# A Data-Driven Look Into Cyber Risk Trends

IRIS 2025

It's About Time

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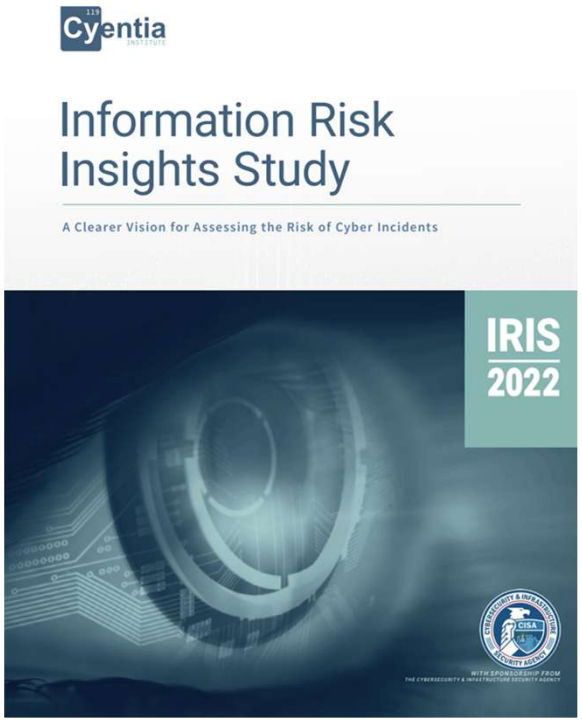
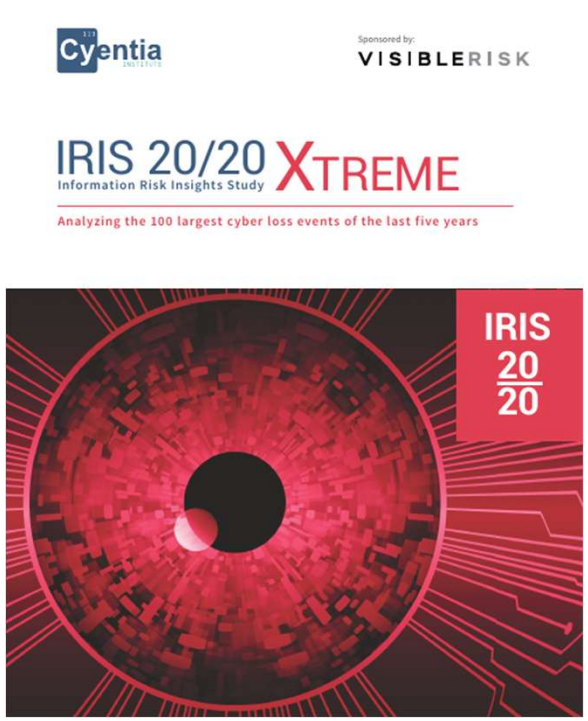
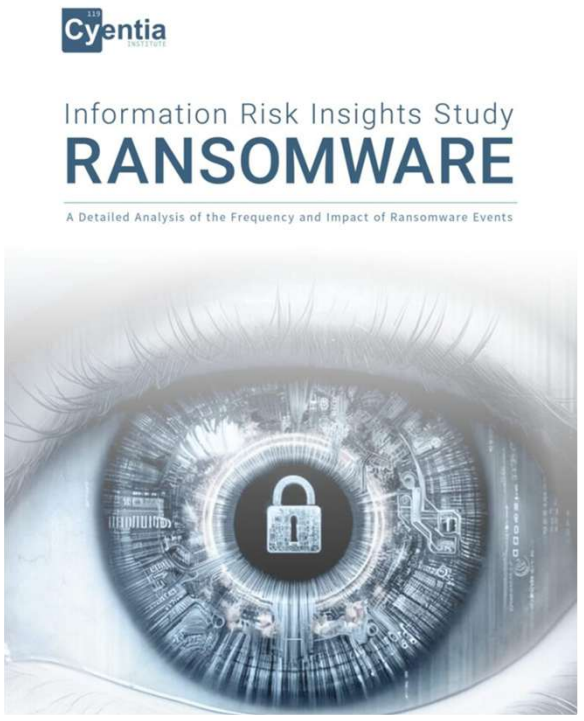
# Information Risk Insights Studies (IRIS)




