them into the company’s planning processes to mitigate future risks and identify opportunities.

Economic Intelligence Mindset Empowers CFOs

Embracing economic intelligence as a mindset and operationalizing across the organization, from the C-suite to finance, sales, marketing, and operations, helps CFOs become a better strategic partner to the business. In addition:

- Adopting an economic intelligence mindset ensures that excess inventory and stock-outs are drastically reduced, improving working capital performance.
- Minimizing operating costs through better resource planning is another benefit of an economic intelligence approach.
- Improving ROI and being a growth enabler are key goals for many CFOs, and investments made based on a high level of economic intelligence have a superior success rate.
- Identifying opportunities for growth early in the market cycle enables CFOs to view changes in global market conditions as opportunities rather than causes for concern.
- Leading with an economic intelligence mindset empowers CFOs to plan, communicate, and act with confidence about what lies ahead for their business.

> For more information, visit www.prevedere.com

BLIND SPOTS: The Fallout When Companies Lack Economic Intelligence

There are some serious consequences when companies fail to strengthen their economic intelligence. Below are a few examples of the risks of ignoring forward-looking economic insights.

Missed Market Downturn/Over-Investment: A leading chemical company mothballed a project due to a market downturn after a \$100 million investment.

Excess Operating Costs/Working Capital: Carrying inventory to act as a buffer for demand changes can be costly. An Institute of Business Forecasting and Planning survey found that every 1% improvement in over-forecasting resulted in \$1.3M in savings.

Missed Growth Opportunities: A consumer products company did not see leading indicators for an increase in sales of a particular commodity, resulting in a missed chance to gain market share.

Loss in Shareholder Value: Organizations that cite changing market conditions as the reason for missing revenue targets have to answer to stakeholders. For a typical public company, a miss of a few percentage points can result in hundreds of millions of dollars in lost shareholder value and hinder overall credibility in communicating to investors.

Strategies for Navigating a Low-Rate Environment

How CFOs are positioning their pension plans to handle volatility



Because a low-discount-rate environment is here for the foreseeable future, and perhaps longer, senior finance executives need to position their companies — specifically their pension plans — to weather volatility.

“It’s all about destination planning and timely execution,” says Scott Jarboe, Partner, Mercer. “You want to be nimble in your ability to de-risk on the way up and experience less deterioration on the way down. For many sponsors it may not be time to move to a fully hedged position, but sponsors should have a

plan to opportunistically take interest rate risk off the table.” This is also where the plan’s governance model is critical, to ensure nimble de-risking in volatile times. “An Outsourced Chief Investment Officer (OCIO) model can assist in timely rebalancing of the portfolio across growth and hedging assets, and will help the plan sponsor stick to the de-risking plan,” says Jarboe.

Most pension plan sponsors have an implicit prediction of rising rates, Jarboe points out. “That prediction has consistently failed for more than five

years, and it highlights the fact that the potential direction of interest rates is not a compensated risk that sponsors should be using as a basis to make strategic pension plan decisions.”

Untapped Opportunities

While low discount rates generally present challenges to plan sponsors with increasing deficits, they also present some potential opportunities for defined benefit plans, according to Jarboe. For instance, low interest rates may make borrowing to fund strategies more affordable. Pension risk transfer may also be attractive to downsize balance sheet risk and manage the cost and effort of administration. It may also be an opportune time to have a fresh look at the plan’s strategic asset allocation to ensure the current strategy and glide path support the program destination.

Grocery giant Kroger’s liability-driven investment strategy has helped it become somewhat resistant to changes in interest rates and their impact on the funded status of its plans, according to CFO Mike Schlotman. “Now, with a lot of our investments tied to the bond market, when interest rates go up or down our liabilities go up or down in sync. As a result, our funded status has been in a very, very tight range. We haven’t been facing unexpected future contributions of cash or variable-rate premiums from the PBGC [Pension Benefit Guaranty Corporation].”

Kroger showed participants where they would be in the old DB plan, where they would be in the new 401(k) plan if they maxed out their contributions and worked to a certain age, and what their combined benefit ultimately would be, Schlotman says.

The company then went through

a similar exercise with its division presidents. “We wanted those top 40 or so people to understand what we were doing and to be disciples for it — and for investing in the 401(k) plan at the maximum level,” he says. “We also wanted to explain the competitive world we’re in and why this move made sense.”

De-Risking Pension Strategies

Some organizations seek to mitigate risk in their pension strategies by moving to full plan termination. In fact, a recent pension risk survey of 155 U.S. senior finance executives conducted by CFO Research in June 2019, in collaboration with Mercer, found that 71% of plan sponsors were considering terminating their pension plans over the next 10 years, a percentage that has been rising since at least 2015.

What makes terminating a plan a good strategy? “Many frozen plan sponsors are looking to eliminate balance sheet risk and liability while also reducing complexity in Finance and HR,” Jarboe says. And in some cases the cost of termination may be very attractive when compared with the net present

value cost of retaining the liability and the associated carry costs.

James Danley, vice president of treasury at Schneider Electric, says outside support can be critical when working toward a plan termination. He suggests that sponsors hire experts in various disciplines, including investments, regulatory compliance, and law. And because the selection

“Our long-term pension strategy in the U.S. includes taking steps to strategically reduce the size, and therefore the risks, of the company’s plans.”

—James Danley, Vice President of Treasury, Schneider Electric

of an insurance carrier is a fiduciary decision in a buyout transaction, he adds, choosing a strong annuity provider is critical, too.

“Our long-term pension strategy in the U.S. includes taking steps to

strategically reduce the size, and therefore the risks, of the company’s plans,” Danley says. He adds that terminating its plans, while not a near-term focus, is possible in the future. Factors that could lead to that, he says, include “funding levels, availability of funding, buyout pricing, interest rates, asset performance, and the impact on plan participants.”

On the other hand, 51% of finance executives surveyed by Mercer/CFO Research said they are likely to move to a hibernation strategy in the next two years — which in many cases could be a long-term plan for sustainable retention or perhaps a prelude to an eventual termination. In either case, some level of de-risking will be core to setting the direction.

OCIOs Keep Plans Well-Funded

An OCIO is an integral partner as sponsors look to de-risk pension strategies. Plan sponsor needs are becoming increasingly more complicated and internal staff may not be equipped to handle the dynamic operational duties, particularly under the current governance structure. “Outside advisers do this every day,” Jarboe says.

Mercer reports that outsourced chief investment officer (OCIO) clients using its LDI offering have a higher average funded status than the average for all defined benefit plans sponsored by companies in the S&P 1500. What’s more, their portfolios on average have outperformed the S&P 1500 by 13% since 2008.

But there is more to reducing pension plan risk or exiting a plan entirely than merely offloading operational duties. They are also about improving strategy and performance and leveraging dedicated resources, Jarboe concludes. “As a core business, we invest in innovation, manager research, and resources to support better outcomes. We’ve also built an infrastructure to support faster execution and we have scale to deliver at a lower price point.”

ARE ANNUITY BUYOUTS EXPENSIVE?

Many respondents to the Mercer/CFO Research study (65%) expressed concern about the high cost of buying annuities to cash out plan participants. But the data shows that annuities are not always cost-prohibitive. For instance, Mercer’s experience from 2016 to 2018 is that retiree-only annuity buyouts typically cost between 98% and 103% of market liability.

Schneider Electric has executed a number of term-vested, lump-sum payment windows and retiree annuity purchases since 2012. It is just one of many organizations that have found annuity purchases to be fiscally prudent. “Several years ago, our company believed that the cost to transfer risk was appreciably higher than the accounting liability,” says James Danley, vice president of treasury at Schneider Electric. “Having carefully monitored the annuity buyout market pricing for the past several years, we have gained insight on what now represents fair transfer pricing. The timing of our placements has been based on this trend, and the actual costs were within our expected range.”

Annuity buyout activity has continued to rise over the past few years. “We don’t see buyout activity slowing down any time soon, the market has been hungry to take on deals, and sponsors have been eager to transfer balance sheet obligations,” Mercer’s Scott Jarboe says.

‘Alternative’ Data Drives S&P Global’s Growth

The Fortune 500 data company onboards AI and machine learning capabilities to make hay with unstructured datasets. **By David McCann**

In a world increasingly driven by data, S&P Global could hardly be better positioned. The \$6 billion company offers a broad range of data, ratings, analytics, and benchmarks products to players in the capital and commodities markets worldwide. ¶ Most of the data in the world is “unstructured.” Generally, the term refers to text-heavy information that’s

not organized in a defined manner. Harnessing such data, which falls into a category of information known as alternative data, is a key to S&P Global’s continued growth.

“We decided we needed to make a very hard push in technology innovation,” says Ewout Steenbergen, the company’s CFO. “There are so many unstructured datasets. The question is how to complement our existing datasets with these new datasets, and how we can use technology to make sense out of that.”

A pair of companies S&P Global acquired in 2018 exemplify the company’s push in that direction. One, Panjiva, uses machine learning and artificial intelligence to convert unstructured supply chain data, such as import-export data and bills of goods, into structured data. The company tracks more than 40% of the world’s merchandise trade (by dollar value) via cargo ships.

“If anyone wants to know how many cars or refrigerators are being imported by companies in the United States or are transported from one country to any other country, we now have that information available for our customers,” Steenbergen notes.



“Investors today don’t wait until a company publishes its financial results,” he continues. “They’re looking for additional datasets and indicators for how a company is doing during a quarter.”

Intelligent Search

S&P Global’s other key 2018 acquisition was Kensho Technologies, a provider of analytics, AI, machine learning, and data visualization systems to global banks and investment institutions, for which it paid \$550 million.

Kensho is helping S&P Global on a number of fronts. For one, it enabled

the construction of a modern search engine for its vast, growing database of companies. “It’s not just a keyword search—you can put in intelligent, difficult questions and get real answers,” according to Steenbergen.

More importantly, Kensho algorithms are allowing S&P Global to upload data exponentially faster than previously possible.

A month after the acquisition, a link was established to a database of information on private companies licensed from Crunchbase. Next up was a much larger private company database from a source that Steenbergen couldn’t mention.

Previously, taking in new datasets was a very labor-intensive process

involving cross-linking the new and existing information. A new company in the database could have shareholders, executives, or board members that were already in it, for example, or be a subsidiary of a company in another jurisdiction.

The large private company dataset had several million records “that we linked to over a weekend,” Steenbergen says. “Our chief technology officer told me it previously would have taken teams of people years to do it, which we wouldn’t even have done because the dataset would have been completely outdated by then.”

S&P Global executives stress that alternative data generates the greatest value when combined with other datasets.

Several months before the Panjiva acquisition, Warren Breakstone, chief product officer of data management solutions for S&P Global Market Intelligence, wrote that “while alternative data today is all the rave, it is most useful in concert



■ Ewout Steenbergen,
CFO, S&P Global

with traditional information to drive useful insights. For example, combining and linking shipping data with traditional supply chain data and company-level financial data tells a more complete story.”

In another example, S&P has access to a dataset on foot traffic in malls—how many people visit them and what areas of malls get the most traffic, for example.

“That’s interesting information, but perhaps not so useful,” says Steenbergen. “What’s important is that we have layered that dataset on top of our rich database of REITs [real estate investment trusts].” That allows clients to answer questions like what happens to foot traffic when a certain retailer opens up next to another one or when an anchor store liquidates.

