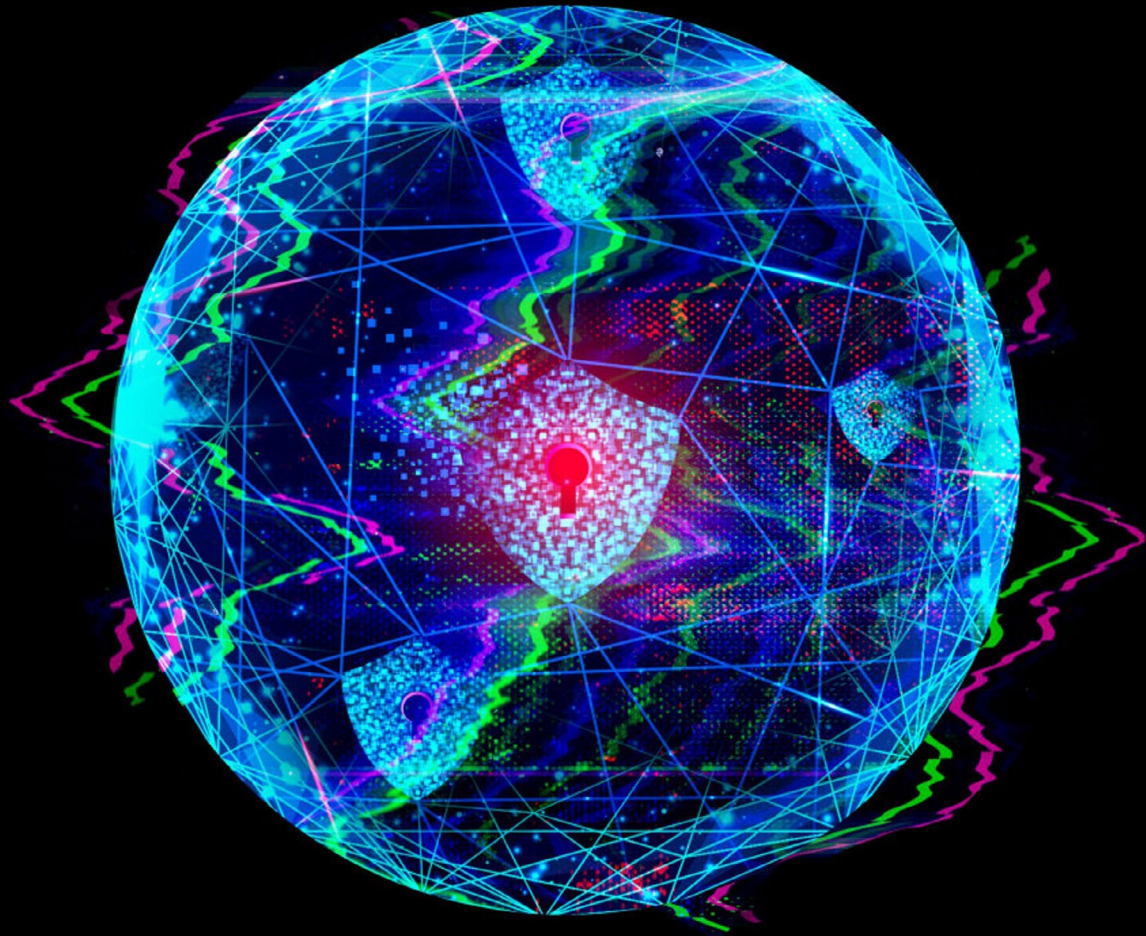


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Emerging trends in digital assets
manipulation and surveillance

April 2024



Emerging trends in digital assets manipulation and surveillance

While US regulators have taken action against participants for misconduct following a regulation by enforcement approach, Commodity Futures Trading Commission (CFTC) Chair Rostin Behnam advocates the necessity for well-defined regulatory frameworks that would allow regulators to proactively establish rules to minimize fraud. “Our legal authority in the spot market for digital commodity tokens is necessarily limited to acting only after the fraud has occurred.”