- 100K incidents over 10 years
- Event frequency & losses
- Split by org size and sector




- 100 largest security incidents
- In-depth analysis of losses
- Focus on key risk factors




- Focus on ransomware events
- Probability and loss models
- Explored large-scale impacts

Download all IRIS studies: https://www.cyentia.com/iris

# IRIS Data Sources

- Base dataset: Zywave (formerly Advisen) Cyber Loss Data
  - Widely used in insurance and reinsurance industry for risk models
  - Contains over 125,000 confirmed security incidents spanning 20+ years
  - Compiled from public info, such as breach disclosures, company filings, litigation details, and Freedom of Information Act requests
- Cyentia does extensive processing of this dataset to extend and enrich it for cyber risk analysis
- Supplemental data from Feedly Threat Intelligence

# Are security incidents more common?

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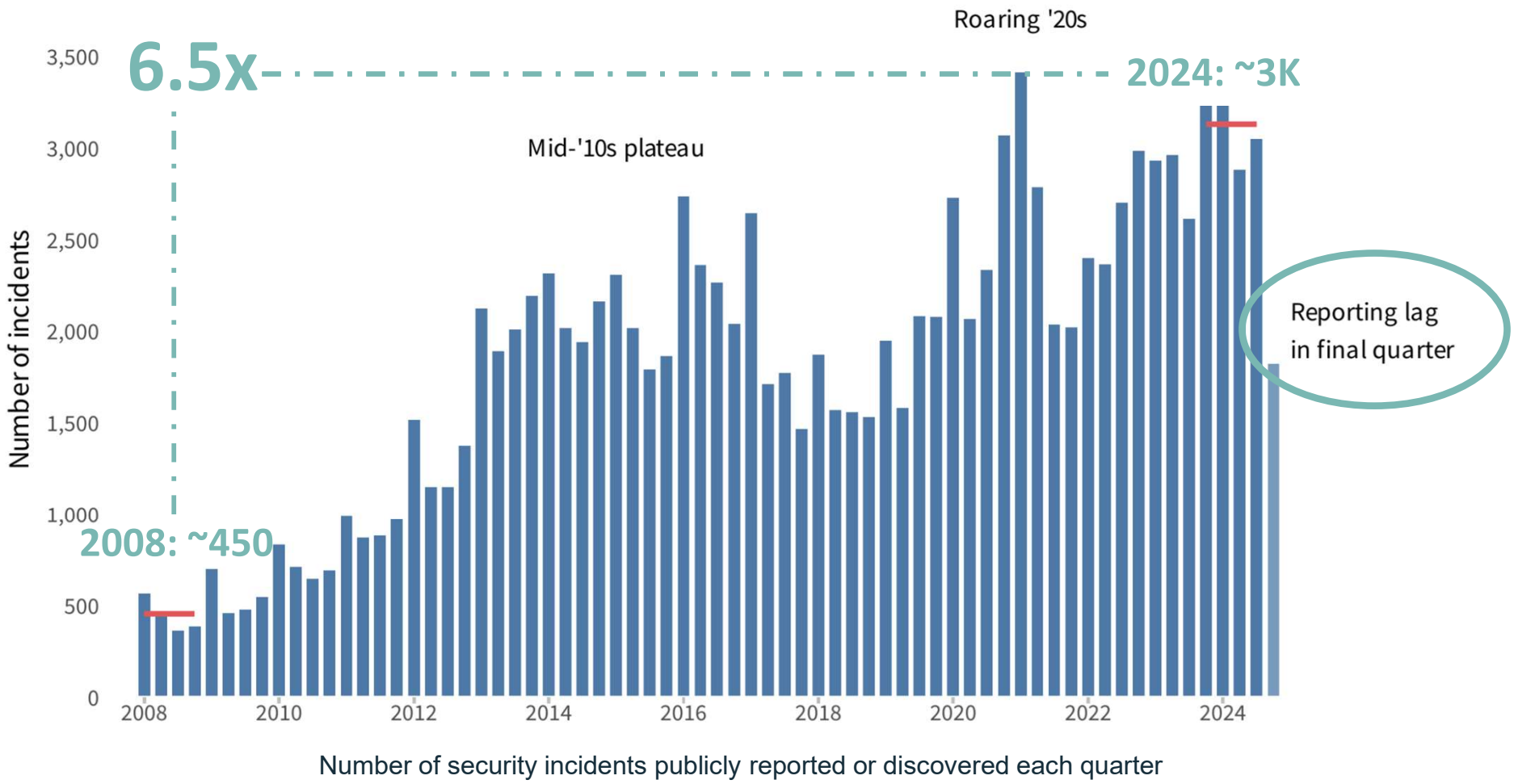
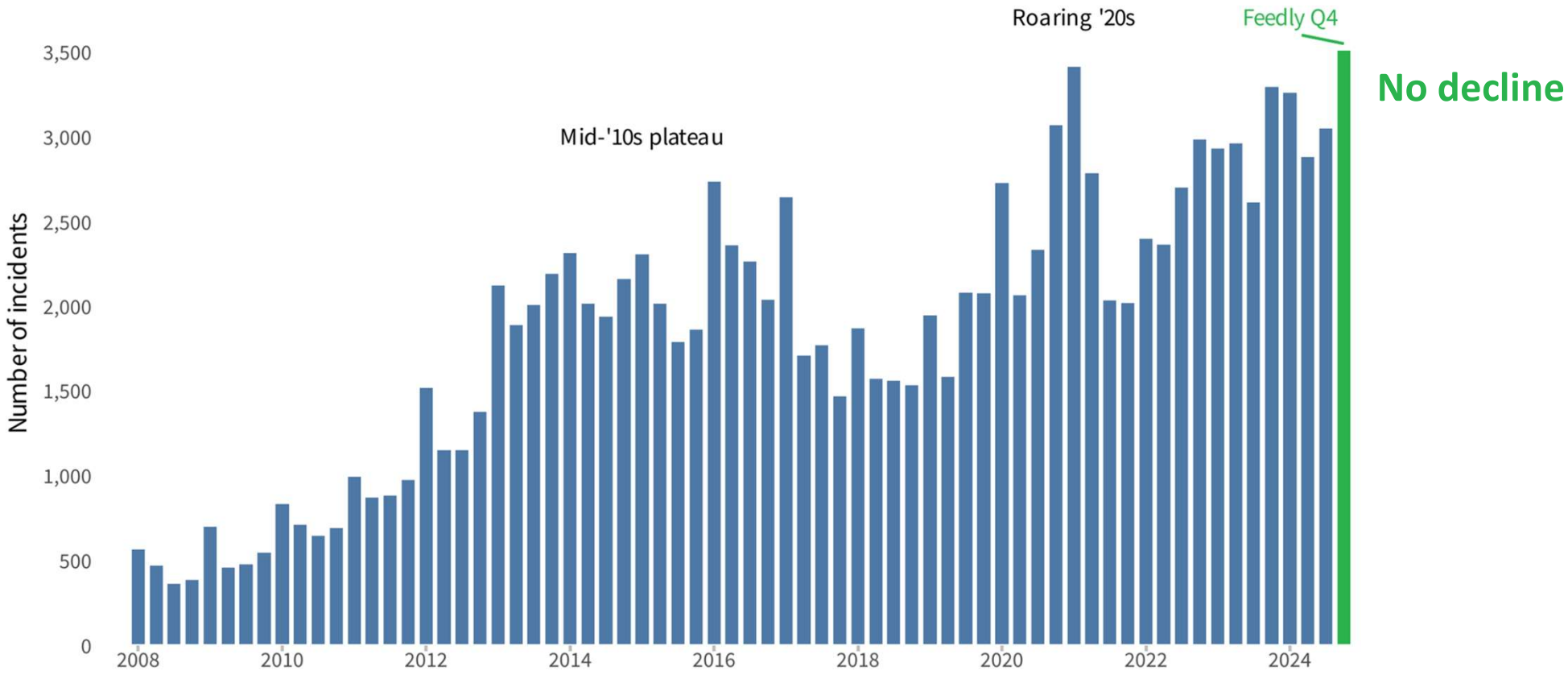
# 650% more incidents reported each quarter