“Those are great insights that can inform business or investment decisions,” the CFO says. **CFO**

What Kind of Problems Can Machine Learning Solve?

Machine learning can help unlock objective results better and faster. **By Chandu Chilakapati and Devin Rochford**

● The use of machine learning technology is spreading across all areas of modern organizations, and its predictive capabilities suit the finance function’s forward-looking needs. Understanding how to work with machine learning models is crucial for making informed investment decisions.

Properly deploying machine learning within an organization involves considering and answering the following three core questions.

1. Does this project match the characteristics of a typical ML problem? Machine learning is a subset of artificial intelligence that’s focused on training computers to use algorithms for making predictions or classifications based on observed data.

Finance functions typically use “supervised” machine learning, where an analyst provides data that includes the outcomes and asks the machine to make a prediction or classification based on similar data.

With “unsupervised” machine learning, data is provided without outcomes and the machine attempts to glean them. Machine learning problems typically involve predicting previously observed outcomes using past data. The technology is best suited to solve problems that require unbiased analysis of numerous quantified factors in order to generate an outcome.

2. Is there a solid foundation of data? Machine learning models require data. For instance, if you are trying to predict what credit rating a private company might attain based on its financial statements, you need data that contains other companies’ financial statements and credit ratings. The ML model will look at all the financial statement data and the observable outcomes, and then predict what the private company credit rating might be.

If the data didn’t include credit-rating outcomes, the machine learning model would have no way to use the data to predict an outcome.

Another consideration regarding data organization, when determining whether machine learning can solve a problem, is that text needs to be transformed into numerical data and contain observable outcomes.

When making machine learning

assessments, evaluating outputs of a model, or determining if a model is useful, be sure to consider your organization’s historical data. That’s what enables machine learning models to make predictions or classifications.

A machine learning model’s predictions and classifications are only as relevant as the historical data is representative of the current environment.

3. Is there a tangible payoff? Given the hype around machine learning, it’s understandable that businesses are eager to implement it. As with any technology application, leaders should ask themselves if their teams will be able to use the model to work more efficiently and effectively, and/or make better decisions.

In assessing the payoff, leaders should ensure that their teams are properly trained on how ML works, understand the underlying data, and are able to use their valuable experience to interpret the results.

When properly assessed and evaluated, machine learning holds the key that can help organizations unlock objective results better and faster.



Chandu Chilakapati is a managing director and Devin Rochford a director with Alvarez & Marsal Valuation Services.

Has Non-GAAP Reporting Become an Accounting Chasm?

Aggressive use of non-GAAP numbers is creating a crisis in how investors, analysts, and the media report financial performance and value companies. **By Drew Bernstein**

When management is asked why they resort to non-GAAP reporting, the most common response is that these measures are requested by the analysts and are commonly used in earnings models employed to value the company. Indeed, sell-side analysts and funds with a long position in the stock may have

incentives to encourage a more favorable alternative presentation of earnings results.

Management also argues that non-GAAP measures help the company to more effectively “tell its story” by stripping out the noise associated with one-time accounting events and presenting metrics that are used by senior management and the board to monitor business performance and allocate resources.

If non-GAAP reporting is used as a supplemental means to help investors identify underlying trends in the business, one might reasonably expect that both favorable and unfavorable events would be “adjusted” in equal measure. But research presented by the American Accounting Association suggests that companies engage in “asymmetric” non-GAAP exclusions of mostly unfavorable items as a tool to “beat” analyst earnings estimates.

The rising use of opportunistic non-GAAP numbers has coincided with a doubling over the last 17 years of the percentage of companies (25%) reporting dramatic upside earnings surprises, even though according to GAAP the percentage of major earnings surprises has remained stagnant. Other research



suggests that the engineering of non-GAAP reporting metrics may have replaced or augmented prior techniques such as manipulating accruals as a tool for earnings management or disguising business deterioration. Data suggests that companies with fewer independent directors tend to engage in more aggressive non-GAAP accounting.

Non-GAAP: A User's Guide

This raises the question: How should management and boards determine what amount of non-GAAP disclosure, if any, is most appropriate to employ in

their financial disclosures?

While there have been some admirable attempts to establish “leading practices” guidelines, such as the guide to non-GAAP measures by the Center for Audit Quality, the range of approaches taken by prominent companies is so

disparate, it is hard to find common ground. Indeed, one of the biggest deficiencies of non-GAAP metrics is they have no standardized definitions or methods of calculation (or even nomenclature); they are virtually worthless for comparing one company with another or trends in corporate performance over time.

Audit committees, which should be providing oversight of these metrics, are trapped by what might be called “Gresham’s law of non-GAAP”: Adjustments have become so pervasive that companies that apply a more rigorous approach to reporting have their earnings and profit margins unfavorably compared to competitors willing to further debase reporting standards.

This unfortunate cycle will be broken only when the end-users of financial reporting—institutional investors, analysts, lenders, and the media—agree that we are on the verge of systemic failure in financial reporting.

In the history of financial markets, such moments of mental clarity most often occur following the loss of vast sums of capital.

Indeed, many short sellers look at the escalating and more opportunistic use of non-GAAP reporting as an important leading indicator of deteriorating fundamentals, an unsustainable business model, or dishonest management. At some point, logically, there should be a valuation premium accorded to companies that are accounting straight shooters.

The following are some steps that companies and boards may wish to consider.

Let investors do the math. Rather than providing a slew of “adjusted,” “core,” “operating,” and “community-based” versions of what earnings “would have been,” companies can choose to simply identify all the factors that management believes are unusual, will not be settled in cash, or reflect changes in input pricing or currencies that investors should be aware of. This would then leave it up to analysts to actually analyze the data, apply their own economic judgments, and create value-added models of corporate performance. While this might disrupt the refined ballet of setting and leaping over a unitary adjusted EPS “number,” this is probably healthy for the market.

Establish a non-GAAP policy. If the management and audit committee still believe that their results will be inscrutable to investors without providing “adjusted” metrics that are pre-packaged for the market, then it is a good idea to establish a clear and consistent policy on non-GAAP reporting that establishes which metrics will be used and how they will be calculated. This can lead to greater consistency



■ Drew Bernstein,
Co-managing Partner,
Marcum Bernstein &
Pinchuk

in the application of non-GAAP, so that accounting windfalls are excluded consistently with accounting expenses.

More fundamentally, management and the board should be able to explain why excluding certain “bad stuff,” such as re-structuring costs, share-based compensation, acquisition-related charg-

es, asset impairments, depreciation and amortization, legal settlements, taxes, and debt expenses, more accurately represents the underlying economics of the business than does a presentation according to GAAP.

Make guidance, compensation, and reporting consistent. If management wants to provide guidance on a non-GAAP basis, then it should be able to clearly explain the adjustments to GAAP reporting that are baked into that guidance.

Advocate for accounting reform. There have been some management teams and critics of GAAP accounting who have argued that the increasing complexity of the accounting rules are themselves partially responsible for the adoption of non-GAAP reporting.

One study found that companies with a higher degree of accounting reporting complexity in their SEC filings tend to both be more likely to engage in non-GAAP reporting and to make adjustments deemed to be of “higher quality” by researchers.

But if companies truly believe that certain accounting rules are obscuring important business performance trends, this would suggest that they should advocate for modernizing and streamlining accounting principles to generate financial statements that provide higher-quality information to equity and debt holders. Rather they should do that than create customized non-GAAP equivalents. In some cases, useful non-GAAP indicators may point

the way toward simplification and reform of the more obscure areas of GAAP accounting.

Implement robust controls for non-GAAP and KPIs. Recent enforcement actions by the SEC have made it clear: to the extent that non-GAAP accounting is driving securities prices, it should be subject to the same rigorous oversight as GAAP financials. While an independent auditor cannot opine if a non-GAAP number conforms to GAAP, they can advise if it is properly reconciled to GAAP and free of calculation errors. Similarly, key performance indicators (KPIs) are numbers not derived from GAAP that can deepen investors’ understanding of business trends and value drivers.

This includes things like store count, average monthly users, revenue per customer, and cost of customer acquisition. The PCAOB is currently evaluating whether auditors should play a more substantive role in verifying non-GAAP financials and KPIs given their increased prominence in earnings reports and the financial media. They should be subject to review by internal auditors and the audit committee to ensure they are accurate and fairly presented.

Over the past two decades, non-GAAP reporting has become the norm for companies ranging from exotic “unicorns” with disruptive, cash-burning growth models to stolid denizens of the Dow Jones Industrial Average. But the accelerating delta between GAAP and non-GAAP numbers calls into question the integrity of how financial data is compiled and employed by market participants. This yawning chasm in alternate accounting systems needs to be addressed if capital is to be allocated efficiently and the accounting system is to maintain its relevance to debt and equity investors. **CFO**

Drew Bernstein is co-managing partner of Marcum Bernstein & Pinchuk.

After 21 Years and a Spinoff, Profitability Finally Arrives

Ironwood Pharmaceuticals is in the black for the first time thanks to its complex spinoff of pre-commercial drug development programs. **By David McCann**

Any startup company experiences a blissful moment upon first achieving profitability. It was no different for Ironwood Pharmaceuticals, which broke into the black in this year's second quarter, except in one respect: The company was formed more than two decades ago—originally named Microbia. ¶ Of course, pharmaceutical companies are

notoriously late to turn profits, if they ever do. Still, 21 years—the last nine transpiring after Ironwood went public—is a particularly long gestation period. How is it even possible?

“It requires raising a lot of money,” Gina Consylman, a five-year veteran of the company and its CFO since 2017, states matter-of-factly. Ironwood has been kept going by initial rounds of venture capital funding, the 2010 IPO,

multiple secondary stock offerings, and a pair of sizable convertible bond issuances.

In this case, a strategic change of direction was also required. At an offsite board meeting in October 2017, the discussion centered on dissatisfaction with the lack of movement in Ironwood's stock price. So a task force, consisting of Consylman and three other management team members, was created.

“We looked at everything: from selling the company, merging with another company, and acquiring inorganic assets to skinning down the product pipeline,” she recalls.

Paring the pipeline was the ultimate decision, but it wasn't about abandoning the development of new drugs. Instead, the decision was made to spin off a group of clinical-phase development projects, focused largely on relatively rare diseases, into a new publicly held company.

Ironwood kept its one commercial product, linaclotide—a treatment for irritable bowel syndrome with constipation and chronic idiopathic constipation—that is marketed under the trademarked brand name LINZESS®. It also kept a small handful of clinical-phase drugs that, like linaclotide, target gastrointestinal (GI) conditions.

LINZESS, which hit the market in 2012, was already profitable prior to the spinoff of the new company, Cyclarion Therapeutics. Profits from the GI drug are split 50-50 under a collaboration with a much larger pharma company, Allergan, which augments Ironwood's relatively small sales force and provides other key commercial services.

The spinoff was executed on April 1 of this year. It's no coincidence that the quarter that began that day became Ironwood's first profitable one.

“We had been taking the profits from the collaboration with Allergan and reinvesting them into the pipeline assets that are now with Cyclarion,” Consylman says. “Now we're able to



Ironwood Pharmaceuticals scientist Charles Kim works on test samples in the research lab.

generate enough profit from LINZESS to support our [remaining] pipeline and still be profitable overall.”

In the second quarter, Ironwood racked up operating income of \$18.9 million and net income of \$12.3 million, a stark departure from the first quarter’s losses of \$50.5 million (operating) and \$59.3 million (net).