—Rostin Behnam¹



Introduction

The digital asset space has continued to see growth and adoption in recent years, with cryptocurrencies and blockchain technology disrupting traditional financial systems and spawning a multitude of innovative projects and investment opportunities. As this ecosystem continues to evolve, so, too, has attention from regulators worldwide, who are increasingly focused on ensuring the integrity and transparency of digital asset markets. This white paper explores the rising regulatory focus on digital asset market manipulation and consumer protection. We will delve into the various facets of market manipulation, from the techniques employed by bad actors to the potential consequences for market integrity. By exploring the evolving regulatory framework designed to counter manipulation, this paper aims to provide valuable insights into the current challenges and potential opportunities that lie ahead for both regulators and market participants in this dynamic and rapidly evolving ecosystem.

As the digital asset space becomes intertwined with traditional financial markets and market participants, regulators have recognized the need to safeguard market integrity and protect investors. The global regulatory landscape is evolving rapidly to address these concerns, with regulatory bodies such as the Securities and Exchange Commission (SEC), CFTC, and various other regulatory agencies globally actively developing guidelines, enforcement mechanisms, and reporting requirements tailored to digital assets

Regulatory focus is increasingly becoming proactive in nature. Regulators aim not only to detect and penalize manipulative behavior, but also to deter it in the first place. They are investing in advanced surveillance technologies, collaborating with industry stakeholders, and enhancing their understanding of digital asset markets to stay ahead of emerging manipulation tactics.

One of the major enforcements that occurred in 2023 was the order against Mirror Trading International Proprietary Limited (MTI). The CFTC ordered Cornelius Johannes Steynberg, the founder and CEO of MTI, to pay more than \$1.7 billion to victims of an international fraudulent multilevel marketing scheme.² The scheme involved soliciting bitcoin from people for participating in an unregistered commodity pool. The defendants, MTI and Steynberg, falsely claimed to trade retail forex through a proprietary software program.³

Steynberg accepted at least 29,421 bitcoin, valued at \$1,733,838,372, from 23,000 individuals in the United States and thousands more worldwide. The CFTC warns that orders requiring payment to victims may not result in recovery of lost money due to insufficient funds or assets.



What are some of the most recent manipulative behaviors observed in the digital asset market?

2023 carried forward the pattern from preceding years, marked by persistent manipulative behaviors and investment scams. While traditional manipulative methods such as wash trading, insider trading, and pump-and-dump schemes discussed in our previous publications⁴ continued to be widespread, novel strategies such as pig butchering, as well as oracle price manipulation and investment scams aimed to defraud investors, have also emerged. Oracle manipulation refers to a type of vulnerability where an attacker exploits the reliance of smart contracts on external data sources, known as oracles, to manipulate the execution of the contract or obtain unauthorized information.

Regulators’ attention was drawn to the *manipulation of price oracles* carried out by an individual on the crypto trading platform Mango Markets. The individual behind this attack strategically deployed funds into two separate accounts on Mango Markets. In one account, they initiated a short sale of 483 million \$MNGO perpetual futures; while in the other account, they pursued the opposite strategy by acquiring an equivalent amount of \$MNGO. Subsequently, the attacker initiated a market price increase by purchasing spot \$MNGO on multiple exchanges. This activity led to a rapid and substantial increase in MNGO’s market price.