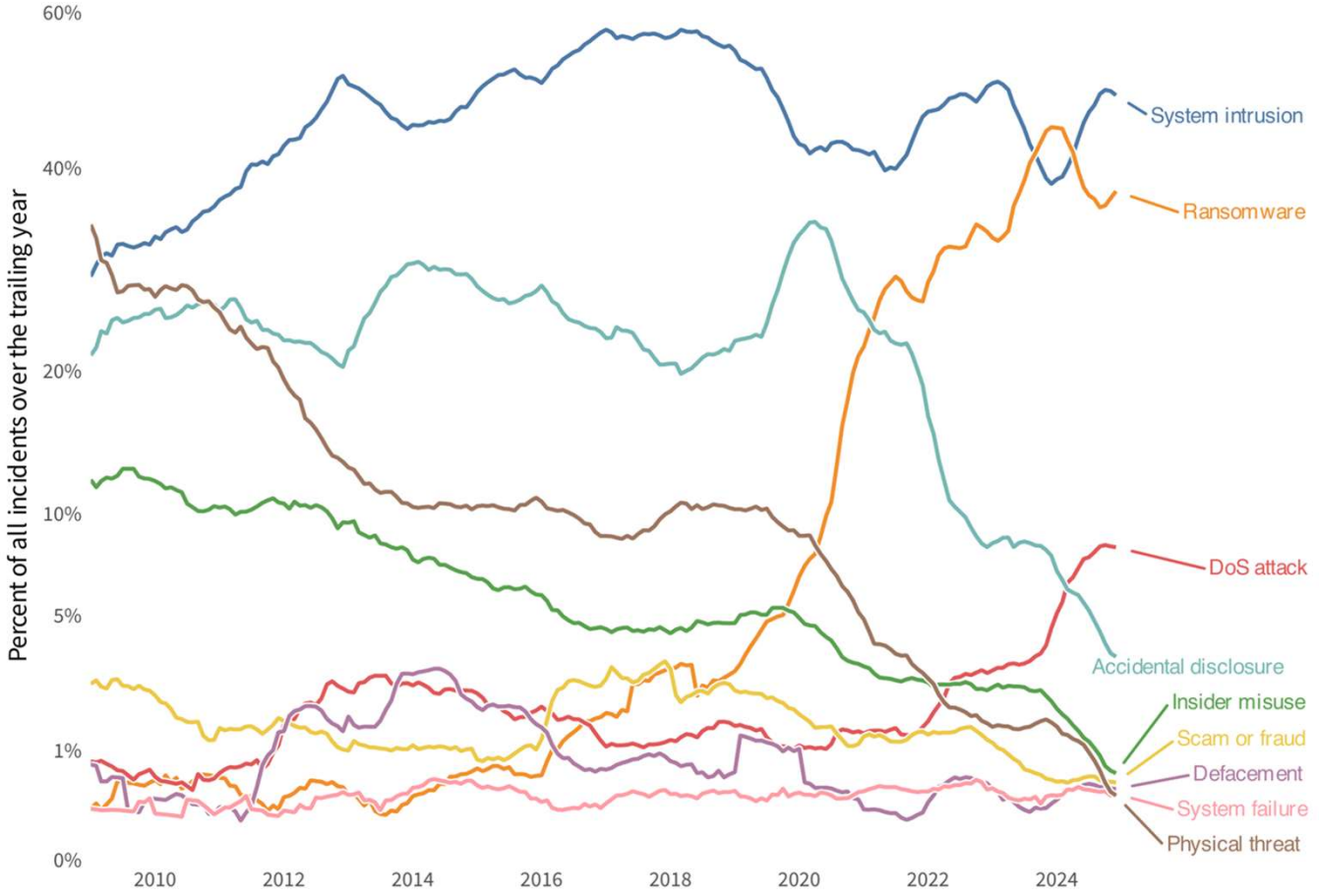


# Incorporating incidents identified via Feedly




Number of security incidents identified by Feedly Threat Intelligence in Q4 2024

# Trends vary among different types of incidents




Relative frequency of incident patterns over time (rolling 12mo. 2009-2024)

