RESEARCH

Insights

Debrief: Operations Conference & Exhibition

Perspectives & Key Themes from Market Participants

June 2023

Recently, SIFMA hosted our Operations Conference & Exhibition, the 50th anniversary of the event. With three days of presentations and events, we gained insights into top-of-mind topics for market participants. Inside this note, we recap just some of what was seen and heard, including:

- **The Industry Outlook**: Top ops & tech themes 26.6% T+1, 22.1% efficiencies/automation. Equity deals remain subdued, only companies with strong fundamentals can IPO. Fixed income markets continue to function well, with liquidity top of mind.
- **The Transition to T+1 Settlement**: Key theme was readiness. 81.5% of dealers believe they will be ready; 54.4% for vendors, 38.9% for clients. Areas of focus continue to be on affirmation of trade date, the smaller testing window, and the shortened time to address fails. 361 days to go until the May 28, 2024 deadline – get ready!
- **The Regulatory Landscape**: Aggressive reg agenda does not leave time to thoroughly analyze the impacts. FINRA looking for data-driven results to show effectiveness of remote supervision with its proposed pilot. Treasury market is the base of the financial system – reforms should be done analytically and cautiously, not a big bang.
- **More on Key Themes**: Utilize new technologies to gain efficiencies, blending this with experienced operations professionals to implement the changes. AI is one example of a new technology with potential, but also with concerns; use cases = reconciliations, corporate actions. Not just data but insights from the data becomes the new oil. Blended families on teams – technologists, data scientists, analysts, and operations practitioners.
- **Market Touchpoints**: This report also includes our pre-conference survey and audience polling results.

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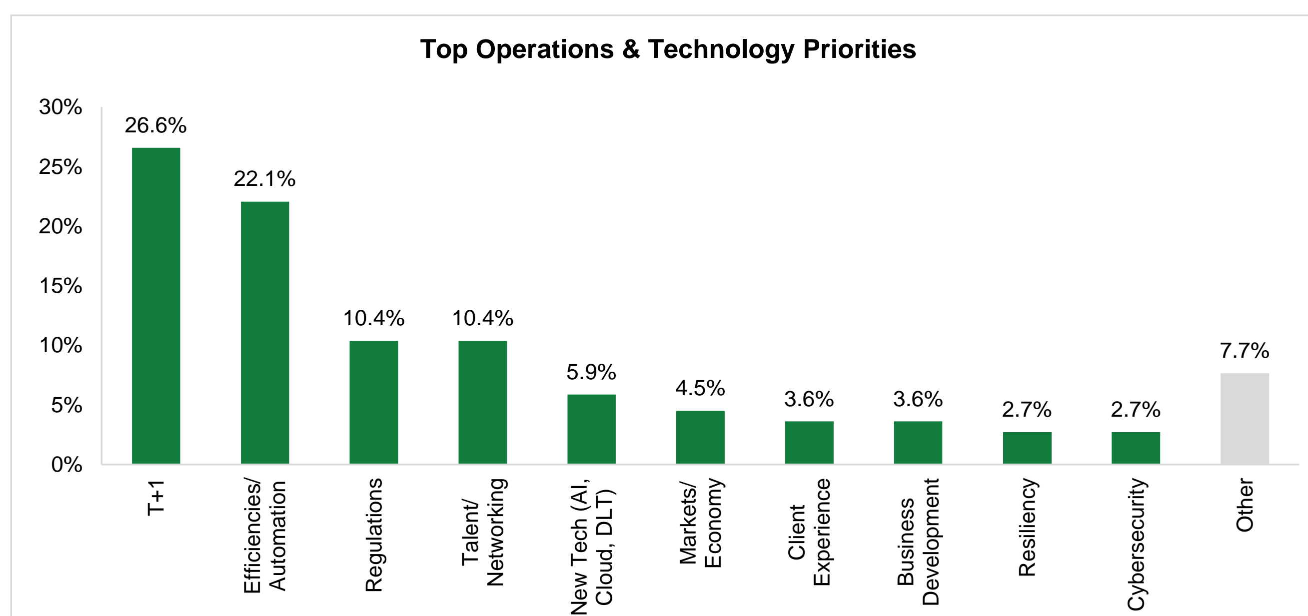
The Industry Outlook

Top Operation & Technology Themes

To set the scene of the conference, we surveyed attendees and select SIFMA members on the top member-identified priorities for the year. As various perspectives on market themes arose during the week, it was a reminder of the importance of market participants coming together to discuss best practices as well as pain points that the industry must work together to overcome.



Source: SIFMA Insights pre-conference survey
Note: T+1 = transition to T+1 settlement (trade date plus one day settlement, from three days); new tech = new technologies, AI = artificial intelligence, cloud = cloud computing, DLT = distributed ledger technology

Several member-identified priorities addressed the transition to T+1 settlement and gaining efficiencies and automating processes, among others:

- **T+1 Transition** – Controls around T0 affirmation processing, corporate actions, preparation/readiness, accelerated timelines, vendor and industry testing, migration planning and execution, fails prevention
- **Efficiencies/Automation** – Automate process changes, asset mobility, automate manual processes, analytics/data/data quality, KYC, platform efficiencies/core systems modernization, ETFs, standardize market and corporate actions data, digitization
- **Regulations** – SEC proposals/pace and scale/understanding the proposals, CAT CAIS, ISO2022 preparedness, market data reforms, Reg BI support, compliance for TRACE changes, Reg SHO, sec lending transparency, short interest, Treasuries clearing/bilateral repos

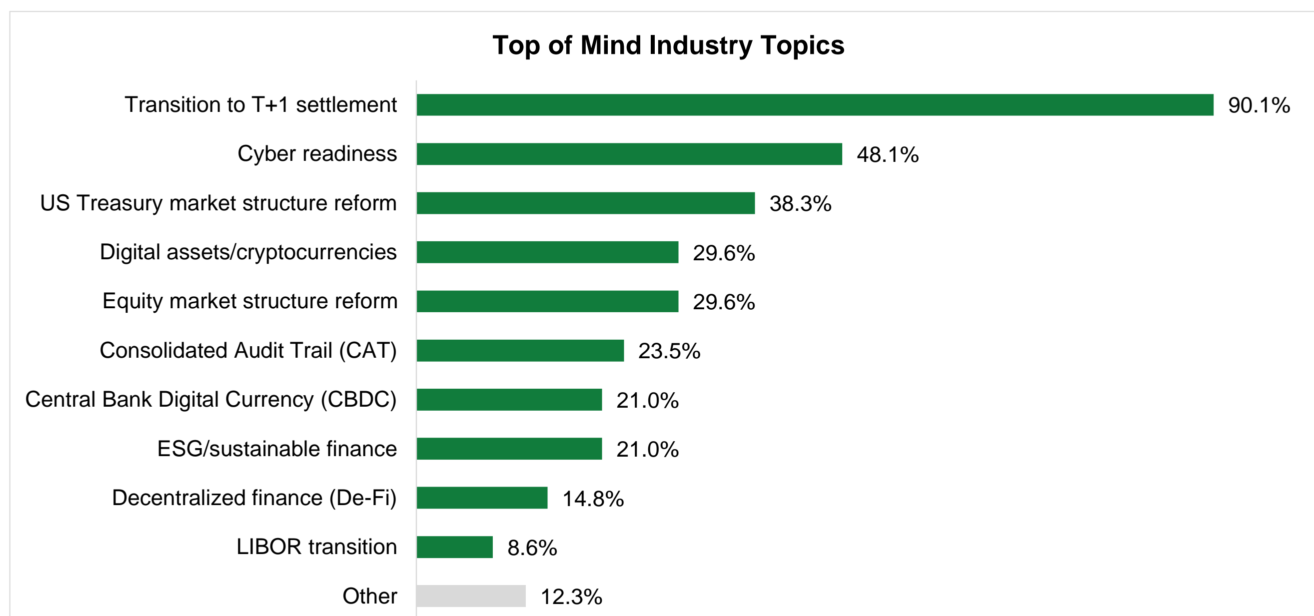
- **Talent/Networking** – recruit, training/cross training, retaining, people development, employee morale, compensation management, staffing challenges, networking
- **New Tech (AI, Cloud, DLT)** – DLT/blockchain/blockchain as broad infrastructure, responsible AI/AI governance/incorporating AI into business processes, and general new initiatives
- **Markets/Economy** – Debt ceiling, rates/inflation, market conditions and volatility, regional bank turmoil, economic uncertainty (recession), and general geopolitical events
- **Client Experience** – Improving communications, onboarding, improving platforms, customer service
- **Business Development** – growth, M&A integration, expense management, build out asset classes or regions
- **Resiliency** – Business continuity, industry outage impacts, risk mitigation
- **Cybersecurity**
- **Other** – digital assets, LIBOR changes, swing pricing, fractional shares, trade reconciliation, proxy and post-sale review, ESG reporting

Market Touchpoint: Industry Themes

Our pre-conference survey asked respondents what general industry topics are top of mind for them. Top responses included:

- Not surprising at all, the transition to T+1 settlement came first with an almost perfect score, 90.1% of respondents
- Cyber readiness came in second place with 48.1% of respondents
- In third place was U.S. Treasury market structure reform at 38.3%

Survey Question: What industry topics are top of mind for you? (please select all that apply)



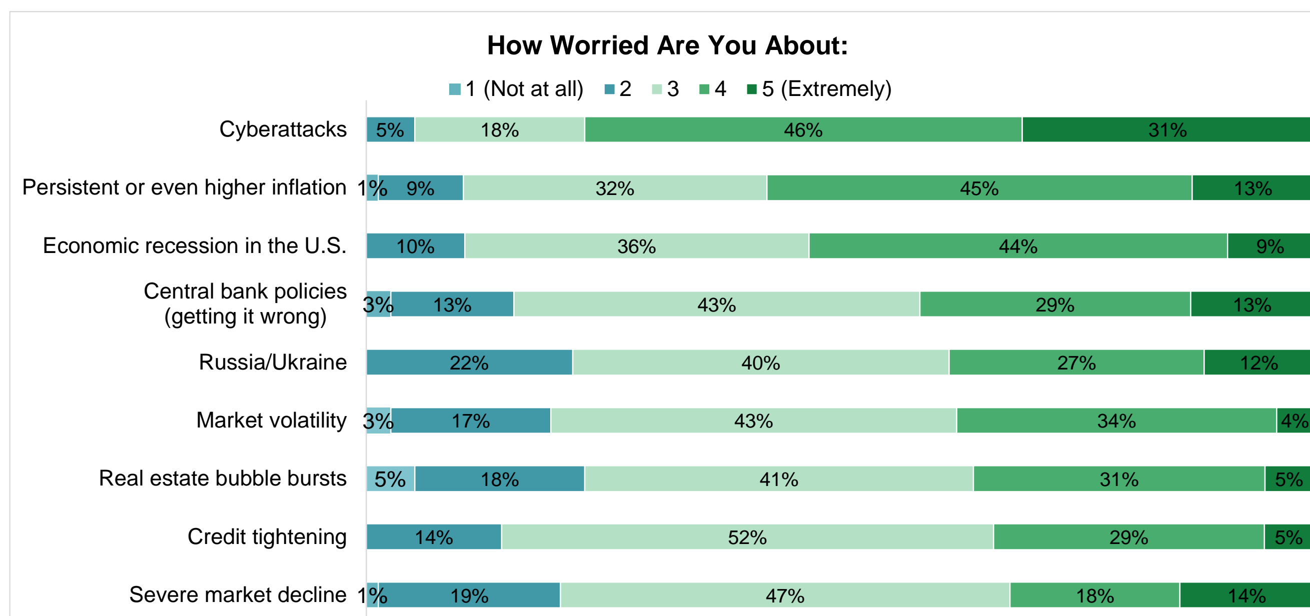
Source: SIFMA Insights pre-conference survey
Note: LIBOR = London Interbank Offered Rate

Market Touchpoint: Macro Themes

Our pre-conference survey sought to gauge respondents' concerns around current geopolitical, economic, and market events and trends. We highlight the following in respondents' perspectives on key concerns, ranking responses by the aggregate responses categorized as #5 (extremely worried) and #4 (worried):

- Cyberattacks ranked first, with 77% of respondents either extremely worried or worried
- Persistent/higher inflation ranked second, with 58% of respondents either extremely worried or worried
- Economic recession came in at a close third place, with 53% of respondents either extremely worried or worried
- Severe market decline was one of the least concerning issues, 20% of respondents ranked it a 1 or 2

Survey Question: How worried are you about? (on a scale of 1-5 where 1 = not at all, 5 = extremely worried)



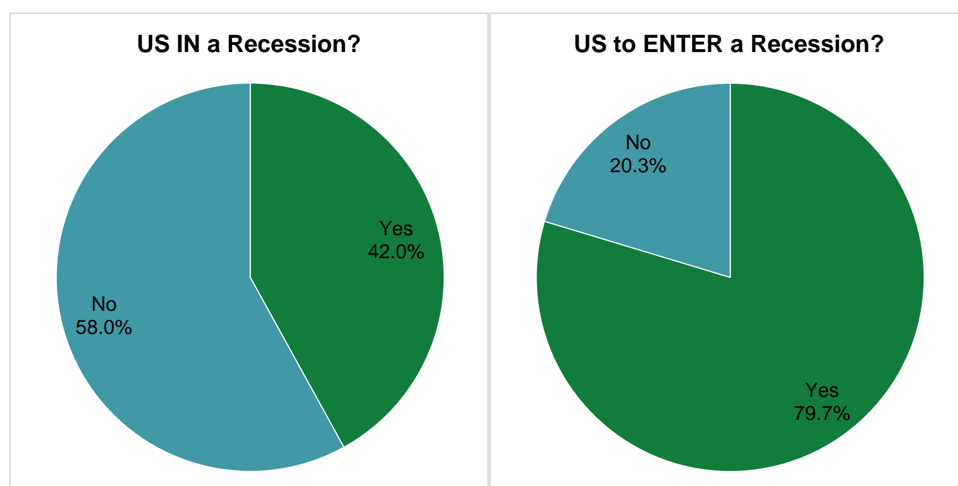
Source: SIFMA Insights pre-conference survey

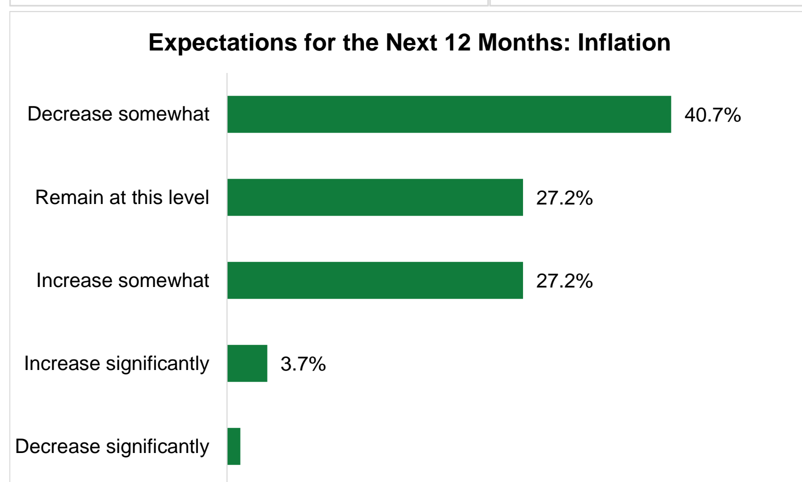
Market Touchpoint: Economic Themes

Our pre-conference survey sought to gauge respondents' thoughts around the current economic environment. We highlight the following in respondents' perspectives on key concerns:

- 42.0% of respondents believe the U.S. is already in a recession
- 79.7% of respondents expect the U.S. to enter a recession
- As to inflation expectations for the next twelve months, 40.7% of respondents expect it to decrease somewhat, followed by a tie with remain at this level and increase somewhat, both at 27.2%

Survey Questions: Do you expect the U.S. to enter a recession? Do you believe the U.S. is already in a recession? What are your inflation expectations for the next 12 months?





Source: SIFMA Insights pre-conference survey

A History of Innovation

As happens at many golden anniversary celebrations, the conference began with a walk down memory lane for the operations and technology industry. Regardless of the decade, a key theme emerged…innovation. Over and over again technological changes solved problems or created efficiencies based on market conditions.

- **1960s/70s**: With surging volumes after the elimination of fixed commissions and the existence of physical delivery of stock certificates, the NYSE closed every Wednesday to catch up on the paperwork. The industry had outgrown its capacity, and a paper crisis was born. The Depository Trust Company (DTC) was created in 1973 to solve this problem, enabling capacity for the industry to grow and providing critical risk mitigation functions.

- **1980s**: While the National Securities Clearing Corporation (NSCC) was already in existence by this decade, it was only partially responsible for clearing and settling equity trades. Each regional stock exchange – Pacific, Boston, etc. – had its own clearing depositories. Then came the October 1987 market crash. Out of crisis comes progress. NSCC consolidated the regional depositories, centralizing clearing and settlement to drive efficiencies.

- **1990s**: Given the widespread use of personal computers and the emergence of the Internet, industry professionals saw the opportunity to create online brokers. These firms flipped the investing model on its head, putting customers in control of their accounts. This decade also saw the shortening of the settlement cycle from T+5 days to T+3, creating efficiencies and reducing risk in the system.

- **2000s**: While the rest of the world was trading in decimals, the U.S. was still trading in fractions. These 1/8 increments – 1/8 of $1 represents 12.5 cents – created a sizable tick. In this decade, under a rule from the SEC, the U.S. moved to decimals. Spreads tightened considerably, lowering costs to investors.

- **2010s**: After the Global Financial Crisis, the call came again to shorten the settlement cycle. The industry joined together to move from T+3 days to T+2. Interestingly, the technology to make this move was already there. When the industry moved to T+3, it was assumed that, eventually, the industry would move to T+2, again shortening the settlement cycle. As such, firms built their technology stacks accordingly, enabling a smooth transition.