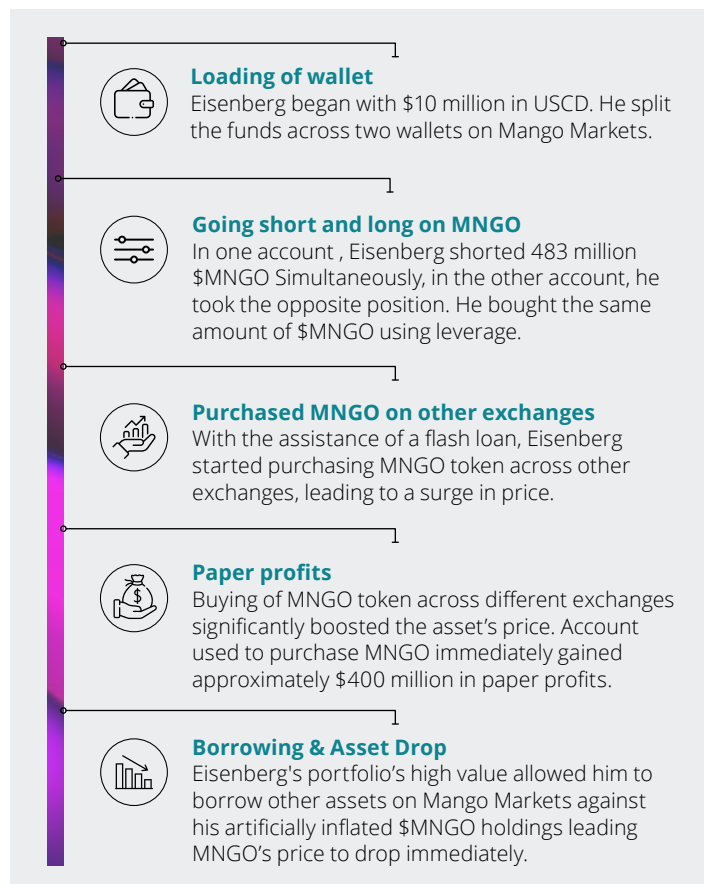
Leveraging the unrealized profits and the inflated value of their \$MNGO holdings as collateral, the attacker successfully secured a substantial loan of \$116 million using digital assets on the Mango Markets platform.⁵

Refer to **figure 1** for an illustration of the manipulative process outlined above.

Pig butchering (a type of fraud in which criminals lure victims into digital relationships to build trust before convincing them to invest in cryptocurrency platforms) is a rising threat in the world of investment scams. These scams earn their name from the practice of fattening a pig before slaughter and involve fraudsters who establish trust with their targets before manipulating them into fraudulent investments then disappearing with their money.

Initially, the scammers use small investment solicitations to gain the target’s confidence, often employing fake claims and fabricated performance data to create the illusion of substantial asset growth. This process includes initial contact, trust-building, steering the conversation toward investments, providing misleading information, capitalizing on perceived gains, and

Figure 1: Oracle price manipulation explained



ultimately leading victims to significant losses, resulting in the metaphorical “slaughter” of their investments.

Pyramid and Ponzi schemes are deceitful investment strategies that hinge on the continuous recruitment of new investors or investments as the primary source of returns for earlier participants. These schemes typically crumble when it becomes unfeasible to enlist adequate new participants or investments to sustain payouts. The impostor lures investors with the promise of substantial returns, convincing them to invest their funds. Then they utilize the capital contributed by new investors to fulfill returns owed to earlier participants, perpetuating this cycle until it becomes unsustainable, ultimately causing substantial financial losses for numerous participants. Investors who fell victim to these investment scams incurred a total loss of US\$3.31 billion in 2022, marking the highest reported losses to the FBI’s Internet Crimes Complaint Center.⁶

Customer protection for digital assets

Emergence of new manipulative techniques underscores the need for regulation that also governs bankruptcy proceedings of digital asset platforms related to the treatment of customer assets. There is always a risk of individuals losing their savings without legal protection. Fraud and misuse of customer funds, dubious corporate decisions, ambiguous customer agreements, hacker attacks on digital platforms, and bankruptcy of transnational crypto exchanges are key risks to consider when investing in digital assets. In addition to enforcement actions by regulators, it is imperative that there should be frameworks in place to protect consumers. Many firms use trade surveillance but lack regulatory mandates. Improved rules can lead to consistent consumer protections and may likely make manipulative trading more difficult. **Figure 2** highlights the areas touched upon by the regulators; however, few of these areas are still in early stages.