**Strong & steady:**
System intrusion

**Increasing:**
Ransomware,
DDoS

**Decreasing:**
Acc Disclosure,
Insider misuse,
Physical threats,
Defacement

# Do incident trends differ across organizations?

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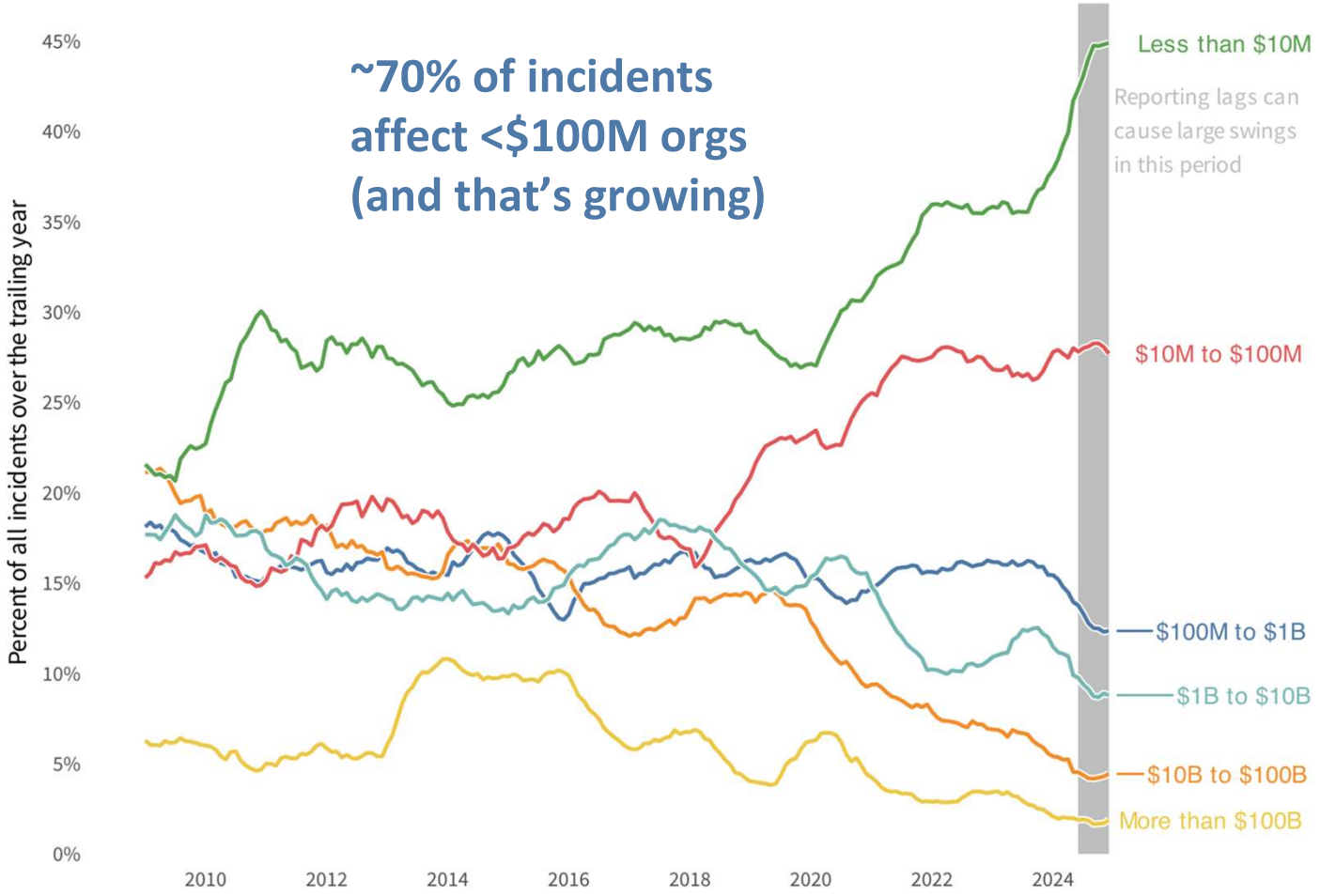
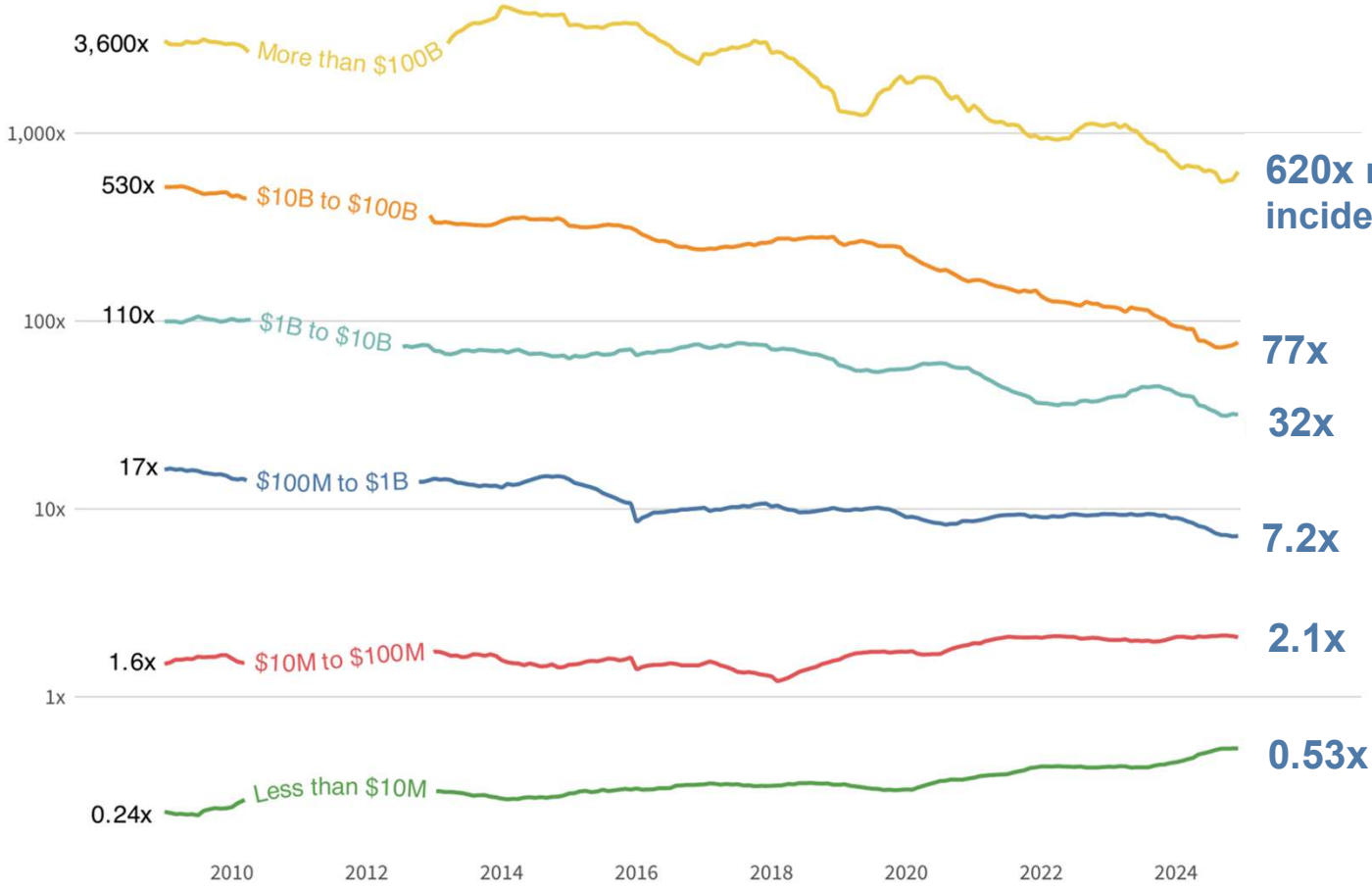
# Overall, more incidents affect smaller firms…