It’s not that the clinical-phase drugs that went to Cyclerion are without value. Rather, Consylman says that as she and her colleagues went through the process of deciding how to boost shareholder value, they realized that one pool of shareholders was mostly excited about the trajectory of LINZESS and how much cash it was throwing off. “They weren’t so happy about not getting their own cash back,” she says.

Ironwood shareholders received one share of Cyclerion common stock for every 10 shares of Ironwood stock held. However, the Cyclerion shares lost most of their value on Oct. 30, after Cyclerion announced the termination of development of one drug and said a second drug had failed to achieve its hypothesized outcome during clinical trial but merited further study. As of Nov. 6, Ironwood shares had declined about 5% since the spinoff date.

Tax Whack

Before the IPO, Ironwood faced a weighty tax issue.

One of the many requirements for a tax-free spinoff—where both the parent company and its shareholders are exempt from paying tax on any gain realized from the transaction—is that both the parent and the spun-off entity must be engaged in the active conduct of a trade or business immediately after the distribution of shares.

Historically, the IRS and Treasury Department interpreted that rule as requiring, among other things, that a business have at least a five-year history of collecting revenue. And

Cyclerion won’t be generating any revenue for at least a few years.

“The government’s position has limited companies’ ability to spin off early-stage businesses, such as pre-commercial life sciences businesses,” notes Consylman. “We worked with our tax advisers to draft a memo to the IRS explaining why we viewed the [non-GI]

“We looked at everything: from selling the company, merging with another company, and acquiring inorganic assets to skinning down the product pipeline.”



• Gina Consylman, CFO, Ironwood Pharmaceuticals

assets as a stand-alone business even though they didn’t generate revenue.”

The company’s case was that it often takes seven or more years to bring a drug to market. “It’s not atypical,” she says. “The life sciences industry is different from other industries.”

Fortunately for Ironwood, the IRS announced in September 2018 that it was prepared to issue favorable private letter rulings on spinoffs involving R&D-intensive businesses without a five-year revenue history, while it further studied the issue. Ironwood received such a letter, and KPMG concluded that the spinoff would be tax-free. “It was a huge win for us,” emphasizes Consylman.

Breaking Up Is Hard to Do

Preparing for the spinoff was a complex undertaking. Consylman notes that she has been with companies that acquired other companies, as well as ones that were acquired.

“This was really different, in that there were critical workstreams that had deadlines,” she says. “When you’re acquiring a company, a lot of the work relates to the integration and the realized

synergies. If that activity takes a month or a quarter longer than expected, you can probably still complete it; you might just not save as much money.”

Along with ensuring that the spinoff would be tax-free, the most critical workstream was carving out financial statements for the pipeline programs that were moved to Cyclerion. Iron-

wood had tracked only direct R&D expenses for those programs, but SEC filings needed to include all of the company’s expenses that supported them.

Another important step was arranging financing for the new company, since it would be running at a loss for years.

Consylman closed

a direct private placement of \$175 million to seed its balance sheet.

Additionally, it was necessary to comb through thousands of contracts to separate out the elements that related to the respective companies. “Just dividing everything up was a solid year of activity,” the CFO says.

Meanwhile, although Consylman has been with the company for just five years, the company’s financial stakeholders had been waiting much longer for the payoff that should come if the company remains profitable over an extended period. Asked to comment on that, the CFO says, “People here are very passionate about the science, and about helping patients.”

She adds: “Much of my prior career was at technology companies, and a lot of what I worked on for eight and a half years was improving battery life for cell phones. Now that I’ve transitioned into a life sciences company and had the opportunity to hear what a difference our drug makes for the quality of people’s lives, I can tell you that I would never be able to go back to high tech. This is very meaningful and rewarding.” **CFO**





Watchful Waiting

WITH A LESS-CLEAR, LESS-ROBUST FUTURE AHEAD, CFOs GET MORE CAREFUL ABOUT HOW THEY SPEND CORPORATE CASH.

By David M. Katz

Amid growing fears of economic turmoil, pessimism appears to have crept into the perspectives of some finance executives. More than half (53%) of 225 U.S. CFOs surveyed by Duke University and CFO Research in the third quarter believe that the nation will be in a recession by the third quarter of 2020.



More tellingly, the percentage of CFOs who say they are more optimistic about the state of the U.S. economy dropped to 12%, down from 20% in June and 44% a year earlier. The number of CFOs who say they are less optimistic climbed.

“Winter is coming,” says John Toth, the CFO of Bark, a private-equity-owned firm that provides subscribers with monthly packages of dog treats and toys. “It’s a question of when, not if.”

For his small, privately held company, memories of 2008’s liquidity drought have tempered cash-allocation plans. “We’re certainly not spending down our cash reserves,” he says. “We are organizing our P&L to make sure that we can be self-sufficient.”

Toth came to his decision after speaking with venture capitalists and private equity investors who, he says, are preparing for the worst. “My perception is that [investors]



“Winter is coming. It’s a question of when, not if.”

—John Toth, CFO of Bark

are building their war chests not necessarily to go to war but to outlast what is generally perceived as a slow period coming,” he says.

Despite Toth’s “Game of Thrones”-type sentiments,

many companies aren’t ready to run for the exits. In the spectrum that stretches from hoarding cash to keeping it level to spending it down, few companies seem focused on socking away large quantities of the green stuff. Still, some are building up liquidity and keeping their hands off cash reserves—just in case.

Growth as a Shield

Payment services company Wex and enterprise security vendor Proofpoint are examples of companies accumulating cash, but for growth initiatives: their CFOs see continued revenue boosts as a way to protect the balance sheet. Operating in an expanding economy, they worry much more about missing opportunities than going belly-up.

Roberto Simon, a former Revlon CFO and now finance chief of Wex, knows a lot about how cash priorities can differ among companies. In the slow-growing consumer goods market, Revlon focused on reducing waste and increasing profit margins. In contrast, Wex been on a growth tear in the four years since Simon joined, nearly doubling its revenue to a projected \$1.7 billion in 2019.

Acquisitions have driven much of that increase. In the third quarter of this year alone the company added \$42 million of revenue via the acquisitions of Noventis, Discovery Benefits, and Go Fuel Card. Because of Wex’s

deal appetite, one of its top priorities is having enough liquidity to pounce on opportune targets when they hit the market. Thus, the possibility of a recession represents a threat to the liquidity available to fund growth through acquisitions.

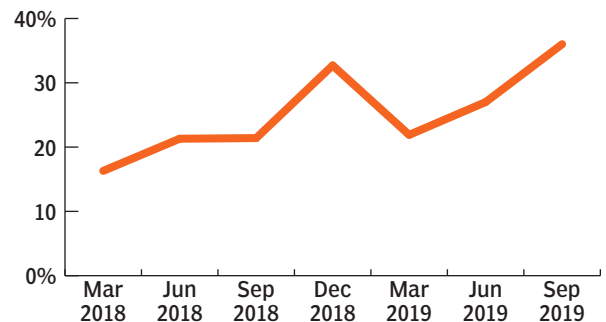
Wex has \$531 million in cash and cash equivalents. Its approach to buttressing liquidity involves locking in credit agreements at favorable terms and at longer maturities, Simon says.

In a five-year deal with its banks inked in 2018, Wex boosted its revolver to \$720 million from \$570 million and hiked its term loans by \$25 million. The financing lets Wex continue pursuing acquisitions amid the uncertainties of events like the U.S.-China trade war and the 2020 presidential election—without touching the cash it might need if a severe downturn hits.

Mounting Worries

U.S.-based CFOs are often more bullish about their own companies’ performance than the overall economy’s. Not this year.

(% less optimistic about their companies’ financial prospects than in the prior quarter)

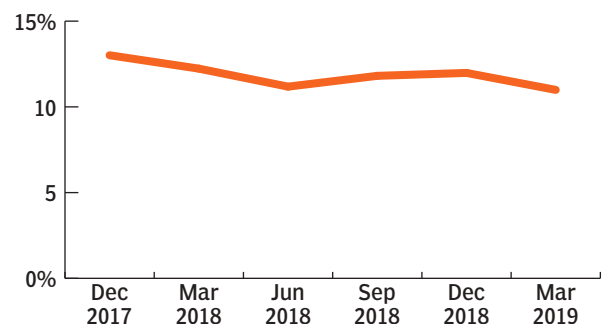


Source: Duke University/CFO Global Business Outlook Survey

Thinner Cushions

In the first quarter of 2019, U.S. companies’ cash levels as a percentage of revenue dropped to their lowest since March 2009.

(Cash and short-term investments as % of revenue)



Population of 2,600 U.S.-based nonfinancial companies
Source: Georgia Tech Financial Analysis Lab

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Force Multiplier

At Proofpoint as well, the focus is “to just keep going full bore” on its merger-fueled strategy of aggressive growth, says Paul Auvil, CFO. Proofpoint has bought 10 companies since 2015.

Last year’s high valuations, however, kept Proofpoint out of the deals market. “We were at this pinnacle of valuation expectation on the part of smaller private companies,” Auvil says. “All they had to do was deliver some revenue growth, no matter how poorly they managed the rest of the business, and people had just wild expectations of what that price would be.”

As a result, Proofpoint had a “long quiet period” of very little M&A activity. “Those valuation expectations just didn’t match what we felt we could reasonably pay,” Auvil said.

More recently, expectations may have come down to earth. In early November, Proofpoint bought ObserveIT, an insider-threat intelligence firm, for \$225 million in cash. In the absence of a recession, Auvil says, he hopes he sees

a “maturing in the perspective of these smaller companies” that will help Proofpoint continue its acquisitive ways.

“But if we can’t find the right asset at the right price, then we’ll just stand down and leave the cash earning interest in the bank,” he adds.



“There is always that rainy day fund that every CFO needs to keep on [his or her] balance sheet for unintended outcomes.”

—Jennifer Ceran, CFO, Smartsheet

Proofpoint is not taking any chances that the cash won’t be there for future deals. In August, the company announced a \$750 million senior-note offering due in 2024. Says Auvil: “What that enables us to do is have this significant additional cash balance, not as a buffer against the potential economic downturn, but more as a force multiplier.”

At Profit’s Expense?

Even with lagging growth, many subscription-model tech companies aren’t particularly worried about profit. For such companies and their investors, the non-GAAP metric of free cash flow is replacing GAAP earnings as the “gold standard” of financial health, according to Manoj Shroff, managing director of finance and accounting services at Accenture Operations.

Indeed, to listen to these companies and to their investors, these beneficiaries of the “technology super cycle” seem to be in a world of their own. Jennifer Ceran, the finance chief of publicly held Smartsheet, a cloud-based

Keeping Conservative

Treasurers are still opting for safety and liquidity (over yield) when investing short-term cash.



- Safety remained the most important short-term investment objective for treasurers and other finance professionals in 2019, according to the Association for Financial Professionals’ liquidity survey. Safety was cited by 64% of respondents, with liquidity coming in second at 33%.

On average, 69% of all short-term investment holdings by the 496 respondent companies were in vehicles with maturities of 30 days or fewer. Another 12% of short-term investments were held in vehicles with maturities between 31 and 90 days. Only 11% of respondents expected to lengthen the average maturity of investments in 2019.

Given the flattening and the inversion of some yield curves, “many investors will likely remain on the short end of the maturity curve, not only for safety purposes but also in terms of matching liquidity [to] working capital needs,” the AFP said.