Crypto exchanges

The United States Consumer Financial Protection Bureau (CFPB) is considering applying the Electronic Fund Transfer Act (EFTA) to crypto to protect consumers from fraudulent crypto transfers:

- Providing consumers with accurate information about their electronic fund transfer (EFT) rights
- Disclosing fees and other charges associated with EFT services
- Reversing unauthorized EFT transactions
- Investigating and resolving consumer complaints⁷

Market integrity

Markets in Crypto-Assets Regulation (MiCA) 2022⁸ requires crypto-asset service providers (i.e., crypto exchanges) to:

- Comply with adequate systems and procedures to ensure integrity.
- Keep records of all transactions.
- Ensure that members of the board of directors and shareholders of crypto exchanges are of good repute and be fit.⁹

Intermediaries

US congressional leaders have introduced two landmark bills¹⁰ to create a digital assets regulatory framework. The bills require intermediaries to:

- Provide clear notice to each customer of asset segregation methods.
- Provide treatment of customer assets in the case of bankruptcy or insolvency.
- Impose mandatory proof of reserves on intermediaries.

Figure 2: Potential areas under regulators' focus



Focus of G20 member countries on digital assets

The G20 countries have agreed to implement the Crypto-Asset Reporting Framework (CARF) to address the rapid growth of the crypto-asset market.¹¹ The framework provides a standardized way to report tax information on crypto-asset transactions, allowing automatic exchange of information with taxpayer jurisdictions. This will also apply to transactions conducted by Indian market participants on foreign-domiciled crypto exchanges, making it impossible to hide or conceal such transactions. The G20's commitment to global governance and economic architecture is crucial for addressing major global economic issues.¹²

Conflict of interest

The United Nations has guidelines for consumer protection establishing that financial services providers must have a written policy on conflict of interest to help detect potential conflicts, but not all crypto exchanges follow this recommendation and exercise effective corporate governance.¹³



Customer protection for digital assets (cont.)

Financial stability

The Financial Stability Board (FSB) is finalizing its global regulatory framework for crypto-asset activities by focusing on addressing risks to financial stability and, by year-end 2025, conducting a review of the implementation status of these two sets of recommendations at the jurisdictional level.

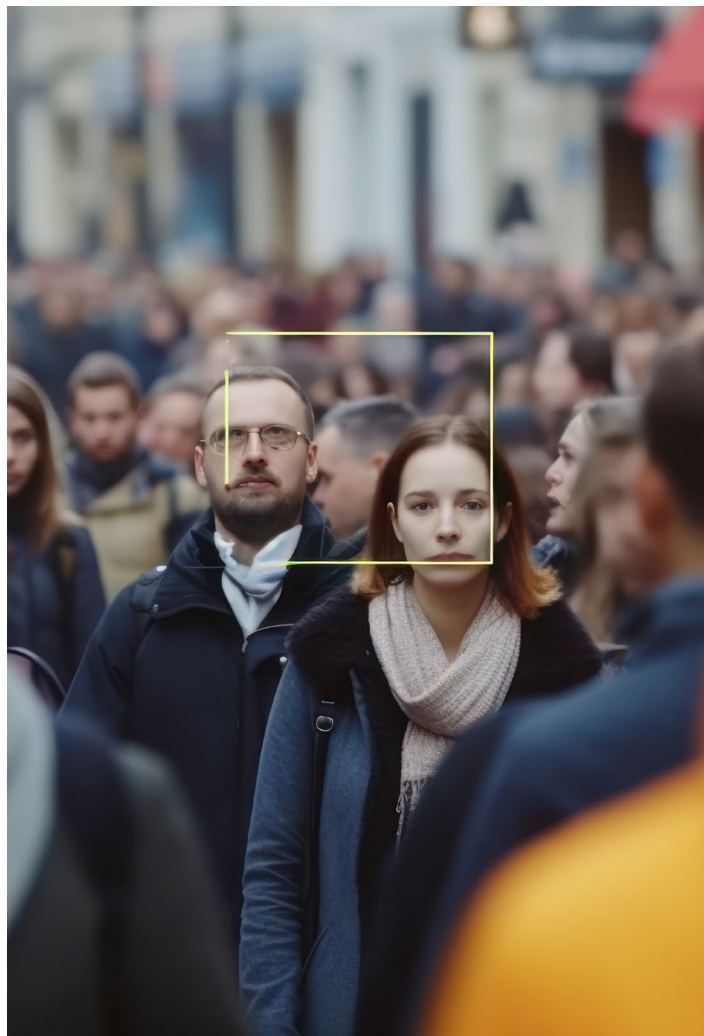
- Regulatory power, cross-border cooperation, governance, risk management, data, disclosure, systemic risk, and multifunctional intermediaries
- Revised high-level recommendations for the regulation, supervision, and oversight of “global stablecoin” arrangements¹⁴