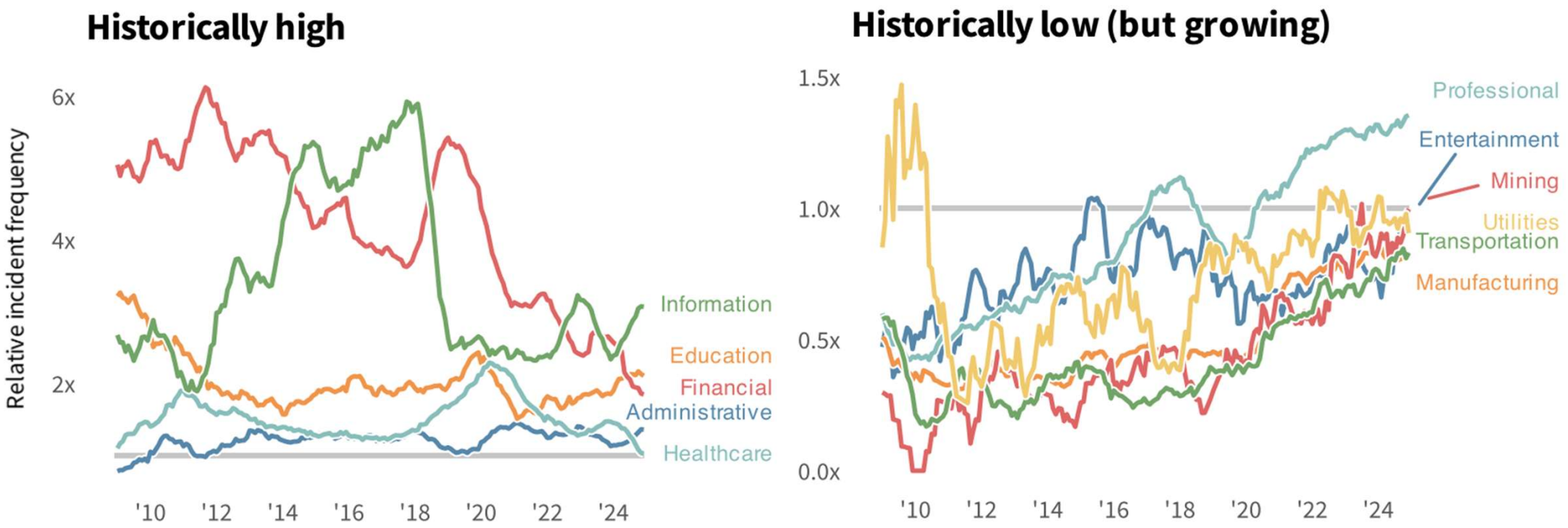

Proportion of all incidents in each revenue tier (rolling 12mo. 2009-2024)

# …but relative frequency higher for large orgs




Relative number of incidents to number of firms in each revenue tier (rolling 12mo. 2009-2024)

# Sectors differ historically for relative frequency




Relative number of incidents to number of firms in each sector (rolling 12mo. 2009-2024)