The typical organization surveyed maintained 46% of its short-term investment portfolio in bank deposits and 22% in money market funds. The most commonly used bank products were structured bank deposits and time deposits.

When selecting a deposit bank, almost all the finance executives surveyed (93%) said the major determinant was their overall relationship with the bank. The credit quality of a bank was a deciding factor for 68% of finance professionals, while compelling rates on deposits were a factor for 51%.

As to the possibility of bringing home cash generated overseas to bulk up U.S. cash balances in 2019, less than one-fifth of respondent companies (16%) repatriated funds, and half of those moved less than 25% of their off-shore earnings. | **VINCENT RYAN**

BO CHENG

—
President, Altovista Technology Inc.



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business-planning platform, deploys a benchmark called the “40% rule”: a healthy company’s growth rates for revenue and profit should add up to at least 40%.

“So, if you are growing at 20%, you should be generating a profit of 20%,” Brad Feld, a prominent tech analyst, has wrote on his blog. “If you are growing at

40%, you should be generating a 0% profit. If you are growing at 50%, you can lose 10%. If you are doing better than the 40% rule, that’s awesome.”

Employing free cash flow as her profit metric, Ceran says she would be “very comfortable to record a negative free cash flow of 10%” for a quarter if the company’s revenue growth came in at 70% or 80%. In that case, she would be encouraged to “lean in” on the company’s quest for soaring sales.

Still, Smartsheet can’t be too lackadaisical about what’s over the economic horizon. CFO Ceran, who has held senior finance and treasury posts at companies like Cisco and Sara Lee, acknowledges that companies must retain a “rainy day fund that every CFO needs for unintended outcomes.” (Smartsheet’s is \$561 million.) She adds: “We definitely won’t go to zero. I can tell you that.”

Disappearing Cash

That wouldn’t be a wise move for any company, because things may be more cash-precious for industries with substantial fixed assets and heavy expense lines, like automobiles. In those sectors, revenues—and the cash flows they support—have been drifting downward, according to Charles Mulford, an accounting professor at Georgia Tech and the head of the university’s financial analysis lab.

In the first quarter of 2019, median revenues among the 2,600 nonfinancial companies that Mulford tracks were \$1.23 billion, down from \$1.25 billion in December 2018. It was the fourth straight quarterly decline since the record high established in the fourth quarter of 2017.

“What drives corporate cash balances is revenue,” says Mulford. “With declining revenue, we’re seeing that companies’ ability to generate free cash flow is also declining.” (Mulford’s lab defines free cash flow as the cash flow available for common shareholders that can be used for such discretionary purposes as stock buybacks and dividends without affecting the firm’s ability to grow and generate more.)

Further, working capital performance has been degrading, notes Mulford. Accounts receivables are growing and more capital is being tied up in inventory. These factors are

Pulling Back on Buybacks?

Stock buybacks may be entering a down-cycle.

- Where else will companies be judicious with cash? By many accounts, the use of corporate stock repurchases to jack up share prices is on the descent.

In the second quarter, S&P 500 companies spent \$165 billion on stock repurchases, representing a decline of about 20%

compared with the first quarter and 14% lower than a year prior. On average, they have been spending close to 100% of their free cash flow on buybacks.

Many see the China-U.S. trade war and the 2020 presidential election as among the factors that could cool down the buyback craze. “Companies are going to wait and see a bit for those things to unfold before making big commitments in the near future,” predicts Brian O’Brien, a managing director of Alvarez & Marsal’s CFO



Services practice.

Mulford expects corporations to do fewer buybacks “because they’re generating less cash and they have less cash on hand to do them.”

Some have a more jaundiced view. To Ted Gavin, a founder of the turnaround and bankruptcy consulting firm Gavin/Solmonese, only the most secure, lavishly wealthy companies should be doing buybacks—the

ones that have “so much cash lying around that they cannot foresee any possible need for it ever” and whose main objective is to boost earnings per share.

“If you’re worried about being affected by a recession or a downturn in the cycle and you’re even considering doing a stock buyback, somebody should smack you in the head,” Gavin says. | **D.M.K.**



“If you’re worried about being affected by a recession or a downturn in the cycle and you’re even considering doing a stock buyback, somebody should

smack you in the head.”

—**Ted Gavin**, founder, Gavin/Solmonese

slowing down the time it takes for companies to convert their outlays into cash.

Cap-Axed

Slow-growing revenue is undoubtedly causing many industrial companies to look more closely at cash allocations and spending. Capital expenditures, for one, help drive the economy. After an increase in capex spurred by the 2017 Tax Cuts and Jobs Act, for example, spending has been dropping for much of 2019, according to the Georgia Tech Financial Analysis Lab.

At first, the new tax law seemed to be achieving its desired end of triggering business investment. Following three quarters of falling corporate outlays for plant,



“Even in an economic downturn, if our growth rate slows

a little bit, we still generate a lot of cash.”

—Paul Auvil, CFO, Proofpoint

equipment, and the like, median capex as a percentage of revenue rose in the four quarters ending December 2018. But in the first quarter of 2019, capex as a percentage of revenue declined to 3.64%, down from 3.79% the previous quarter. Third-quarter earnings data showed that while capex spending grew 3.2%, fourth-quarter projections were lower: 1.8%, according to Refinitiv.

“What really is frustrating is that although lower tax rates could have helped generate capital expenditure, the bad talk about tariffs just killed the animal spirits,” says Mulford.

Stephen Foley, head of U.S. corporate banking at T.D. Bank, says he has seen a dampening of enthusiasm for capex among his clients.

“A lot of people I’ve talked to say they’re a little hesitant about investing in capex because the payoff isn’t so quick and defined as other cash investments.” To them, it’s “investing in capacity that you might not need down the road.”

To allocate a significant amount of cash to capex today implies confidence in “the hope of growth tomorrow,” adds Bark CFO Toth. “I would rather have the cash, because it’s a less clear, less robust future” today.

Like capex, M&A activity, at least for some, seems primed for a downgrade on the list of corporate cash priorities. “We’re 10 years into a recovery cycle, and valuations are near all-time highs,” says Foley. Considering the cloudy economic picture, substantial acquisitions are “the kinds of bets that companies just don’t feel like taking right now.”

While the number of U.S. deals rose 19% in October, for

example, total deal value fell 30%, to \$106 billion, according to investment bank Baird.

Large companies, indeed, are taking the other side of transactions—divesting assets to improve liquidity.

When AT&T agreed to offload its wireless operations in Puerto Rico and the U.S. Virgin Islands for nearly \$2 billion in cash in October 2019, it was responding to its own recent history: the after-effects of a \$200 billion merger spree culminating in 2018’s \$109 billion acquisition of Time Warner.

Referring to the asset sales, AT&T CFO John Stephens said that the deal was “a result of our ongoing strategic review of our balance sheet and assets to identify opportunities for monetization.”

The sale was also part of a cash-allocation agenda being pushed by activist investor Elliott Management. Harshly critical of what it sees as a huge undervaluation of the telecom’s sales, Elliott Management is pushing AT&T to halt significant M&A activity and tighten its operations to generate enough cash to pay down its huge debt. It also wants the cash to fund a steady stream of share buybacks. (See “Pulling Back on Buybacks,” page 30.)

Staying Put

Although the U.S. economy has not technically entered a recession, Mulford says that the declines in revenue and cash flow “are things that start to give you the early indications of that.” In November, the Atlanta Federal Reserve Bank’s GDPNow model was projecting U.S. GDP growth of only 0.4% in the fourth quarter.

A company’s business model can be partial insurance against a downturn, or at least that’s what some finance chiefs believe. Proofpoint’s Auvil says the company has a built-in buffer against cash shortfalls: almost all of its business is subscription-based.

With checks from its corporate subscribers pouring in each year, the company generates substantial cash flows. At the end of the third quarter, the company reported \$1.05 billion in cash and cash equivalents.

“In an economic downturn, even if our growth rate slows a little bit we still generate a lot of cash,” he says. “So, we won’t have a situation where if the economy slows, our top-line business could suddenly collapse and create a liquidity crisis for the company.”

Clearly, some companies are still riding the tailwind of economic growth. And why not? There’s still ample cash in the U.S. economy—about 10% higher than the norm, in part due to high leverage. Some CFOs, therefore, don’t feel the urgency to go into hibernation mode and stash more of it away.

Still, says Mulford, “I would be inclined to think that managers will tend to stay where they are.” **CFO**

Freelancer David M. Katz is the former New York bureau chief of CFO.

Finance Matchmakers

As finance and accounting embraces the gig economy, solo practitioners have more online options to find prospective clients and land lucrative engagements.

By Michelle V. Rafter

Tom Calamia was 47 when The Shaw Group, a Fortune 500 company where he had previously been a divisional CFO for 14 years, got acquired. He stuck around for a month to help with the transition. But after more than two decades in high-stress corporate jobs, he was ready for a change—one that offered more flexibility and fewer people-management responsibilities.

So, he went freelance.

Calamia launched a solo accounting consulting firm from his hometown of Simpsonville, S.C. Not long after, a neighbor told him about Upwork, an online platform that matches freelancers in a variety of fields with businesses in need of contract workers. Calamia researched the site and created a profile. He landed his first project soon after, reviewing a California company's financials to help it identify the benefits of recycling computer parts.

That was in the fall of 2013. Since then, Calamia has built a steady clientele through the platform. For some he works as a virtual CFO. For others he helps close the books or tackles special

projects. He also picks up one-off work on a regular basis. Although a majority of his business comes from industry contacts and referrals, Upwork now generates 35% to 40% of his income. It gives Calamia the opportunity to see what companies are looking for and whether their needs match his skills and talents.

These days, more finance and accounting professionals are heading in the same direction. As the freelance population grows, so are online match-making services that allow them to market themselves. Think Match.com, but for CFOs and accountants to find work.

Embracing the Gig Economy

It's standard practice for fast-growing companies to use interim or virtual CFOs until they reach the size where they can hire a full-time, in-house finance chief. Many larger companies also fill temporary finance and accounting positions through staffing agencies. And regional small and midsize businesses have long worked with local CFO consultants.

But the dynamics are changing. A tight job market has piqued corporate interest in the gig economy and the use of contingent workers. And companies





that have migrated operations to the cloud can more easily manage remote and temporary workers of all kinds, says Clara

Sieg, a partner and founding member of venture capital firm Revolution Ventures. Sieg is an early investor in Paro, a niche freelance platform for independent finance and accounting professionals.

Freelance opportunities might also appeal to hard-working associates who've been toiling away in public accounting for a few years. "When you zoom out to the broader market and look at the Big Four, where a junior accountant is billed out at 200% to 300% of what they're taking home, you realize that the structure in the public accounting industry is skewed because of partner expenses," Sieg says. "If you take those out, you have a viable business model."

According to a 2018 survey by Deloitte, CFOs expected their use of outsourced and contingent workers to supplement full-time staffs to increase by 88% through 2021.

That forecast dovetails with a widening interest in freelancing as a desirable way to work. Today, about 35% of American workers (57 million people) do freelance work, according to an October report by Upwork and the Freelancers Union.

The proportion of U.S. workers who freelance by choice rather than necessity has grown to 60% from 53% in the past five years, according to the report. The share of people who freelance full time has also grown, to 28% this year from 17% in 2014.

Specialism vs. Generalism

Since launching in mid-2016, Paro has amassed a database of finance vice presidents, controllers, financial analysts, CPAs, and internal auditors. They go through a screening process before being accepted to offer their services. The company has reviewed about 50,000 applications to date and currently has somewhere in the high hundreds to 1,000 professionals in its database, all U.S.-based, according to CEO Michael Burdick.