- **2020s**: To paraphrase Whitesnake, here we go again. The drive to eliminate risk – both liquidity and counterparty – is again moving the industry to accelerate the settlement cycle, to T+1 days from T+2. Panelists noted that firms need to have the building blocks in place to make this transition: client preparedness in our interconnected markets; affirming trades on trade date in order to meet settlement on T+1; and system resiliency, as the nineteen hours between the end of the trading day and the affirmation cycle shortens to five hours. Stay tuned, more to come on T+1, with 361 days until the go-live date on May 28, 2024 in the United States and May 27, 2024 in Canada. The clock is ticking – you can see it here.

Capital Markets: Challenging Environment but Functioning Well

With interest rates remaining at/near zero for such a long time, some valuations moved away from reality. Various equity capital markets businesses are down 90-95% from the COVID-driven boost to volumes/deals. Today's IPO deal activity can be summarized as: no profit, no IPO; a little profit, do not miss earning guidance on your first call or your stock price drops by half; and strong revenue, IPO is a go. A speaker expressed optimism for deal recovery in 2H23 or 1Q24.

The downsizing seen in deals is rolling over to the workforce as well. In 2020/21, firms became "mesmerized" with hiring based on the strong capital markets performance. With the decline in business, firms are going back and evaluating who/how many people were hired and what type of compensation deal was sanctioned. One speaker indicated that there is now major pruning happening across the street.

Moving to fixed income, markets have and continue to experience an "extraordinary" macroeconomic environment: COVID, fiscal expansion, inflation, unprecedented monetary policy – Fed Funds rate increasing 500 bps in only fifteen months – and then the regional bank turmoil and debt ceiling debate with the potential default scenario. Yet, markets continue to function "exceptionally" well.

Liquidity remains on the minds of market participants. When there is a volatile macro environment, market volatility has the potential to increase as well. This can impact liquidity. Additionally, the growth in fixed income volumes continues – now $23.7 trillion in U.S. Treasury (UST) securities outstanding – while dealer balance sheets do not grow. The regulatory environment is preventing dealers from increasing balance sheets and therefore their capacity to provide liquidity. Other market participants have tried to fill in the gaps. However, according to one speaker, it is not enough and, therefore, potentially opens the door for flash crashes.

Finally, the pace of electronification in fixed income markets continues to steadily march forward, as it can offer access to competitive prices, reduce errors, and simplify regulatory reporting requirements, among other benefits. The degree of electronification varies across asset classes, with a speaker estimating the following: UST 65%, U.S. credit 35%, interest rate swaps 30%, municipal securities 10-15%, and emerging market bonds 10%.

Economy: The Last Straw to Recession?

Are we on a path to a mild recession? The U.S. is currently in a late economic cycle, as marked by moderating economic growth, falling corporate sales growth (as inventories grow correspondingly), corporate earnings pressure, and credit tightening. One speaker believed a recession is increasingly likely and walked us through the straws breaking the camel's (economy's) back, including:

- Unprecedented pace of rate **hikes** – Higher interest rates have slowed the economy, with the impact seen more on the goods than the services side.
- **Lag** effect of monetary policy – Further weakening is expected as monetary policy flows to the real economy. For example, when rates were better, read lower, a year ago, people were more willing to build a home. This process involves employing dozens of people. Now, with unfavorable, i.e. higher, rates, the decision to build becomes more unlikely and less people are employed.
- Fed's **inflation** fight hampers its ability to help the economy – The Fed remains committed to its inflation fight, with the Personal Consumption Expenditures (PCE) Index at 4.2% as of March, still above the Fed's 2% target.
- Regional **bank** turmoil – This led to tightening of credit standards which has slowed, and is expected to continue to slow, lending on both the retail and commercial sides of the economy.

The regional bank turmoil is seen as the last straw. As banks move to shore up balance sheets, they clamp down on lending. Credit tightening after the regional bank turmoil has been estimated as the equivalent of over 100 bps of Fed rate hikes, which would put the implied Fed Funds rate at 6.00-6.25% instead of the actual 5.00-5.25% range. Over the last five years, regional banks have been the predominant lenders. For example, as of April, 67.3% of the $2.9 trillion in commercial real estate loans held by all commercial banks were held by small, domestically chartered commercial banks. Stoppage of loans by regional banks would further slow economic growth.

As such, a speaker puts the recession probability at 80-85%. The good news? The last two recessions – global financial crisis (real GDP -4.0%), COVID (real GDP -10.1%) – were outliers, meaning they do not represent accurate comparisons. Instead, it was noted that the recession would be milder, as seen in the 1990s/2000s (real GDP around -1-2%). In a more typical recession such as the 1990/2000s, the economic statistics were as follows:

- Unemployment rate change +2.5%
- Nonfarm payrolls percent change -2.1%
- Retail auto sales percent change -12.6%
- Housing starts percent change -7.6%
- ISM manufacturing rate change -10.0%

However, on average, the S&P 500 only declined 2.9%. Why? Because the statistics above are lagging figures, whereas markets – always looking around the corner – priced in the recession ahead of these figures. Further, historically, corporate profits declined less during recessions in times of high inflation: -15.3% peak to trough in high inflation periods (average of 1973, 1980, 1981) versus -44.7% during low inflation periods (average 1990, 2001, 2007). A speaker noted that corporate profits are expected to drop 10%.

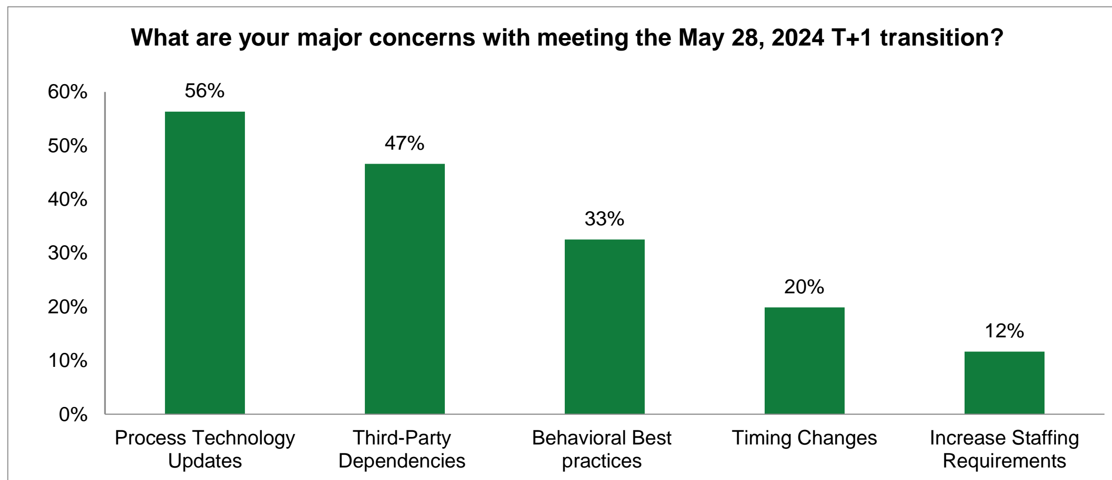
Markets may have already priced this in, as markets tend to bottom before the economy. The pecking order of decline was explained as: markets, GDP, payrolls, and then corporate earnings.

The Transition to T+1 Settlement

A key theme across the transition to T+1 settlement discussions was readiness. Areas of focus continue to be on affirmation of trade date, the smaller testing window, and the shortened time to address fails (from nineteen to five hours). Panelists noted that firms' readiness checklists go beyond just the technological aspects to include behavioral changes needed by all market participants.