Market manipulation

The number of on-chain transactions for major crypto-assets is growing, but it only gives a partial view of total crypto-asset transactions as off-chain transactions are not yet considered.

While off-chain transactions have made digital assets significantly more usable, the SEC has raised concerns due to lack of existing regulation. Given that these unregulated off-chain transactions now account for a significant portion of the total bitcoin market, bitcoin's price is susceptible to market manipulation.¹⁵

Legislation has been introduced for reporting of off-chain transactions that are unrecorded on the publicly viewable blockchain. On September 28, 2023, US Representative Don Beyer (D-VA) announced the introduction of the Off-Chain Digital Commodity Transaction Reporting Act, legislation that would protect participants in the digital asset market by requiring trading platforms to report all transactions to a repository registered with the CFTC.¹⁶



Spot bitcoin exchange-traded products (ETPs)

The SEC has given the green light to ETPs for bitcoin in the United States, opening the door to cryptocurrencies for many new investors as it is an easy way to invest in bitcoin without actually buying one. The decision to approve the ETPs is a major win for fund managers.

Institutional investors may benefit from the approval of spot bitcoin ETPs¹⁷ as these products will allow them to trade a proxy with low management fees and engage more actively in arbitrage strategies and options hedging. Bitcoin ETP approval could pave a way for Ethereum ETF soon. As the digital asset space continues to evolve, financial institutions are planning to further investigate additional spot cryptocurrency ETF products.

Enhancing market integrity and investor safety in tokenized environments



To safeguard investor interests and maintain market trust, regulatory authorities and industry organizations are increasingly focusing on developing surveillance mechanisms and implementing rules specific to tokenized markets as well. These measures include:

- **Regulation:** Regulators across the globe are working to establish clear rules and guidelines for tokenized markets to prevent market manipulation and ensure investor protection. These regulations may include reporting requirements, surveillance, and enforcement mechanisms.¹⁸
- **Market surveillance tools:** Exchanges and trading platforms offering tokenized assets are implementing advanced surveillance tools to detect and prevent market manipulation in real time.¹⁹ These tools analyze trading data and patterns to identify suspicious activities.
- **Transparency:** Promoting transparency in tokenized markets by requiring exchanges to disclose trading data, order books, and other relevant information can help deter market manipulation.
- **Education:** Educating investors about the risks associated with tokenized assets and market manipulation schemes can empower them to make informed decisions and avoid falling victim to fraudulent activities.

As tokenization continues to gain traction, the regulatory focus on addressing market manipulation will likely remain a critical aspect of ensuring the integrity and trustworthiness of digital asset markets.