Burdick maintains that Paro has a leg up on all-purpose freelance match-making sites because of its proprietary, rigorous vetting process and proprietary algorithms for matching people's specialties to corporate clients' needs.

The \$16 million in total funding the Chicago-based company has raised is a sign that a profession that's traditionally been risk-averse is warming to a new way of doing things, Burdick



"It's changing as baby boomers retire and millennials replace them in roles. Millennials are three to four times more likely to hire freelancers."

—Michael Burdick, CEO, Paro

Self-Service Hiring



● Robert Half International, a longtime powerhouse in recruiting finance and accounting professionals and staffing clients' needs, isn't letting online matchmaking pass it by.

Taking advantage of interest in the cost effectiveness that online platforms offer, the \$5.8 billion firm last year launched a service called Robert Half Direct that gives customers an artificial intelligence-based, self-service alternative to hiring a recruiter to conduct a candidate search.

The platform's AI-based algorithm delivers a short,

curated list of candidates that match with the skills the customer seeks. Robert Half's database of job-seekers includes everything from CFOs to collections, payroll, and accounts payable staff. The service only provides candidates for full-time positions, not interim, contract, or freelance workers.

Were customers to post on a job board, "they would get 40 to 50 applications to look through, and the percentage of people who match would probably be pretty low," says LaCinda Clem, senior executive director for Robert Half Direct.

Job seekers pay nothing to upload their information to RHI's talent database. Corporate customers pay a smaller percentage of a new hire's first-year salary than what they would if they retained an RHI recruiter. RHI declined to disclose a specific rate. | **M.V.R.**

says. "It's changing as baby boomers retire and millennials replace them in roles," he says. "Millennials are three to four times more likely to hire freelancers."

Most of Paro's competition comes from generalist freelance match-making sites. One of the largest is Upwork, which started out as a place to find low-paid gig work but has lately attracted more skilled knowledge workers, including finance and accounting professionals.

Four of the 10 highest-paying skills on Upwork are in finance and accounting, according to a company report published this year. That includes legal entity restructuring (\$255 per hour), using BlackLine software for financial close (\$220), working with bitcoin (\$215), and financial reporting under international accounting standards (\$215). Hourly rates on the site have doubled since 2015 for U.S. freelancers, and 65% of flat-rate projects listed pay more than \$1,000, according to the company.

Some successful finance leaders join Upwork to become interim CFOs, and some are even going into the business of coaching young high-potential finance professionals, notes CEO Stephane Kasriel. Such people are among Upwork's highest earners. So far, though, C-level or other upper management finance and accounting professionals such as Calamia remain "a pretty small portion" of its freelancers.

Not to be disrupted, LinkedIn launched its ProFinder business nationwide in 2016 to match LinkedIn member companies or individuals with service-provider members in about 14 categories. Accounting is among the top 10, and requests for accounting-related requests for proposals (RFPs) more than doubled from 2017 to 2018, according to Vidya Chandra, principal product manager for LinkedIn Premium. LinkedIn declined to disclose the number of RFPs or whether demand for the service has grown since 2016.

The Cost of a Virtual Shingle

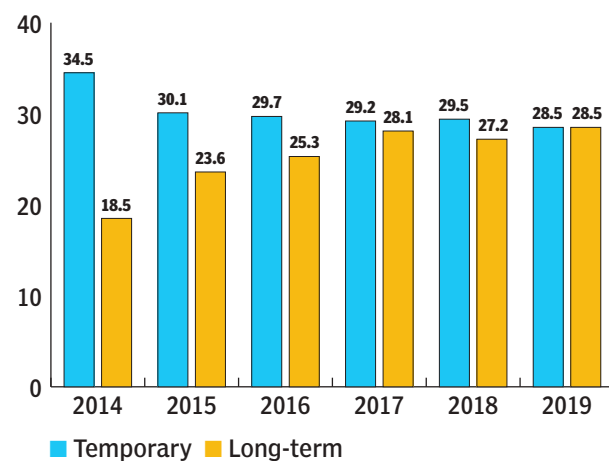
Freelance marketplaces for finance professionals have different business models. On Paro, users set their rates and corporate clients are charged a fee on top of that, so freelancers don't pay anything, Burdick says.

On LinkedIn ProFinder, once freelancers are approved they can respond to up to 10 project proposals for free. To bid on more, they have to upgrade from a free LinkedIn account to the service's Premium Business level, which is \$59.99 a month (or \$575.88 a year). In July, LinkedIn added an expanded skills section to all user profiles, making it easier for members to showcase their skills, even if they're not on ProFinder.

In It For the Long Haul?

More workers each year view freelancing as a long-term mode of work rather than a temporary choice.

(all industries, in millions of freelancers)



Source: "Freelancing in America" survey of 6,000 freelancers, by Upwork and the Freelancers Union

Upwork, in contrast, charges freelancers per-assignment commissions on a sliding scale: 20% on the first \$500 earned from a single client; 10% on billings of \$501 to \$10,000; and 5% on anything over that. In addition to listing the services they offer on their profile for prospective clients to see, freelancers can bid on jobs that companies post on the platform.

To bid on those gigs, Upwork charges a nominal amount of tokens called Connects that cost 15 cents each, in part to cut down on spammers who in the past clogged up the job bidding process. Upwork also offers a premium Freelancer Plus account for \$14.99 a month that includes extra Connects and other perks.

Fiverr, another generalist online marketplace, charges freelancers a 20% transaction fee regardless of project size. Buyers of freelance services are charged \$1 on top of any freelance work that costs \$20 or less, and 5% of the total cost of the project for anything over that. The project buyer places a freelancer's fee into an escrow account until both parties agree that the project has been completed to previously specified parameters. Freelancers can get approved to upgrade to the free Fiverr Pro level, which could land them at the top of search results and result in more work. A Fiverr spokeswoman declined to comment on finance and accounting professionals' activity on its site.

Limitations

Freelance platforms won't replace word-of-mouth recommendations as the primary way that independent finance professionals and virtual CFOs find work, says Jeff Moore, a CPA and business consultant in Atlanta who's worked as a part-time and interim CFO and forensic accountant since 1984. "That will prevail over someone you meet online and have to vet on your own," he says.

Still, Moore—who's used Upwork to hire a freelance bookkeeper but never to look for work for himself—agrees that such platforms are a viable option for finance and accounting professionals, especially younger ones who lack an established network for referrals or work.

Back in South Carolina, Calamia networks locally, checks in with past customers for referrals, and monitors Upwork once or twice a week for interesting projects. In the six years since he started using Upwork, according to his profile, he's completed 22 projects from which he earned more than \$55,000 each.

The work he gets through the platform contributes to an average work week of about 25 to 30 hours, giving him the work-life balance he sought when he opted to go solo.

"I think you'll see freelance accounting grow," he says. "People are getting to the point where they want more freedom and variety, and on the employer side, companies are comfortable with not having someone they can walk down the hall to talk to." **CFO**

Michelle V. Rafter is a freelance writer based in Portland, Oregon.

DISPATCHES FROM CFO LIVE



CFO Live, the next-generation, multi-track conference from CFO, tackled topics critical to the future of finance.

As a pre-Thanksgiving chill settled over New York, finance chiefs converged in downtown Manhattan on November 13-14 for CFO Live.

The panels and sessions dug into a multitude of issues germane to the finance chief's job and the technologies driving the finance department's transformation. More than 60 speakers, including the CFOs of Adobe, BuzzFeed, the United Nations, and Dow Jones, explored leveraging intelligent automation, taming healthcare costs, building a finance team for 2025, driving value creation and profitability, and more. Following are just some of the highlights.

High Demand for CFOs Creates Opportunities

Thinking about looking for a new job? It's a good time to do it. Demand for CFO talent is at an all-time high, given the proliferation of entities backed by private equity and venture capital.

But don't get too enamored, too quickly with any particular opportunity that comes along. An executive job seeker's due diligence on a potential employer should be as rigorous as the employer's due diligence on a candidate.

So advises Barry Toren, leader of the financial officers recruiting practice at Korn Ferry and a speaker at CFO Live.

"You're all executives, and everyone wants to win," Toren told the several hundred attendees. "But you don't want to win a job that's not the right one for you."

He zeroed in on the typical CFO's competitive orientation.

"I see folks get enamored with opportunities because of mission, vision, location, the management team, the equity upside, the sexiness of the opportunity—whatever it is," Toren said. "But they don't always take the time to say, 'What are they looking for, and am I the right person for that?' They just want to win the job."

He continued: "There are certain aspects of building a résumé that are important, but if you're just focused on building a résumé ... you're doing yourself a disservice."

At the same time, the fluidity of the present job market

demands that companies looking to hire a CFO not drag their feet on deciding.

Historically, recruiters made perhaps 100 or more phone calls to potential candidates, whittled the prospects down to about 20 that the recruiter's partner would meet, and further winnowed the field down to five who would meet with the client company, which then typically agonized over the decision.

"The reality is, if we ran the process like that in today's search environment, three of those five candidates probably would be in new jobs before we got them through the process," Toren said. "The nimbler a company is in its recruiting, the more enabled it will be to get the 'A' candidates. Resting on your laurels and saying 'everyone should want this job' doesn't work anymore."

He said he assumes that every CFO he interviews is getting three or four other calls on potential career opportunities every week.

Toren's presentation included a number of other, compelling observations:

Operational education: "We've seen CFOs take operating roles and then come back into finance. And I will tell you that 99% of them became better CFOs, because they can see finance through a different lens."

Public-to-private transition: "For CFOs that have gone from a public company to a PE portfolio or venture-backed business, the high-risk, high-reward environment is pretty addictive. They rarely call me and say they want to get back into a public company. And if you think about a [typical] 20-year period of being a CFO, they may have four or five of those opportunities."



"The nimbler a company is in its recruiting, the more enabled it will be to get the 'A' candidates."

—Barry Toren, senior client partner & leader, financial officer practice, North America, Korn Ferry

Job-hunting momentum: "Once a candidate decides to kick the tires on one opportunity, they're most likely going to pick up the next call, and the next one. Once they make a mental decision that it might be time to leave, they start picking up the phone and asking questions."

On the Q.T.: "It's not always in the best interest of a CFO to disclose everything to a recruiter, because my bill is paid by my client," Toren said. For example, he noted,



if you're a candidate for another job or are talking with another recruiter, keep it to yourself.

Succession planning failures: In a recent Korn Ferry survey of 222 CFOs, 80% said there was no ready-made internal successor for their role, and

only 38% said a formal succession plan was in place.

"If you're a sitting CFO trying to develop bench strength, and you have a strong controller, head of FP&A, [investor relations] leader, and treasurer, getting them cross-trained isn't easy; it's going to impact the day-to-day," Toren said. "Unfortunately, CFOs have a high-stress role. Their heads are down and they have multiple masters. If they make a change to give someone greater experience, it may put more stress in their lives."—**DAVID McCANN**

Avoiding the 'Robocalypse'

Will robots eventually take over the economy by performing most jobs? The opening-day keynote speaker, economist and futurist Jason Schenker, presented a pair of contradictory visions.

"People are very focused on what I call the 'robocalypse,' but the truth is, technology will end up creating a lot of jobs," he said.