Conference Touchpoint: T+1 Transition Readiness

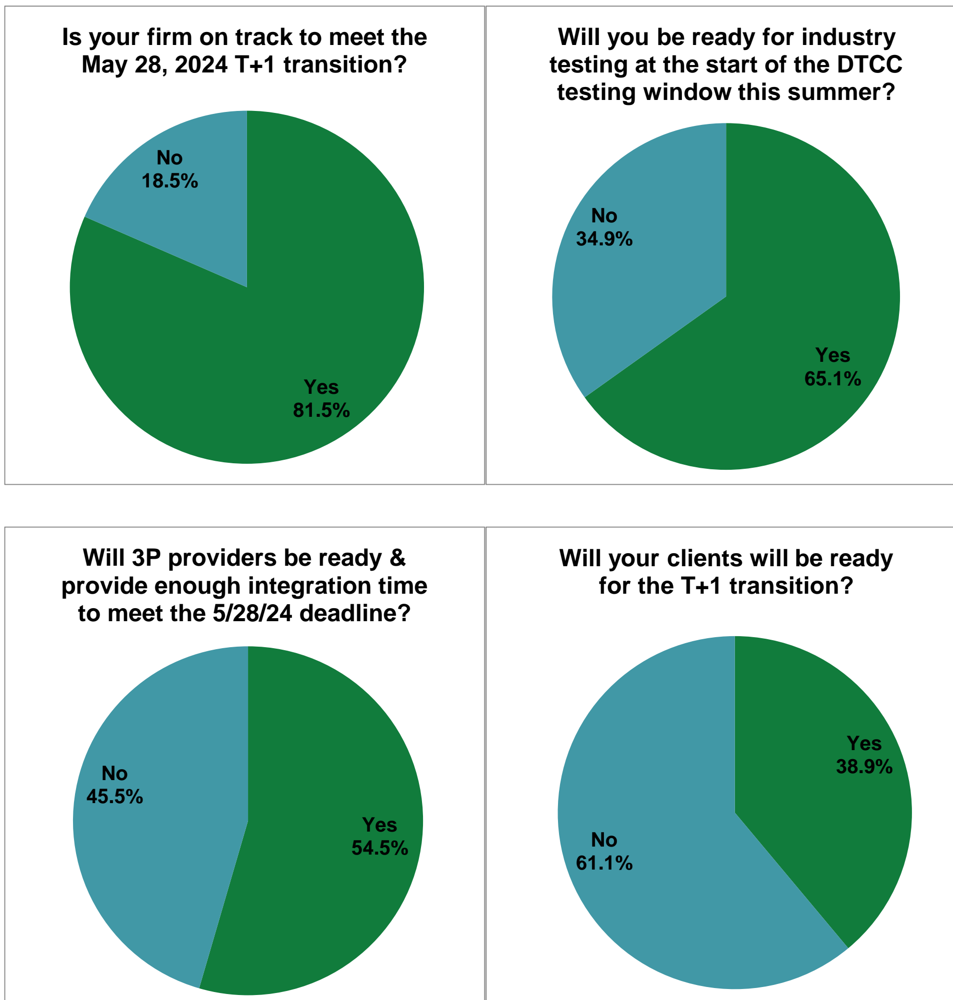
At the start of the conference, we polled the audience on readiness and areas of concern in meeting the May 28, 2024 T+1 transition deadline. 56% responded process technology updates, followed by 47% responding third-party dependencies.



Source: Audience polling (select all that apply)

As to readiness, the far majority of broker-dealer respondents feel their firms will be ready for the transition deadline, 81.5%. However, only 65.1% of respondents expect their firms will be ready for the DTCC testing window[1] this summer.

And the numbers go down from there. 54.5% of poll respondents indicated that they believe third-party vendors will be ready by the May 28, 2024 deadline. 38.9% of respondents think their clients will be ready by the deadline.



Source: Audience polling
Note: 3P = third party

[1] T+1 testing is scheduled to run from August 14th, 2023, to May 31st, 2024. Testing will be conducted using bi-weekly testing cycles. Testing cycles will begin on a Monday, or first business day of the week. https://www.dtcc.com/ust1/-/media/Files/PDFs/T2/UST1-Detailed-Test-Document#:~:text=T%2B1%20testing%20is%20scheduled,cycles%20will%20work%20as%20follows%3A&text=Testing%20cycles%20will%20begin%20on,to%20begin%20August%2014th%2C%202023

What is keeping operations teams up at night as they prepare their firms to be ready for the T+1 transition deadline?

Compressed timelines: Today, processes happen at the end of the trading day in large batches. Going forward, firms will need to allocate trades by 7:00pm on trade date in order to affirm by 9:00pm. A panelist suggested that firms begin processing trades intermittently during the day instead of performing one large batch action at the end of the day. This is a behavioral change the industry will have to adapt to.

Client and vendor readiness: Markets are interconnected, and, at 41.1% or $44 trillion of the $107 trillion global market cap, the U.S. markets are especially important to global markets. Market participants are also interconnected, and all players in the value chain – dealers, vendors, clients, market infrastructure firms – will need to be ready for the transition.

Trade affirmation: Today, affirmation is not a prerequisite for settlement. Going forward, this will change. Market participants will need to affirm trades on trade date in order to settle on T+1, which has been identified by a panelist as one of the main friction points in the transition. Firms will need to educate clients on this important change.

Resiliency: Resiliency has always been top of mind for operations and technology practitioners. The speed of processing has increased substantially over the years, with real-time payments and trading in nanoseconds. The industry itself has seen cyber events, on top of increased cyber threats to the overall world (Russia, China). Markets are now adding onto this accelerated settlement. Today, firms have nineteen hours between the end of the trading day and the affirmation cycle. This is moving to five hours, a 73.7% reduction in time.

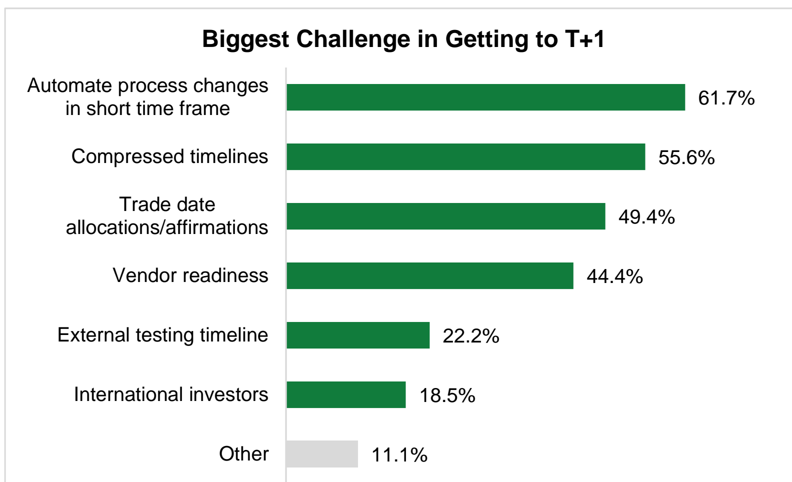
Panelists noted that firms should already have begun planning – the time is now. Resiliency and recoverability plans should be flexible and plan for something going wrong. Firms should know what to do if the moment of crisis occurs. Otherwise, there could be a “tsunami” of issues: breaks, fails, etc.

Market Touchpoint: T+1 Transition Challenges

Our pre-conference survey sought to dive deeper into the remaining challenges as firms prepare for the transition to T+1 settlement. We highlight the following in respondents' perspectives on key concerns:

- 61.7% responded the ability to automate process changes in a shortened transition time frame
- 55.6% of respondents noted compressed timelines
- 49.4% responded allocations and affirmations on trade date

Survey Question: What do you view as the biggest challenge in getting to T+1? (Please select all that apply)



Source: SIFMA Insights pre-conference survey

Note: Full response listed in the survey = Ability to automate process changes in shortened transition time frame; Allocations and affirmations on trade date

T+1 Assessment Survey Results

SIFMA's operations and technology division conducted a survey of operations and technology professionals about their readiness to transition to T+1 settlement on May 28, 2024. We highlight the following from survey respondents:

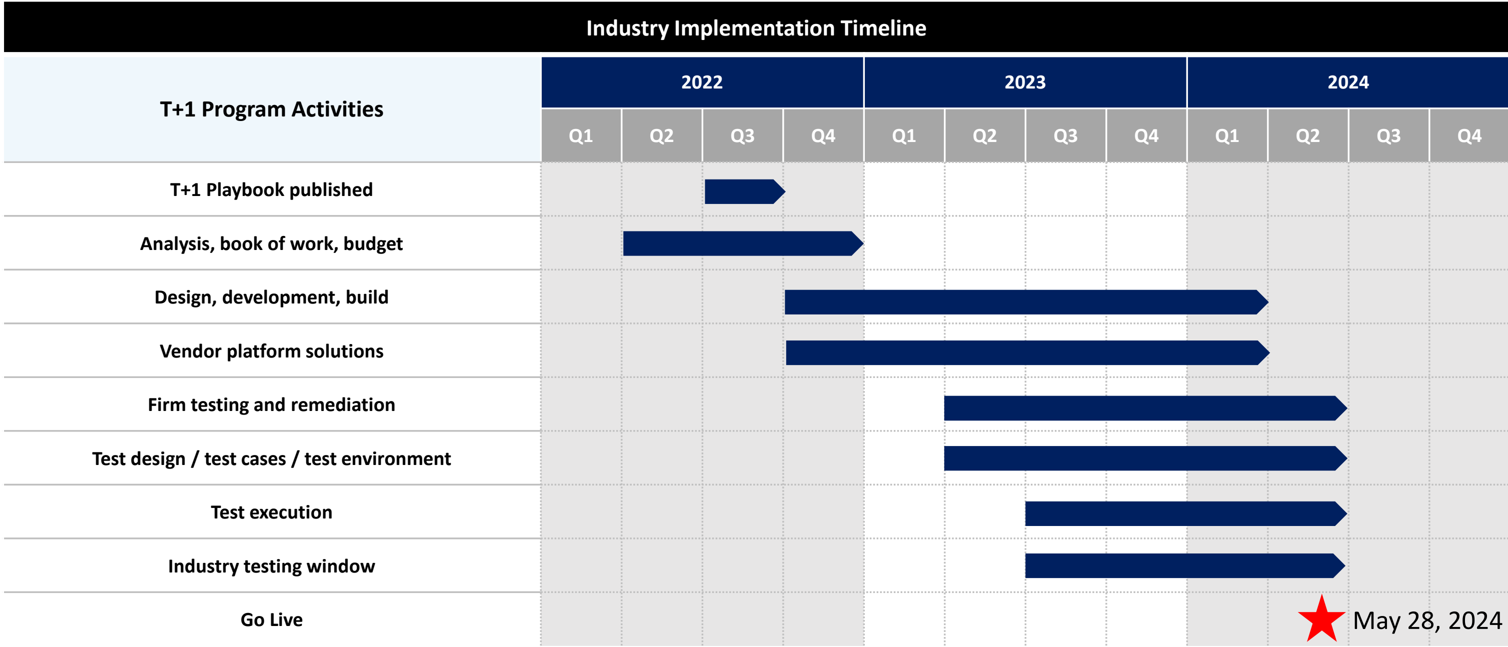
- Most firms reported they are on track to meet the deadline.
- There is belief that larger counterparties and third parties will be ready, but there is concern that smaller third parties and counterparties have more work to do.
- There are concerns about firms meeting same day affirmation and allocation on trade date.
- There are concerns about meeting the transition timeframe due to a shortened testing cycle.
- There is a focus on the ability of international clients to meet new shortened timeframes.
- There are concerns about the shortened window for settlements and the ability to address errors and increased fails in a timely manner.
- There is a focus on the nuances around ETF creation/redemption, securities lending recall cutoff times, FX conversion to meet compressed settlement timelines, fund payments, and the development of new policies and procedures under SEC Rule 15c6-2.
- There is awareness that Canada is transitioning one day earlier on May 27, 2024.