Digital asset trade surveillance tools/vendors

Trade surveillance monitoring is essential to maintain market integrity and regulatory compliance. Cryptocurrencies being decentralized are vulnerable to various types of market abuse and manipulation schemes. Financial institutions face risks of regulatory scrutiny if they fail to implement effective risk and surveillance measures. Specialized vendors in the industry offer trade surveillance tools tailored to digital asset markets, employing advanced data analytics, algorithms, blockchain forensics, and artificial intelligence to monitor transactions, detect suspicious activities, and ensure adherence to regulations.²⁰

Industry-leading vendor tools are able to identify patterns of insider trading and Ponzi schemes by closely observing the flow of funds, both incoming and outgoing, to determine if they conform to a pattern in which new investments are utilized to repay earlier investors. They also help by serving as valuable tools for financial institutions to determine compliance with regulatory obligations, minimize the risk of regulatory fines and reputational damage, and dramatically reduce the time needed to resolve issues and respond to regulatory inquiries.²¹

Some of the key benefits that these vendor tools offer include:

- Real-time, 24/7 monitoring of digital asset transactions.
- Integrated control framework with data quality reporting, audit, and case management.
- Ability to monitor currency pairs trading and fractional volumes trading.
- Availability of all historical market data including full-depth order book visual replay and reconstruction.
- Ability to analyze trade data from multiple exchanges, looking at multiple coins and tokens over time.

A prominent vendor recently uncovered \$2 billion worth of wash trades on decentralized exchanges. It found that digital asset token deployers and liquidity providers have wash-traded a minimum \$2 billion worth of digital assets on Ethereum-based decentralized exchanges (DEXs) since 2020.²²



From a sample of approximately 30,000 DEX liquidity pools, the vendor discovered that 67% were manipulated by wash traders—traders who executed transparent or obfuscated self-trades solely to produce artificial movements in digital asset tokens’ prices or volumes. Wash trading constituted 16% of the total trading volume of these manipulated pools.

There are multiple vendors that offer several products covering surveillance. However, like any technology, organizations should be aware that many of these tools are in their nascent stage, and achieving effective surveillance is both a continuous endeavor and an empirical process. Financial institutions should allocate resources to improve and update their surveillance systems while staying informed about the ever-changing market conditions and evolving regulatory frameworks. Therefore, companies need to be capable of monitoring and distinguishing between traditional and digital asset transactions, whether they occur on-chain or off-chain.

Future roadmap

The future roadmap for digital asset trade surveillance is likely to be shaped by a combination of growing complexity in the digital asset market, technological advancements, and evolving regulatory requirements.

Here's a potential roadmap that outlines key directions and current trends in digital asset trade surveillance:

The MiCA is expected to come into effect between mid-2024 and early 2025, incorporating issuers of certain types of crypto-assets into the EU regulatory framework to protect consumers, establishing financial stability, and implementing a framework for crypto activities.²³

Furthermore, the Travel Rule in cryptocurrencies will bolster surveillance and counter illegal activities, empowering organizations to effectively monitor and prevent fraud, money laundering, and terrorism financing. However, challenges such as insufficient technical resources, legal uncertainties, and data privacy concerns may impede widespread adoption.²⁴

In January 2024, the SEC approved Bitcoin ETPs.²⁵ This may potentially open avenues for spot ETFs of other cryptocurrencies.

Both traditional banks and fintech firms are actively engaging with digital assets. Banks that cater to the industry provide financial services such as payment solutions and custody services to companies in the space, but they may be cautious to partner with Virtual Asset Service Providers (VASPs), exchanges, and decentralized autonomous organizations (DAOs) owing to perceived legal ambiguity, increased risk, and concerns about potential bad actors. Regulatory compliance will be a priority, and tools will need to stay up to date with changes in the regulatory landscape for cryptocurrencies. Global standardization and user behavior analysis should continue to be key focus areas. Improved tools for token and asset classification will be necessary to meet specific regulatory requirements.

Global collaboration among regulatory bodies and industry stakeholders may lead to the development of common standards and leading practices for trade surveillance. Flexibility and adaptability will be key attributes for both vendors and regulatory authorities in maintaining the integrity of digital asset markets.