As evidence, he pointed to Bureau of Labor Statistics data showing that from 2000 through the end of 2017 the number of U.S. retail jobs declined by 500,000. Over the same period, 700,000 jobs were added in transportation, warehousing, and storage.

"The supply chain is moving around, becoming more technology-oriented and creating new jobs," Schenker observed. "And by the way, the lowest-paying of those [700,000] jobs pay more than the highest-paying retail jobs. You're going to see this continue on."

Today, he noted, many college graduates are looking ahead to careers in content and social media marketing. There were no such jobs 10 years ago. And 10 years hence, college grads will be positioning to take jobs that don't currently exist.

But Schenker didn't completely disallow the possibility of a kind of en masse replacement of human employees by robots coming to pass. A prime cause of such an event, for example, could be a jump in labor costs. The culprit likely would be entitlement programs—Social Security, Medicare, Medicaid, unemployment insurance, and welfare—which Schenker collectively characterized as a \$200 trillion off-balance-sheet obligation for the U.S. government.

Among all the tax cuts in the federal tax reform bill passed in late 2017, he noted, nowhere to be seen were payroll tax cuts. "In the decade ahead if we were to see payroll taxes of 25%, I would not be surprised," Schenker observed.

And if employers' payroll tax tab were to rise from the current 7.5% of employee wages to 12.5%, "they might think

about automating more jobs—maybe even more than is reasonable, because they'd be over-incentivized to do it," he concluded. "That's a risk going forward."—**D.M.**

Vertical Realities

"Silos." It feels almost like a dirty word, doesn't it? Indeed, they've been problematical for companies since, well, forever.

The traditional approach to delivering administrative services is costly, dysfunctional, and often maddening to internal customers, according to Jonathan Schiff, a consultant to large corporations and an accounting professor at Fairleigh Dickinson University.

Digitization, offshoring, and outsourcing have resulted in incremental progress, but not the quantum improvement and competitive advantage that await those who are willing to break down entrenched functional barriers, Schiff contends.

Well-known companies are reaching for new levels of efficiency and effectiveness by working across the finance, accounting, human resources, and information technology functions, he says.

According to research cited by Schiff, about three-quarters of the skills needed

for administrative tasks are the same across all departments. Examples include problem-solving, team building, ethical practices, and change management. The rest are technical capabilities that change all the time.

In hiring, he said, companies seek candidates looking for life-



"...The proliferation of all sorts of tools has created real dissonance across the organization and real cost that is not tracked."

—**Dr. Jonathan Schiff**, professor of accounting, Fairleigh Dickinson University

time learning. They will serve as subject-matter experts, because the nature of those skills will change. Rather than each department having a bunch of general-skills admins, Schiff envisions centralized, flexible administrative services groups that support smaller specialty units.

He offered supply chain management as an example of where this transformation already has occurred. It brought together previously distinct areas such as research and development, procurement, and distribution.

These flattened organizations offer improved job productivity and generate "better customer alignment, improved speed, stronger cash flow, lower cost," and even "a heightened sense of purpose," according to Schiff.

Although corporate leadership demands more efficient administration, Schiff argued that cloud, artificial intelligence, and robotic automation technologies "will not solve all our problems."

The ways companies incorporate and organize technology

CFO WEBCASTS

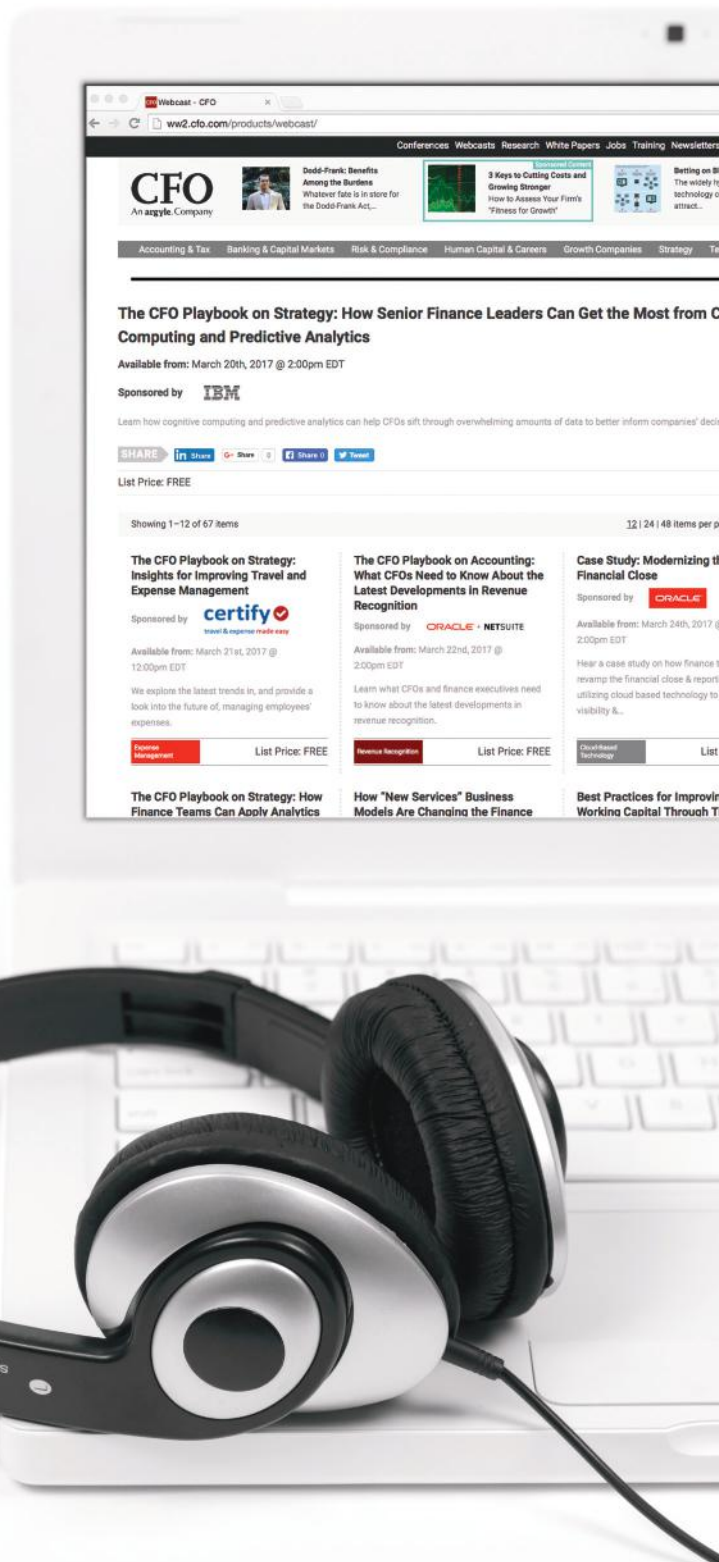
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also generates redundancy and cost, he noted. He pointed to the tension between centralized, IT-approved software and discrete solutions introduced by different departments or even individuals.

"The term 'breaking down silos'

appropriately is also something many software and cloud services vendors [say], and it's based on a valid observation: the proliferation of all sorts of tools has created real dissonance across the organization and real cost that is not tracked," said Schiff.

But cost isn't the biggest part of the problem with silos. Schiff said he works with companies that have 40 general ledger systems or three different pieces of presentation software in finance. "It's not about the costs of the software," he said. "Even if they give it to you for free, it's the confusion."

This doesn't necessarily mean a single piece of software across the firm is much better. "What if it stinks?" Schiff asked.

—JAY CAMPBELL is a journalist and co-founder of *The Company Dime*, a publication that covers business travel and expense management.

Chasing the C-Suite

As women begin to crack open the glass ceiling, the phenomenon of the co-called glass cliff is emerging. The glass cliff is the notion that women in leadership roles often get top jobs when things are dangerously bad and the probability for failure is extremely high. But what if she doesn't succeed in getting the job done during this period of crisis or downturn?

"If you don't succeed, you're gone," said Amy Shelly, CFO of The Options Clearing Corp., during a panel discussion on the topic. "That's a hard message. Women are still held to a very different standard than men are. It's higher. It's harder. And I haven't quite figured out how to change that assumption and mindset."

Stepping into any new career opportunity runs the risk of failure, but building an engaging team of advocates may be a particularly valuable strategy to succeed if you find yourself on the glass cliff.

Said fellow panel member Jamie Cohen, CFO at ANGI's Homeservices and one of the youngest women to hold the finance chief spot at a publicly held company: "So even in



"Women are maybe more apt to collaborate or ask for help than try to stand on their own, so perhaps that is one way that we are better at solving really hard problems because we're not doing it on our own."

—Jamie Cohen, CFO, ANGI Homeservices

The Box of Possibility

In a session on intelligent automation, Lee Coulter, CEO of transformAI, addressed some of the misperceptions around robotic process automation (RPA). His key points:

- There is no business logic in the "box" and there is no value upon installing and configuring an RPA tool.
- RPA is not an application in the traditional sense
- Value is created by the "applets" or "bots" built by the business; actual business processing is not created by programmers
- RPA should be supported by IT, but not managed or led by IT
- RPA's value is determined entirely by how it is used and how much it is used.

this glass cliff phenomenon, we're not standing on a cliff alone. We're surrounded by people who are collaborating with us to have good ideas and hopefully solve the really hard problems." She added, "Women are maybe more apt to collaborate or ask for help than try to stand on their own, so perhaps that is one way that we are better at solving really hard problems, because we're not doing it on our own."

Another obstacle to a woman's career progress is the broken rung. The broken rung refers to the first step on the corporate ladder, the initial promotion to management. Men



"If you don't succeed, you're gone. That's a hard message."

—Amy Shelly, CFO, OCC

are far more likely than women to get those promotions. So, how can women be encouraged to go for leadership positions in roles that are currently dominated by men? Building a relationship with strong mentors is a start.

"With respect to mentorship, I try to mentor both genders or all people, any high-potential person in my organization," said Debi Chirichella, finance chief at Hearst Magazines. "I do think it's important that women promote other women. We tend to promote people who look like us. And I think that the more women there are in the senior ranks, the more women that will come up."

As women continue to be underrepresented both in the C-suite and on boards of directors, acknowledging that there is an issue with the lack of women in leadership roles is the first step toward addressing the lack of gender diversity.

"Every CEO I've ever worked for in the industry is a man," said Chirichella. "Within my organization there are a lot of women in high-level positions, but they're not quite at that corporate level. The first part is acknowledging that you do have a gender bias in certain parts of your organization. You need to make a concerted effort to change it and you need to hold yourselves accountable to that." **CEO —LAUREN MUSKETT**

What Will the Finance Workforce Look Like in 2025?

Progressive finance teams are embracing the opportunities surrounding emerging technologies such as artificial intelligence (AI), robotic process automation (RPA), big data, and machine learning. The shift from manual work processes to machine-assisted transactions will result in a much different finance workforce in 2025.

During a presentation at CFO Live in New York, Mike Hyland, Senior Director-Business Architect, SAP, cited research noting that at least 54% of all employees will require significant reskilling and upskilling by 2022. "Finance executives must consider how to rapidly pivot their learning and development approaches to equip current employees for an evolving environment," he said.

Changing business models will also

add to the staffing challenges, Hyland noted. "New business models must be financially viable and will require a team that can offer forward-looking customer, supply chain, product, and service profitability insights."