A key point brought up by survey respondents is that market participants would like to have transparency around industry readiness leading up to the transition.

T+1 Transition Timeline

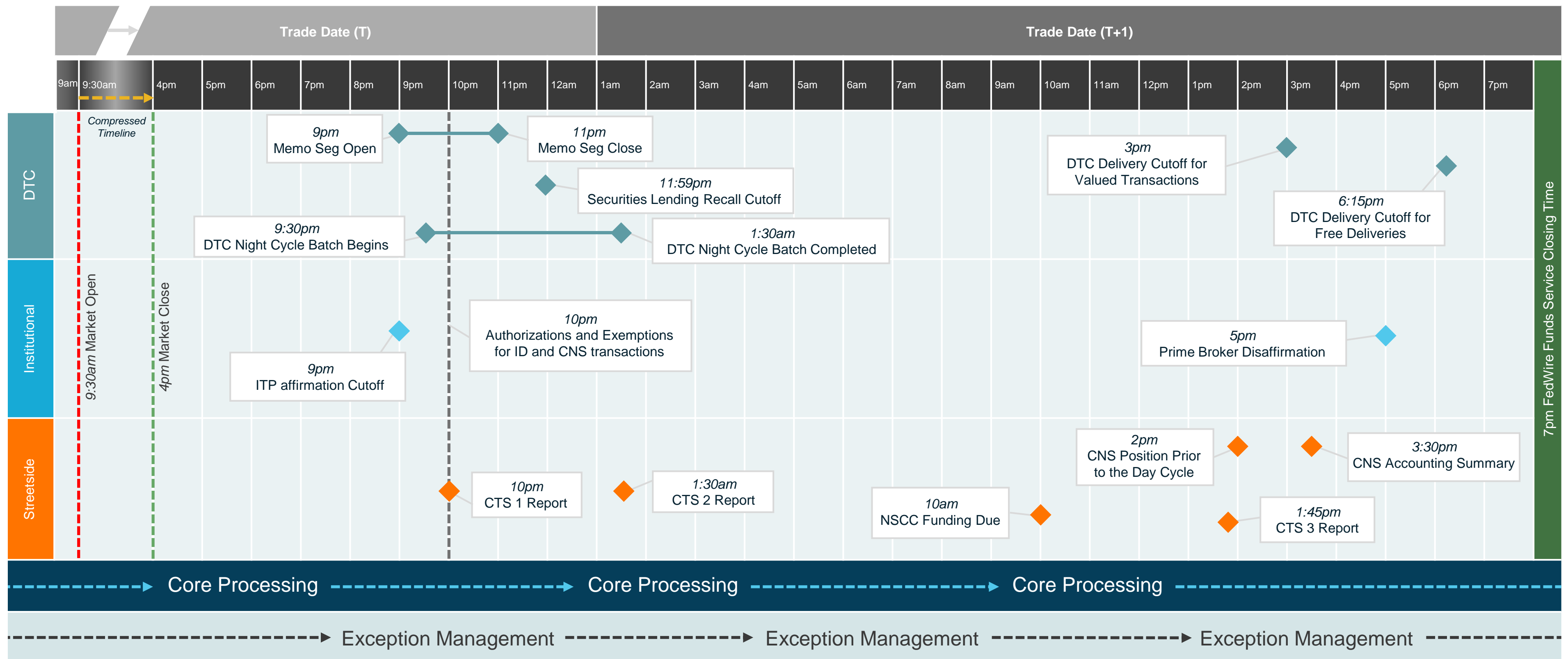
Industry Implementation Timeline

The industry has around twelve months to assess, implement, test, and transition to the T+1 settlement cycle on May 28, 2024.



T+1 Settlement Cycle Hour-by-Hour

The following diagram shows the settlement cycle going forward, on an hour-by-hour basis.



T+1 Impact Heat Map

This heat map shows how difficult – the orange boxes represent high impact ratings – the operational lift to successfully and safely transition to T+1 is. Challenging but achievable, according to market participants.

Discussion Topic	Process / Technology	Difficulty / Complexity	Timing	Breadth of Impact	Dependencies	Costs / Benefits	T+1 Impact Rating
Coordinated processing timeline							
Inst. trade allocations / affirmation							
Errors / fails							
External documentation (10b-10s)							
Prime brokerage							
Securities lending							
Impacts on derivatives markets							
Testing and migration							
Time compression on cycles							
Global considerations							
Batch cycle timing							
Migration to trade date matching							
Regulatory rule sets							
Settlement netting							
Funding							
Retail funding acceleration							
ETF creation / redemption							
Corporation actions (dividends)							
Trade systems and reference data							
Liquidity / collateral							
Forex (FX)							
Dematerialization of physicals							
Standard settlement instructions							
Mandated match to settle							

The Regulatory Landscape

The Regulatory Agenda

Securities and Exchange Commission Chair Gary Gensler has put forth 53 rule proposals in his two years in office. As noted by panelists, this is more than two times his predecessors: Mary Jo White at 26 and Jay Clayton at 23. This is a very aggressive agenda, which does not leave market participants time to thoroughly analyze the impacts of the rules on a standalone basis, let alone collectively.

Additionally, many of the rules require substantial changes to market structure – a complete overhaul of equity market structure; mandatory clearing of U.S. Treasuries, both cash and repos; and the transition to T+1 settlement, cutting the settlement cycle in half from two days to one day.

Most pertinent to the operations and technology space is that all of these substantial changes will likely need to be executed by the same operations teams. Market participants are concerned that this opens up the industry to operational risk.

Remote Work

The relief for remote branch inspections remains in place through the end of the year. In search of a more long-term solution, FINRA proposed – and refiled the proposal in April – a three-year pilot to gather data from the industry. At the time of writing this report, this proposal awaits SEC approval.

Firms in the industry want flexibility, seen as key to hiring and maintaining staff in the new world of hybrid work. FINRA wants to ensure the branch inspection process is effective. The proposed pilot represents a search for a balance between flexibility and effectiveness. FINRA indicated that it needed data-driven results to prove effectiveness. For example, are firms finding the same issues remotely that they have onsite in the past?

Stay tuned, as there will be more to come on this pilot.

Debt Ceiling

At the publication of this report, the House of Representatives had passed a debt ceiling deal with bipartisan support, just days before the June 5 deadline noted by Treasury Secretary Janet Yellen. It was awaiting a vote in the Senate.

While panelists continue to hope for a final resolution to the debt ceiling debate, they are also preparing for a potential disruption in Treasury payments. The focus is on understanding the potential scenarios for disruption in U.S. Treasury security payments, including, if payments were delayed, how those scenarios would impact key infrastructure providers and internal firm processes, and how the industry would coordinate to mitigate operational disruption.

US Treasury Clearing

The SEC proposal on mandating the clearing of Treasuries will have significant ramifications on the market. It will substantially increase the scope of what is cleared, both cash and repo products. It will have risk management implications, in particular the creation of a customer segregation regime (which does not exist today). It will require an assessment of access models to FICC, the clearing house.

But will it increase liquidity in Treasury markets? Market participants have noted that Treasury markets have experienced decreased levels of liquidity in recent years due to regulatory requirements. One such regulation is the Supplementary Leverage Ratio (SLR[2]), which has contributed to capacity constraints for dealers. While dealer balance sheets have remained essentially flat – other market participants indicate balance sheets have declined somewhat – debt outstanding, in terms of U.S. Treasuries, has increased around four times. This constrains the amount of liquidity dealers can provide to the market.

In an industry survey[3], 95% of respondents indicated that they do not believe mandated clearing will increase liquidity in Treasury markets. In fact, two thirds responded it could actually decrease liquidity, as increased costs drive out existing liquidity providers. As currently understood, market participants expect the proposal to increase costs – capital, margin, legal, etc. – across the system, potentially putting significant burdens on small and mid-sized firms.