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Contacts

Roy Ben-Hur

Managing Director
Deloitte Risk & Financial Advisory
Deloitte & Touche LLP
rbenhur@deloitte.com

Niv Bodor

Senior Manager
Deloitte Risk & Financial Advisory
Deloitte & Touche LLP
nbodor@deloitte.com

CJ Burke

Manager
Deloitte Risk & Financial Advisory
Deloitte & Touche LLP
cjburke@deloitte.com

Adarsh Ramesh Nair

Senior Consultant
Deloitte Risk & Financial Advisory
Deloitte & Touche LLP
drameshnair@deloitte.com

Ajinkya Narendra Sohani

Manager
Deloitte Risk & Financial Advisory
Deloitte & Touche LLP
ajsohani@deloitte.com

Vaishali Singh

Manager
Deloitte Risk & Financial Advisory
Deloitte & Touche LLP
vaishasingh@deloitte.com

Nikhil Wakhloo

Senior Consultant
Deloitte Risk & Financial Advisory
Deloitte & Touche LLP
nwakhloo@deloitte.com

Vivekanand Gopi Naidu

Senior Consultant
Deloitte Risk & Financial Advisory
Deloitte & Touche LLP
naigopi@deloitte.com

Rahul Bhatia

Senior Consultant
Deloitte Risk & Financial Advisory
Deloitte & Touche LLP
rahulbhatia3@deloitte.com

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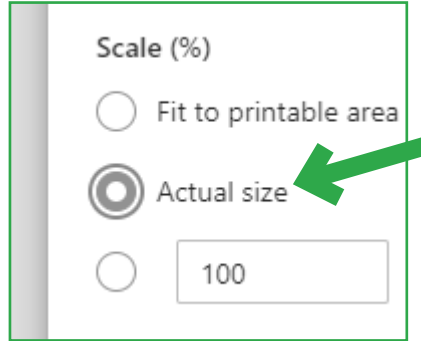
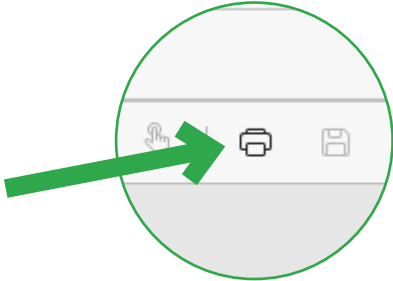
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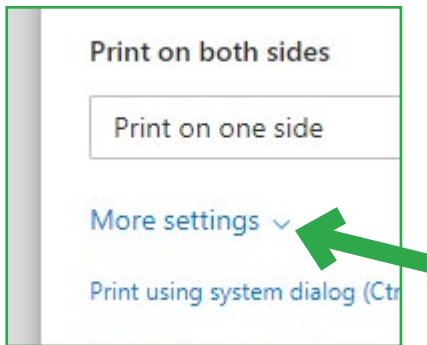
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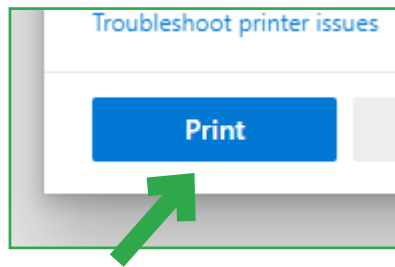
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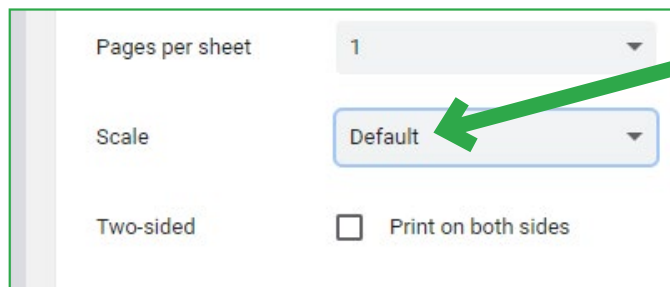


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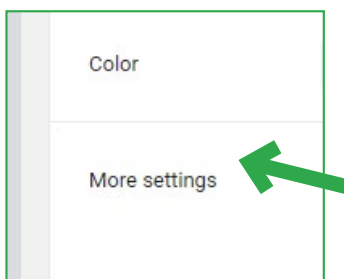


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