Lessons from Leaders

Hyland shared some success stories from fast learners who have been able to leverage automation. "These applications are

"Finance executives must consider how to rapidly pivot their learning and development approaches to equip current employees for an evolving environment."

real and in the field today," he said.

- One SAP customer applied automated purchase-order clearing. The result was a 70% reduction in manual touches to resolve matches, and 90% of purchase orders were processed without human intervention.

- Threat detection is another area ripe for automation. One customer identified more than 800 unique computer attack patterns. Its system is now able to review 250 million events daily for malicious behavior, a task that could not be accomplished manually.

- Another SAP user leveraged technology to achieve a 75% increase in automated cash clearing.

To achieve the level of success of these leaders, it is critical to rethink the skill sets of the finance team, Hyland noted. "Look for internal and external candidates who are open to challenges and inquisitive."

Other important next steps for finance: partner with IT colleagues, identify new finance controls, focus on one area to build confidence, and continue to innovate and evolve the team's capabilities.

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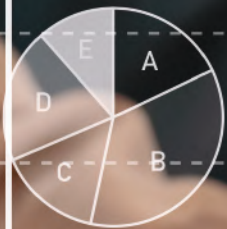
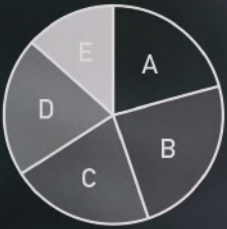
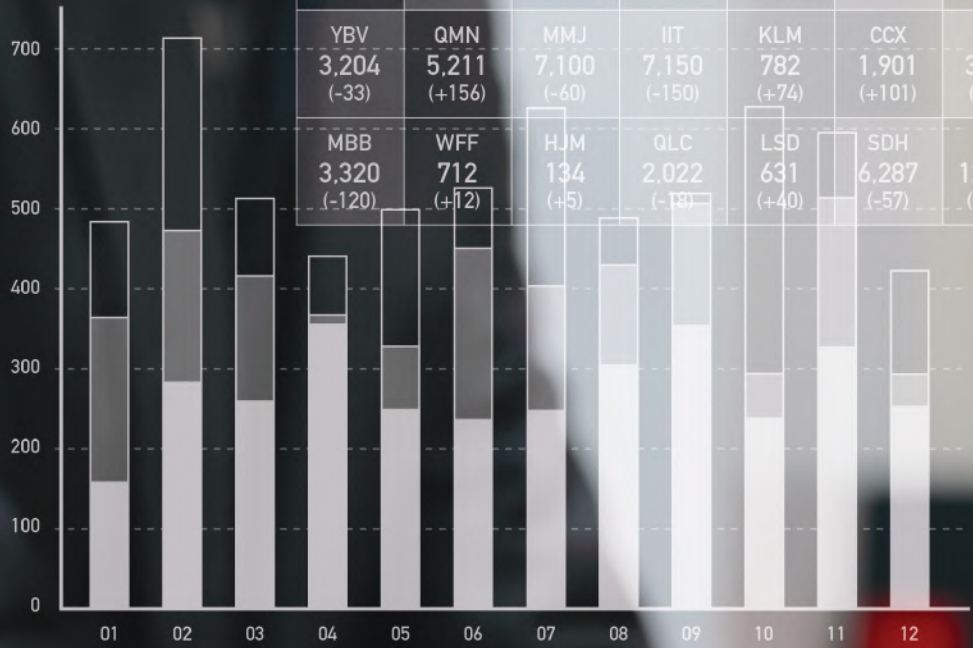
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YBV 3,204 (-33)	QMN 5,211 (+156)	MMJ 7,100 (-60)	IIT 7,150 (-150)	KLM 782 (+74)	CCX 1,901 (+101)	EMH 3,280 (-120)
MBB 3,320 (-120)	WFF 712 (+12)	HJM 134 (+5)	QLC 2,022 (-13)	LSD 631 (+40)	SDH 6,287 (-57)	GHS 12,630 (+330)



Upgrading the Engagement

The Big Four have developed impressive technology platforms and tools. Here's how they might improve auditing.

By Bob Violino

Emerging technologies such as artificial intelligence (AI), machine learning (ML), predictive analytics, and sophisticated mobile devices can potentially improve the quality of audits. And they couldn't be arriving at a better time. The Big Four accounting firms and their smaller competitors have come under attack for failures to catch fraud or signs of imminent financial distress.

The Financial Reporting Council (FRC), which regulates auditors, accountants, and actuaries in the United Kingdom, issued a report in July 2019 strongly criticizing firms' auditing quality. The FRC assessed 75% of the FTSE 350 audits for December 2017 year-ends as good or requiring limited improvements. The council's target is 90%, and no firms examined achieved that level.



“When we think about transforming audit methodology to better leverage technology, a big part of it is moving toward a data-driven audit.”

—Amy Pawlicki, vice president, assurance and advisory innovation, AICPA

Overall there was no improvement from the previous year, FRC says, and 25% of assessed audits were below an acceptable standard. “Poor quality audit work remains unacceptably common,” the report opined.

Globally, the story is the same. The International Forum of Independent Audit Regulators (IFIAR) had at least one “finding” in 37% of the 921 listed public-interest-entity audits it inspected in 2018. (A finding generally is a significant deficiency in satisfying the requirements of auditing standards.) That’s down from 40% in 2017, but “demonstrates that significant improvement in audit quality is still required,” said the IFIAR.

Some experts are much more positive about the state of audits. Still, they view technology as a means of achieving even better performance. “In the United States, the state of audit quality is strong, as reflected by robust levels of investor confidence and declining trends in financial restatements,” says Julie Bell Lindsay, executive director of the Center for Audit Quality.

Public accounting firms are investing in audit quality and leveraging the strengths of multi-disciplinary teams at a time when transformational technology has the potential to exponentially increase the confidence-building power of the audit, Lindsay says.

Digging Deeper

Better access to more data, cloud storage, and technologies such as AI in particular bring



Audit Technologies

tremendous potential to support deeper analytics and greater insights for the benefit of financial statement audits, says Amy Pawlicki, vice president, assurance and advisory innovation, at the American Institute of Certified Public Accountants (AICPA). These advancements serve as enablers that support the audit process, Pawlicki says, driving a more rewarding experience for auditors, clients, and users.

“When we think about transforming audit methodology to better leverage technology, a big part of it is moving toward a data-driven audit,” Pawlicki says. “This means moving in the direction of analyzing entire populations of data—versus sampling—where practical, and emphasizing the use of audit data analytics to transform risk assessment across all the phases of the audit.”

Big Four firms are banking on technology as a way to enhance audit quality. PricewaterhouseCoopers (PwC), for example, has created a number of tools designed to improve the auditing process by automating tasks and providing real-time information-sharing among client audit teams and its own personnel.

“Our clients want more value, higher quality, and a more technology-enabled experience—all at a managed cost,” says Pierre-Alain Sur, U.S. technology-enabled audit leader at PwC.

Power Boost

One of the PwC tools is a bot, GL.ai. It uses artificial intelligence and machine learning to “X-ray” a business, examining every uploaded transaction, user, amount, and account to detect unusual transactions that might indicate potential error or fraud in the general ledger.

The tool was developed in partnership with H2O.ai, an open source ML and AI platform. It has been successfully trialed on 20 audits in 12 countries including Canada, Germany, Sweden, and the United Kingdom, PwC

says. The bot is the first module of PwC’s Audit.ai software, with the next modules still in development.

The other Big Four firms have developed impressive technology tools as well.

For example, Deloitte’s award-winning Argus, part of the firm’s cloud-based audit platform, innovates document interrogation and analysis by adding the power of hundreds of “virtual eyes” to the audit team. The tool uses AI, advanced ML techniques, and natural language process-



“Our clients want more value, higher quality, and a more technology-enabled

experience—all at a managed cost.”

—Pierre-Alain Sur, U.S. technology-enabled audit leader, PwC

ing, says Deloitte. “Audit teams are able to provide greater assurance by efficiently analyzing large populations of documents rather than only a handful of samples,” according to a Deloitte spokesperson.

Similarly, EY’s Helix gives auditors the ability to analyze larger volumes of audit-relevant data and derive a more in-depth understanding of the client’s financial close and business operations. The EY Helix library of analyzers supports the audit from risk assessment to execution. For example, audit teams can use analytics to look at sales invoicing activity throughout the year, the impact of credit memos, and, ultimately, how the invoices are settled.

Other tools developed by the Big Four address real-time monitoring of

engagement information, audit workflows, client portals, predictive modeling, accounting and financial reporting research, and audit confirmations. (See table, page 45.)

With time saved on manual audit tasks made digital, audit teams can focus on digging deeper into important audit matters, PwC’s Sur says. “They’ll bring deeper analysis, smarter anomaly detection, and an enhanced ability to spot audit-related trends,” he adds.

Beyond the Scope

Will advanced technologies be the silver bullet that restores confidence in audits? Clearly, that’s TBD. Would better software and analytics have spotted a medical device firm’s unusual pricing and payment terms, quarter-end sales spikes, and funding of a distributor’s purchases? Would it have stopped a Big Four auditor from giving a squeaky-clean audit to a bank whose loans to a mortgage originator were secured by nonexistent assets? Would it have prevented mistakes like deploying engagement personnel that had no knowledge of software license accounting on a software company audit?

Clearly, technology is not going to solve some of the controversies confronting the audit profession: conflicts of interest between firms’ auditing and consulting businesses and the resulting strain in objectivity that can cloud an auditor’s judgement; a long-tenured auditor becoming too chummy with a corporate client; or the ethical lapses that have occurred at some audit firms the past two years.

While the Big Four’s tools increase by leaps and bounds the client financial information and data that auditors can dig into, what the auditor does with that information is sometimes more important. Does he or she challenge a dubious judgment or estimation by management, or let it slide?

Tool Shed

A small sampling* of applications developed by Big Four audit firms to bring the audit into the 21st century.

Workflow Tools

PwC	Deloitte	EY
<p>Connect is PwC's data-sharing and collaborative workflow tool, designed to provide information-sharing at every stage of the audit process. The application monitors information flows in real time, which PwC says eliminates the need to provide request lists in spreadsheets. Connect also serves as a user portal to audits, streamlining and standardizing communication between audit team members and PwC experts.</p>	<p>Deloitte Connect is a secure, online collaboration site that is part of the firm's cloud-based audit platform. It facilitates two-way dialogue between the Deloitte audit team and clients to effectively manage engagement coordination. Real-time status dashboards and a mobile app provide greater visibility to both the audit team and the client.</p>	<p>Canvas, hosted on the EY private cloud, connects audit professionals with clients and communicates a centralized plan to participating teams globally. It also tracks and manages the execution of audit work. Canvas Engage, a mobile app, displays the actions required on an engagement so auditors can view their specific tasks instantly and focus on those.</p>

Analytics Platforms

PwC	Deloitte	EY
<p>Halo processes large volumes of business-critical data, analyzing entire populations. Halo for Journals enhances risk assessment by interrogating, testing, and analyzing journals to reveal relationships and unusual patterns. Halo for ERP embeds risk assessment, automation, and analysis in an end-to-end data auditing tool to help identify and assess risks and determine audit focus.</p>	<p>Cortex acquires and prepares data from a client's ERP and other source systems, enabling audit teams to perform exploratory, account-based, industry-based, predictive, and advanced analytics. Reveal applies regression analysis to illuminate account balance relationships and perform predictive modeling. Signal examines a wide range of financial data and identifies potential risks. Trend and regression analyses identify potential accounting and failure risk factors.</p>	<p>EY Helix gives auditors the ability to analyze larger volumes of audit-relevant data. Data capture and analytics tools allow EY auditors to obtain a better understanding of the general ledger, inventory, trade payables, revenue, and trade receivables to focus audit procedures. The platform also identifies trends and anomalies in business processes and controls to help direct investigative effort.</p>

*This is not a comprehensive list of the auditing technology tools in use by the Big Four. KPMG did not reply to a request for information.