The Treasury market is the base of the financial system. While it is important for the industry to look for ways to increase capacity, resiliency, and efficiencies in the market, it should be done analytically and cautiously, rather than with a big bang approach. Panelists recommended looking at the existing market structure first, then assessing the impact and costs of any proposed changes before making them.

[2] US implementation of the Basel III Tier 1 leverage ratio, with which banks calculate the amount of common equity capital they must hold relative to their total leverage exposure. Large US banks must hold 3%. Top-tier bank holding companies must also hold an extra 2% buffer, for a total of 5%. The SLR, which does not distinguish between assets based on risk, is conceived as a backstop to risk-weighted capital requirements.

[3] In 2022, SIFMA asked Sia Partners to conduct a survey in response to the U.S. Department of the Treasury request for information related to transparency for U.S. Treasury securities

More on Key Themes

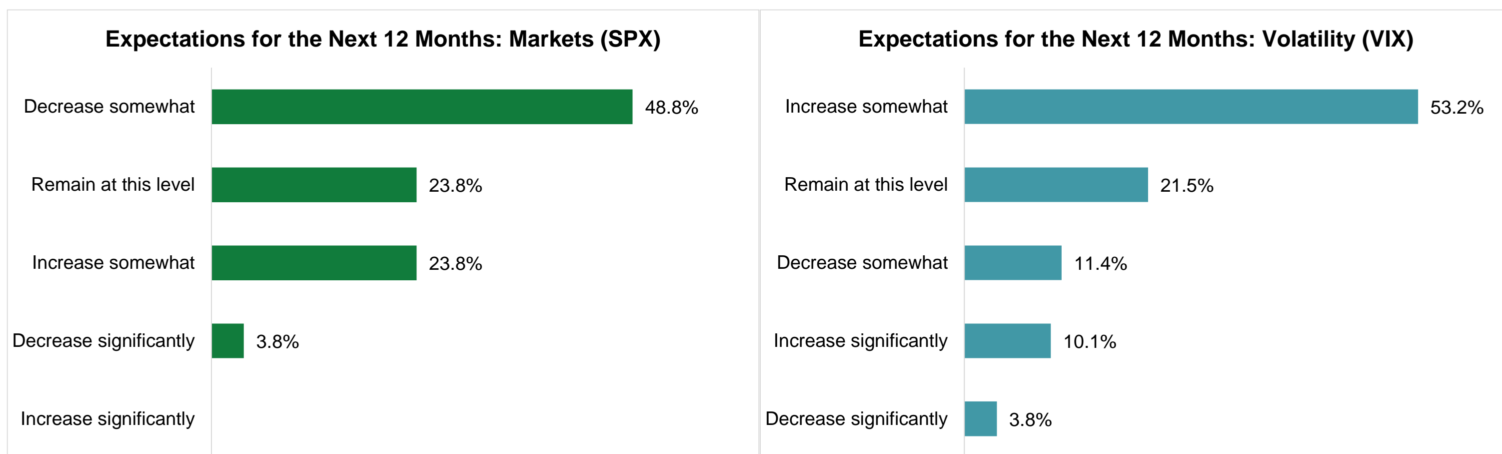
Market Touchpoint: Market Themes

Our pre-conference survey sought to gauge respondents' thoughts around market performance (S&P 500 index price) and volatility (VIX index) trends. We highlight the following in respondents' perspectives on key concerns:

- Markets (the S&P 500 averaged 4,116.67 while the survey was in the field) – 48.8% expect markets to decrease somewhat, followed by mixed views of remain at this level or increase somewhat, both 23.8% of respondents

- Volatility (the VIX averaged 17.75 while the survey was in the field) – 53.2% of respondents expect volatility to increase over the next year, versus 21.5% remain at this level

Survey Questions: Over the next 12 months, do you expect markets – in terms of the price of the S&P 500 index – to? Over the next 12 months, do you expect market volatility – in terms of the price of the VIX index – to?



Source: SIFMA Insights pre-conference survey

Technology and Markets

When the industry first started thinking about various technological advancements, the original concern was that it would only disrupt the industry. Now, the industry is continually looking for ways to integrate new technologies into the operations business model, as they can offer many benefits: cloud to optimize the utilization of resources; AI to analyze and address reconciliations; etc.

But how do these new technologies intersect with current market and economic conditions? In the old world, everything was free and easy. Firms freely experimented with innovative technologies, often investing in a technology before identifying the problem, as is often said on panels. Enter the new world where firms must pay up to invest.

Old World	New World
Cheap cash	Higher rates
Low inflation	High inflation
Easy leverage	Credit tightening
Lagging regulation*	Active regulation*
…	…
Revenue drove valuations	**Margins/profit drive valuations**

Note: The speaker was referring to crypto regulation specifically.

As such, the equity markets love affair with profitless innovation and technology for the sake of technology is over, according to one speaker. Investors are back to focusing on fundamentals, and firms have shifted to disciplined investments in specific technology projects. Or, based on cost analyses, firms are opting to buy niche technology firms or partner with firms to deploy solutions.

While there is a renewed focus on integrating new and old technologies, an outstanding issue is standardization. One speaker indicated that what is lacking in leveraging innovative technologies is standardization and therefore widespread industry collaboration.

Technology as a Solution

Technological innovation drove GDP growth to 14x the rate of population growth over the last twenty centuries. Moving to the other direction, labor productivity growth – while fluctuating over the same full time period – has been on the decline in recent decades. The global workforce has been shrinking. With the financial and business services sector heavily impacted by the labor shortages. By 2030, this sector could experience:

- A deficit of 10.7 million of workers
- $1.3 trillion in unrealized revenue
- Of which $463 billion in in the U.S. alone, or 35.6% of the total

Can technology be the solution to fix these conflicting variables? It is estimated that less than 5% of full-time occupations can be fully automated. Areas with the highest potential for automation include:

- 81% predictable physical activities
- 69% processing data
- 64% collecting data

The financial services industry has the capabilities to utilize modern technologies in the above listed areas to gain efficiencies, blending this with experienced operations professionals to implement the changes. One example given by a panelist was using AI to parse corporate actions data to get input this into systems faster.

A speaker noted that there are three drivers of business actions:

- Making money, through innovation and speed to market
- Saving money, by increasing productivity and decreasing costs
- Not losing money, adding more value and delivering better experiences

According to a Kyndryl Research study on the factors financial services firms consider when building a business case for technology modernization, improving the customer experience came in on top at 54% of respondents. This was followed by a tie at 35% of respondents for improving cybersecurity and optimizing costs. Modern operational models could be at the intersection of finance and technologies to drive out waste. For example, a speaker noted that cloud resources are often underutilized versus the investment spend and value added. Realized cost optimization could provide 20-30% savings through consolidating visibility, and increased governance and predictability of cloud spend could provide up to a 30% improvement in budget allocation and compliance.

In short, modernizing the operations business model will blend technologies, processes, and people to make, save, and not lose money.

Artificial Intelligence (AI)

A speaker noted that a BCG and FNZ 2023 study showed that global technology spending in the wealth management industry was up 25% for inhouse development costs and +19% for hosting and infrastructure costs. Firms are spending on capabilities to develop, maintain, and innovate technologies. A panelist questioned if this spending was doing the job, in terms of return on investment (ROI)? Apparently not. Over the same five year time period analyzed, operating expenses were up 15% while net advisory income per assets under management (AUM) was down 3%. That created a negative ROI.

However, investments in the right technology and business model can create growth and lower costs at the same time. Finding efficiencies by utilizing innovative technologies in the back/middle offices can decrease costs and improve customer experiences. AI is one example of a new technology with potential, but also with concerns.

According to Mo Gawdat, former Chief Business Officer at Google, by 2029 machine intelligence will break out of specific tasks into general intelligence, with machines being smarter than humans as they will have access to the entire Internet. By 2049, AI is predicted to be a billion times smarter than the average human, reaching the point of singularity. AI is going to happen noted a speaker, and the industry should approach it as with other new technologies – applying good governance frameworks around processes and use cases.

A few use cases discussed for the operations and technology businesses are reconciliations and exceptions, which still represent large parts of the business and therefore are ripe for efficiencies. Machine learning using big data can free up employees' time to focus on analytics rather than gathering the data. For example, while operations teams reconcile one set of source data to another very well there are still often exceptions, which can be more difficult to manage. AI can learn to manage these exceptions. Firms can write intelligent algorithms and queries to solve these types of exceptions automatically in real time.

ChatGPT & Other Natural Language Processing (NLP) Tools

Unlike traditional NLP algorithms – which typically look only at the immediate context of words – large language models (LLM) consider copious amounts of text to better understand the context. By training on large databases, LLMs are trained to do a task. However, LLMs do not understand the outcome of what it is using (at least not yet). This provides firms flexibility. In the past, these technology tools removed people from tasks. Now, the technologies "brainstorm" with humans on new scenarios on which they were not trained. For example, if shown samples, ChatGPT can write a report in around three minutes versus three hours for a human. It can also save employees time building simple spreadsheets.