Still, that technology should boost audit quality is a reasonable expectation. And CFOs would welcome the change. Of particular benefit are future tools that enable the auditor to determine (without an inordinate amount of help from finance) which things an audit should focus on: the high-risk areas and the business units with complex structures and revenue streams.

Undoubtedly, if deployed right, technology can also help solve a problem that plagues audits and impairs quality: the human element.

Overworked engagement team members are one cause of faulty audits, research has shown. Auditors of the largest U.S. companies have to finalize the work for an entire audit within 60 days after the end of the fiscal year. "The timeframe can create time pressure to finish an audit, particularly for issuers with global or complex operations," said J. Robert Brown, a member of the Public Company Accounting Oversight Board, in a September speech. Research has shown that time pressures cause auditors to skip procedures, pay less atten-

tion to matters discovered during the audit, or otherwise fail to sufficiently exercise professional skepticism.

Any software that can automate audit workflows, eliminate manual tasks, and reduce the potential for human error should be a boon to the auditing profession. The true measure of success, however, will be this: whether the tools eventually, even in a small way, help auditors close the expectation gap between what the investing public wants from an audit and what an audit can actually deliver. **CFO**

Are CFOs Naïve on Cyber Insurance Value?

Cyber plans don't cover many of the losses finance chiefs think they do. **By David McCann**

● Most senior finance executives at large companies believe that cyber insurance would cover most or all of the losses incurred in a cyberattack, a new study says. But they are wrong, according to commercial property insurer FM Global.

In a study of 105 CFOs and other senior financial executives at companies with revenue of at least \$1 billion, commissioned by FM Global and performed by CFO Research, 45% said they expected their insurer would cover “most” related losses from a cybersecurity event, and 26% said they expected the carrier to cover “all” related losses.

But most of the effects these financial executives expect to experience in a substantial cybersecurity event aren't typically covered by insurance policies, says FM Global, which sells cyber insurance. (See Figure 1.)

The survey participants were on target with their top response, “New costs to mitigate the loss.” Many new costs—including expenses related to restoring data or equipment—

are covered by first-party cyber insurance or property insurance, according to FM Global. And third-party insurance can cover litigation and customer notification costs.

But the rest of the costs listed in the study would likely be absorbed by the victimized company, FM Global says. Moreover, more than half of the survey participants said financial recovery from a substantial cybersecurity event would take months, quarters, or years. (See Figure 2.)

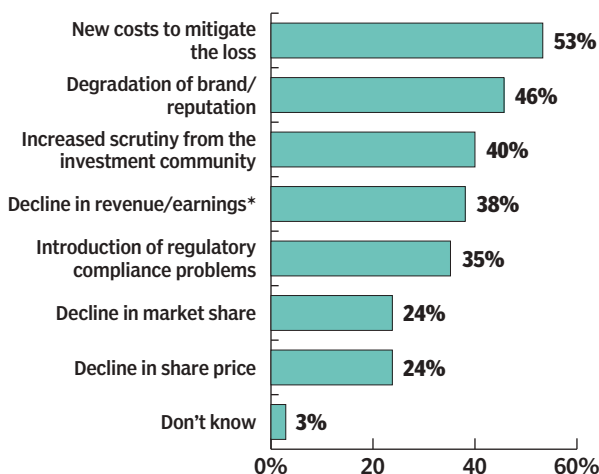
“As essential as cyber insurance is, the findings indicate financial executives may be deriving a false sense of security from it,” says Kevin Ingram, the insurer's CFO. “That's why we're committed to helping our clients prevent loss in the first place.”

FM Global provides a cyber-risk assessment tool that identifies addressable vulnerabilities in physical security, information security, industrial controls, and building automation systems.

The company notes that responsibility for cybersecurity no longer falls exclusively on a single department. “From supply chains and infrastructure to facilities and data, risk managers must now deal with cyber-based threats that potentially affect an entire business, enterprise-wide,” FM Global wrote in a separate report. “And the more businesses depend upon data and technology, the more exposed to cyber-induced business interruption they become.” **CFO**

FIGURE 1

If your organization experienced a substantial cybersecurity event, what would you expect to be the likely impact(s)?

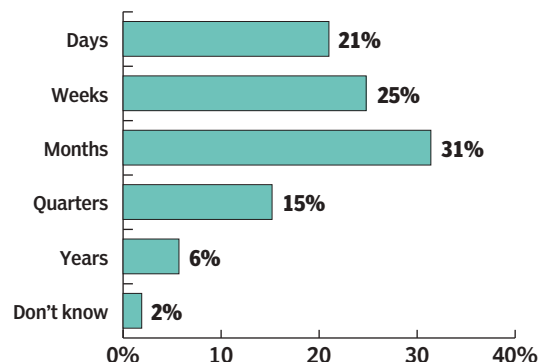


Multiple responses allowed

*Although insurance would be expected to cover lost revenue during the span of a disruption, lost revenue related to lost growth, market share, brand equity, etc., after the resumption of operations would not normally be covered.

FIGURE 2

How quickly would you expect your organization to recover financially from a substantial cybersecurity event?



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The Heat Is On

Think climate change is an esoteric topic that most CFOs need not ponder often? Think again. This fall, Clorox tied the compensation of its CEO, CFO, and other executives to meeting environmental, social, and governance goals. At the same time, nearly half of companies are falling short of sustainability targets, a Bain study found. Brush up on your climate change knowledge with the quiz below.

- 1 What percentage of greenhouse gas emissions caused by humans is a result of deforestation?
 - A. 5%
 - B. 4%
 - C. 10%
 - D. 20%
- 2 Which of these actions has NOT been taken by the Trump administration?
 - A. Revoked an Obama executive order that set a goal of cutting the federal government's greenhouse gas emissions over 10 years
 - B. Revised and partially repealed an Obama-era rule limiting methane emissions on public lands
 - C. Scrapped a proposed rule that would have required mining companies to prove they could pay to clean up future pollution
 - D. Proposed repealing the Endangered Species Act and leaving protection of near-extinct species to the states
- 3 The Paris Climate Agreement, which the United States has informed the United Nations it is pulling out of, would have required reducing harmful emissions by what percentage (below 2005 levels) in the next 6 years?
 - A. 10%-12%
 - B. 40%-42%
 - C. 26%-28%
 - D. 50%-52%
- 4 Methane plays a major role in the greenhouse effect and has an impact substantially greater than CO₂. Which of the below is a source of methane?
 - A. Charcoal combustion
 - B. Livestock production systems
 - C. Anaerobic decomposition in natural wetlands
 - D. All of the above
- 5 Which was the warmest year on record, measured by Earth's average surface temperature?
 - A. 2018
 - B. 2016
 - C. 2001
 - D. 2014
- 6 Which country has the largest installed wind energy capacity?
 - A. United States
 - B. Norway
 - C. China
 - D. Ireland
- 7 Government and corporate R&D money allocated to renewable energy globally rose 10% in 2018. What was the dollar amount?
 - A. \$300 million
 - B. \$13 billion
 - C. \$4 billion
 - D. \$100 million

The Evolving Role of the CFO

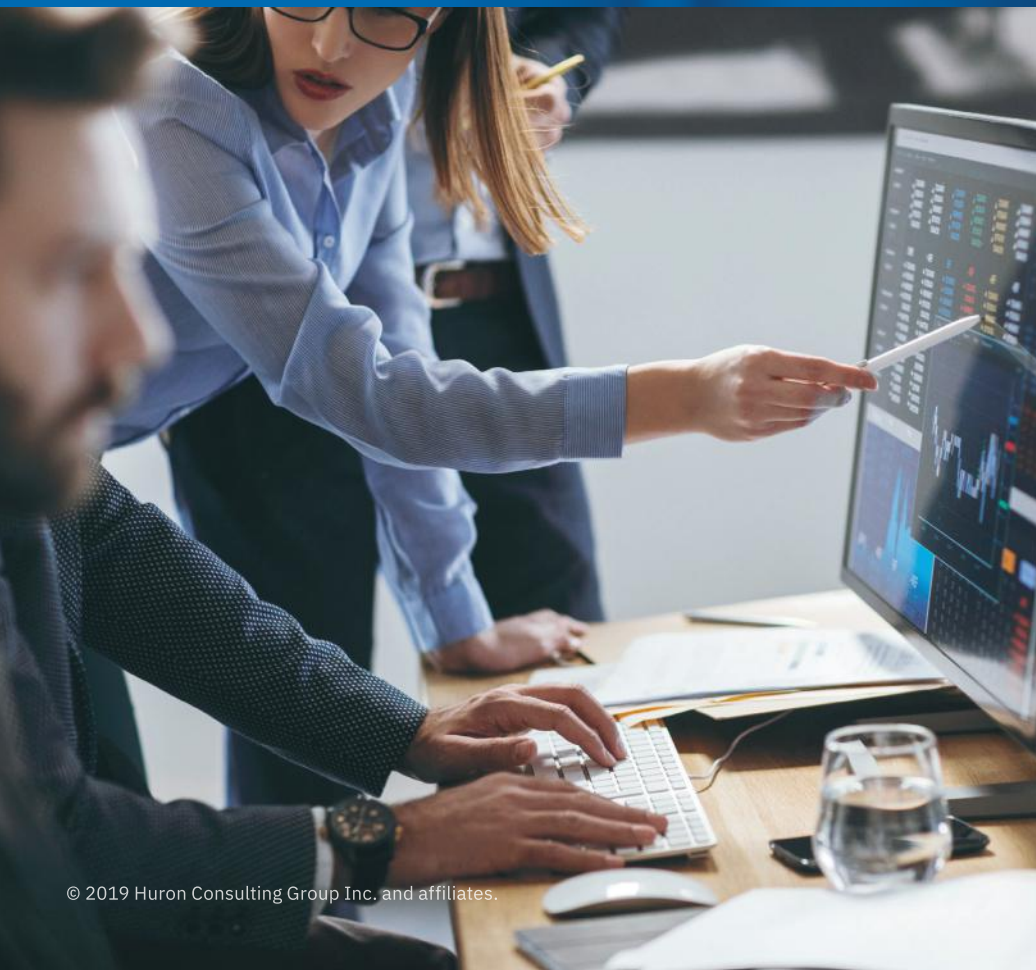
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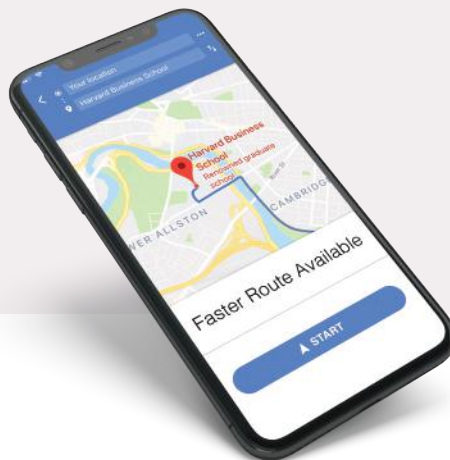
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