Are we saying Chat GPT will replace humans? No. LLMs are not meant to replace people. Instead, these tools can free employees from the "drudgery of mundane tasks," increasing productivity. Firms still need people for the strategy, to see the big picture. Further, you need people to check the numbers for accuracy and restatements in models. Complex decision making is the distinguishing factor for humans, as are the soft skills. For example, LLMs cannot take over face time with clients. LLMs do free up humans to spend more time on strategic decision making and meetings with clients. This is what can lead to real world optimizations.

However much potential ChatGPT and other NLP tools hold, it comes with precautions. For example, Samsung employees accidentally leaked sensitive data via ChatGPT, an open AI system, which a panelist noted is like posting sensitive data on Facebook. The company has shifted to developing its own internal AI tools. This leakage can be prevented by secure access controls, essential to the implementation of NLP/LLM tools.

Data. Data. Data. And More Data. Now What?

Data is the new oil. How many times have we said that? We asked for it, and we got it – we now have volumes of data. The problem becomes – what do I do with all of this data? It can be hard to access, potentially requiring coding skills. It may not be standardized across data providers or firms. We have the data – now we need to access, prepare, and put it into practice. After all, what good is the data if we cannot gain insights from it? As one panelist noted, insight is now the new oil.

To set the scene, panelists discussed that the data story goes beyond the data itself and the tools to analyze. Instead, change comes from buy in from the businesses and senior management. Organizations that manage to move from talking to embracing need to bring together the people and the businesses along for the transformation.

Part of the issues with data today – aside from the sheer volumes – is that firms get changes to data from multiple directions: changing regulations, from senior management, from the business lines, etc. Firms need to connect the dots and tie them all together, and data can be used to draw a line from what has changed and what needs to change. To do this, technology infrastructure and systems of the future will no longer be static, rather nimble and responsive to changes in data. Firms should build the ecosystem on the data. Importantly, firms should identify what problem we are trying to solve? Are we applying the tech before we clearly understand the problem?

Enter the topic du jour…AI. There is a lot being discussed in this area, and it seems to hold potential. However, it also appears to present more questions than answers at this stage. There is a balance between explainability[4] versus a black box. For example, while large language models are more powerful than originally thought, the explainability gets harder as they improve and grow: GPT4 cannot explain GPT 2. Firms are still trying to determine when to use AI and when not too, and people are misunderstanding the tool. For example, AI would be beneficial to use to cull and summarize wealth management data before meeting a client, but it is not meant to teach math.

We think it is important to note that a panelist pointed out – and rightfully so – that we already have applicable rules and regulations around data. And the focus is on data privacy and protection. How data is socialized around the world is changing. For example, the EU no longer recognizes the privacy shield with the U.S. As such, provenance of data elements and data residence are key areas to monitor. Mistakes in these areas can have direct consequences, i.e. monetary fines.

Finally, panelists linked together data and the transition to T+1 settlement. The whole value chain is shifting left. With the focus on accelerated processes, firms need the right data and information at the right time. A panelist provided good advice for the industry with a (hardly) veiled threat reminding people that we have around one year to go. As such, firms should already be running the data and assessing trends on settlement. For example, what are you firm's affirmation statistics by client? To achieve settlement on day one, firms must affirm trades on trade date. Be ready.

[4] Concept that a machine learning model and its output can be explained in a way that makes sense to a human being at an acceptable level

Blending Skillsets across Teams

Throughout the conference we saw panels that brought together a mix of skill sets – a blended family if you will – of technologists, data scientists, analysts, and traditional operations practitioners. This is representative of what we are seeing at the intersection of technology, data, and operations today. One panelist shared an example of trouble accessing data sets, attempting to pull down futures data. The provided sample had 580,000 rows for a single day. Needless to say, Excel timed out. Essentially, without API capability or coding skills, you can get lost at step one.

In a Greenwich Research survey assessing trading desk skill sets – we acknowledge that this was for traders, but we believe it represents a good proxy for operations and other teams – 69% of respondents noted that data analyst/scientist skills were most important. This was followed by market knowledge and then market experience.

There is a greater need today for technology skills, for example coding in Python, to be blended with experienced operations professionals' skills. However, firms can hire the right skillsets – for example, the data scientists – but also need to optimize what those people do. If firms do not manage the bandwidth of all employees efficiently, there is an opportunity cost and skillsets (and time) can be wasted.

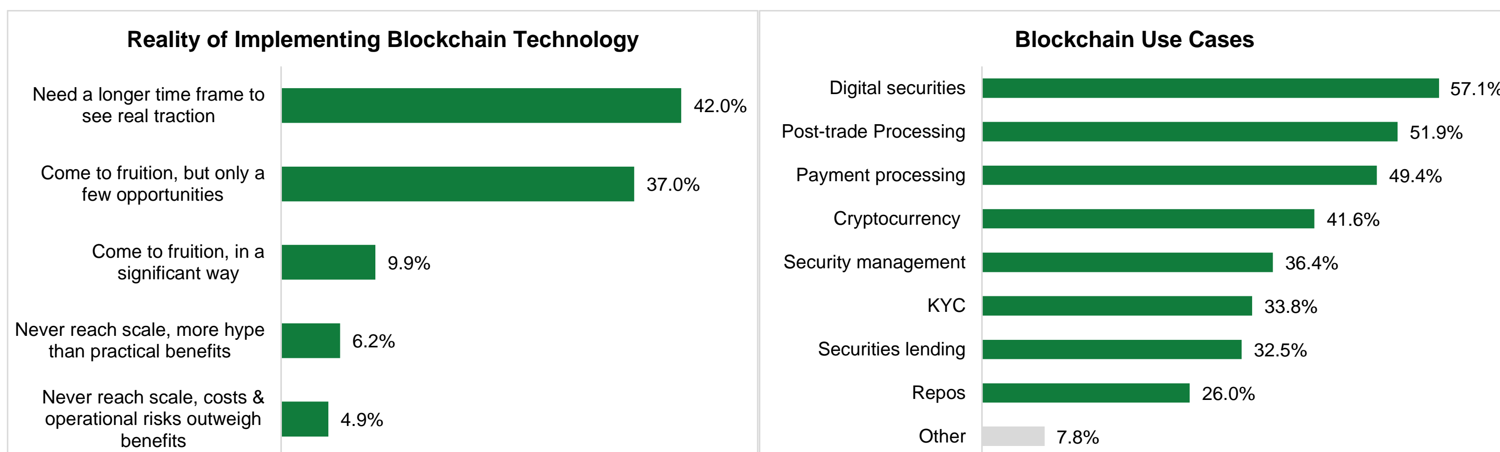
The key is to be selective in hiring a panelist noted. If a firm needs domain experience, hire a seasoned operations professional. If hiring a junior staffer, managers can focus on finding candidates with technology/data science skills.

Market Touchpoint: Blockchain Technology

We used our pre-conference survey to gauge respondent's views on the potential of blockchain technology. We highlight the following responses:

- As to the reality of implementing blockchain technology, need a longer time came in first at 42.0% of respondents, followed by 37.0% responding only a few opportunities will come to fruition withing the next three to five years
- As to blockchain use cases, 57.1% responded digital securities (issuance of digitally native securities, tokenization of assets), followed by 51.9% responding post-trade processing

Survey Questions: How real will blockchain technology be in the next 3-5 years in terms of gaining operational implementation? What are some of the likely blockchain use cases for implementation? (Please select all that apply)



Source: SIFMA Insights pre-conference survey

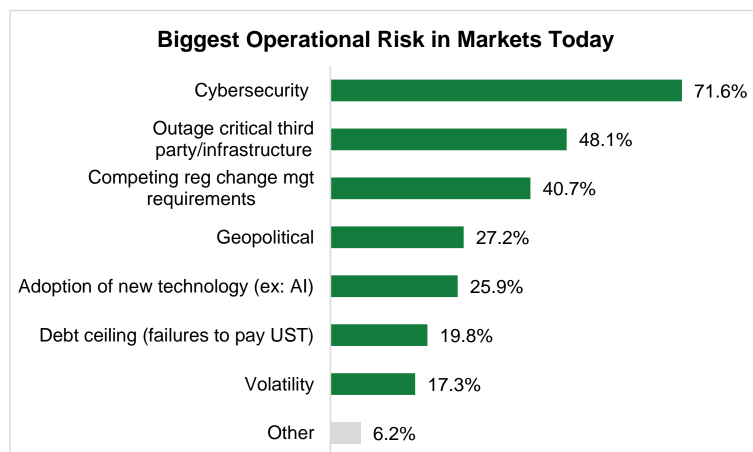
Note on second chart: Full response listed in the survey = Digital Securities (issuance of digitally native securities, tokenization of assets); KYC (client documentation), KYC = know your customer/client; Security management (ex: client authentication). Repos = repurchase agreements

Market Touchpoint: Operational Risk

We used our pre-conference survey to gauge respondent's views on the single biggest operational risk in the market today. We highlight the following responses:

- Cybersecurity was the majority leader, at 71.6% of responses
- Outage of a critical third party/infrastructure platform came in second at 48.1%
- In third place was competing regulatory change management requirements at 40.7%

Survey Questions: What do you identify as the single biggest operational risk in the market today? (Please select all that apply)



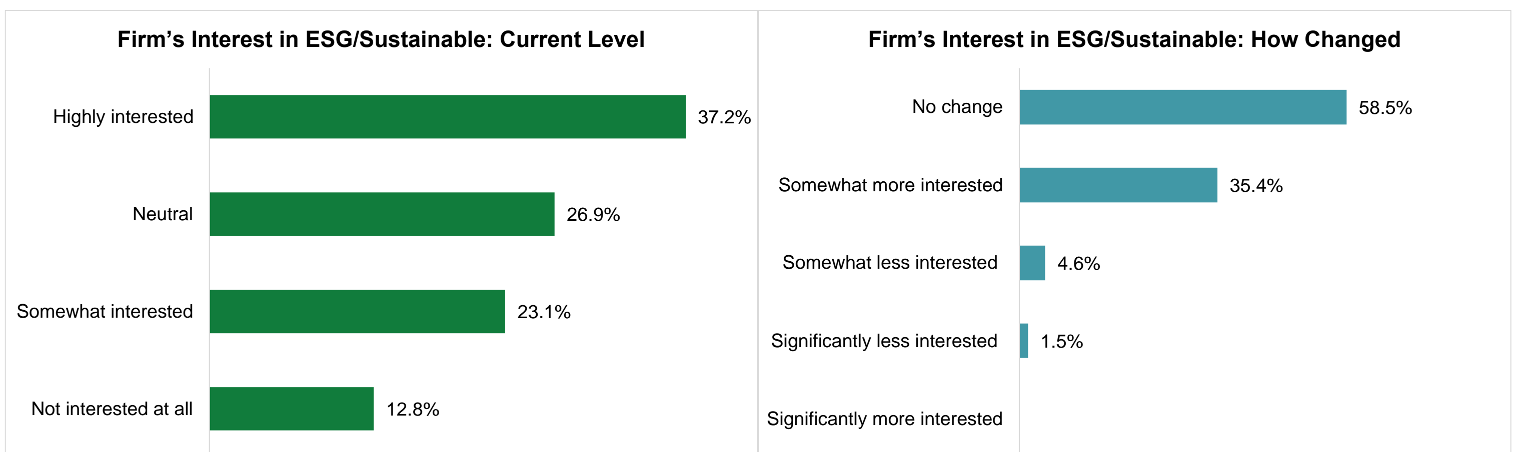
Source: SIFMA Insights pre-conference survey
Note on second chart: Full response listed in the survey = Outage of critical third party/infrastructure platform; Competing regulatory change management requirements; Debt ceiling (possible failures to pay on Treasuries)

Market Touchpoint: ESG

We used our pre-conference survey to survey respondents on their firm's interest in ESG and sustainability services and product offerings. We highlight the following:

- 37.2% of respondents replied their firm is highly interested, followed by 26.9% neutral and 23.1% somewhat interested
- As to how this view has changed over the last year, 58.5% replied no change and 35.4% somewhat more interested

Survey Question: How do you rate your firm's current interest in providing ESG/sustainable products/underwriting? How has your firm's interest in providing ESG/sustainable products/underwriting changed since last year?



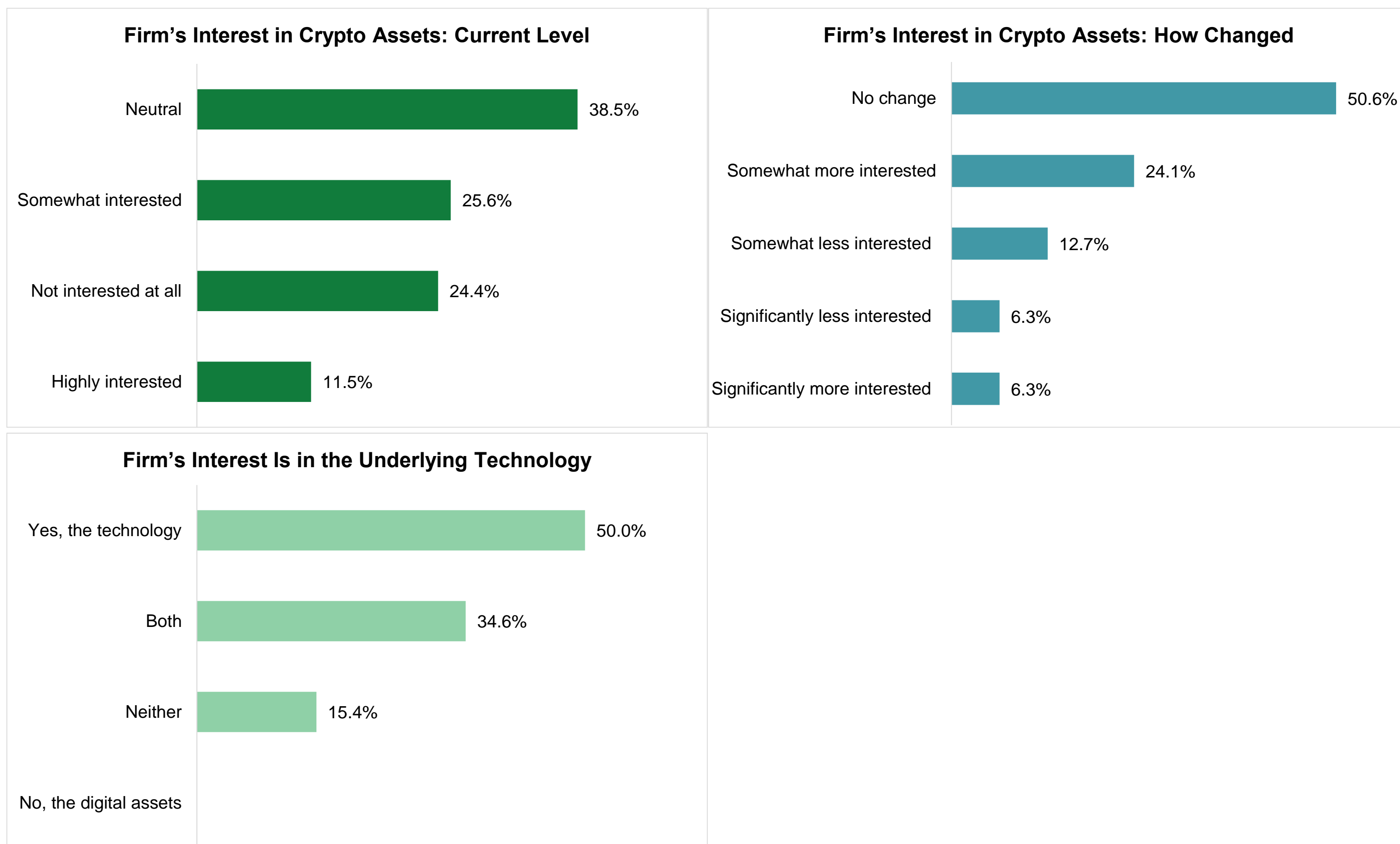
Source: SIFMA Insights pre-conference survey

Market Touchpoint: Crypto

We used our pre-conference survey to gauge respondents' interest in crypto asset investing. We highlight the following:

- 38.5% responded that they are neutral to crypto asset investing, with 25.6% somewhat interested
- This has not changed since last year, as per 50.6% of the respondents
- However, 50.0% of survey respondents are interested in the underlying technology, with 34.6% interested in both the technology and the assets themselves

Survey Question: How do you rate your firm's current interest in crypto asset investing? How has your firm's interest in crypto asset investing changed since last year? My firm's interest is in the underlying technology rather than the assets themselves.



Source: SIFMA Insights pre-conference survey

Appendix: SIFMA Insights Research Reports

SIFMA Insights: www.sifma.org/insights

- Ad hoc reports on timely market themes
- Market Structure Compendium (annual report)
- COVID Related Market Turmoil Recaps: Equities; Fixed Income and Structured Products

Monthly Market Metrics and Trends: www.sifma.org/insights-market-metrics-and-trends

- Statistics on volatility and equity and listed options volumes
- Highlights an interesting market trend

Market Structure Primers: www.sifma.org/primers

- Capital Markets Primer Part I: Global Markets & Financial Institutions
- Capital Markets Primer Part II: Primary, Secondary & Post-Trade Markets
- Global Equity Markets
- Electronic Trading
- US Capital Formation & Listings Exchanges
- US Equity
- US Multi-Listed Options
- US ETF
- US Fixed Income
- SOFR: The Transition from LIBOR
- The Evolution of the Fintech Narrative

Conference Debriefs

- Insights from market participants into top-of-mind topics
- Pre-Conference Survey Comparison, compares survey results across various conferences

Equity Market Structure Analysis

- The ABCs of Equity Market Structure: How US Markets Work and Why
- Analyzing the Meaning Behind the Level of Off-Exchange Trading, Part II
- Analyzing the Meaning Behind the Level of Off-Exchange Trading
- Why Market Structure and Liquidity Matter

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