# Is the probability of incidents increasing?

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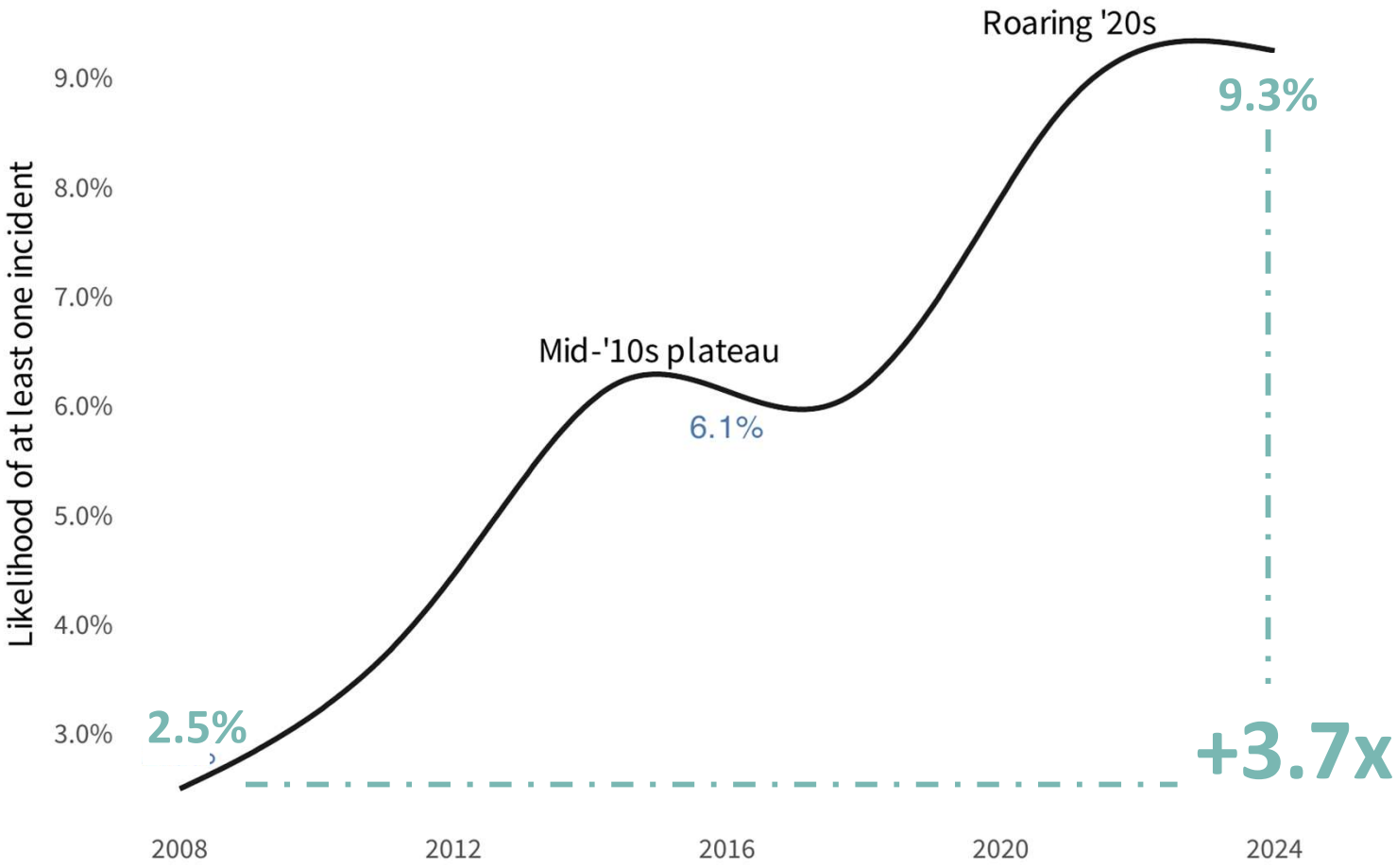
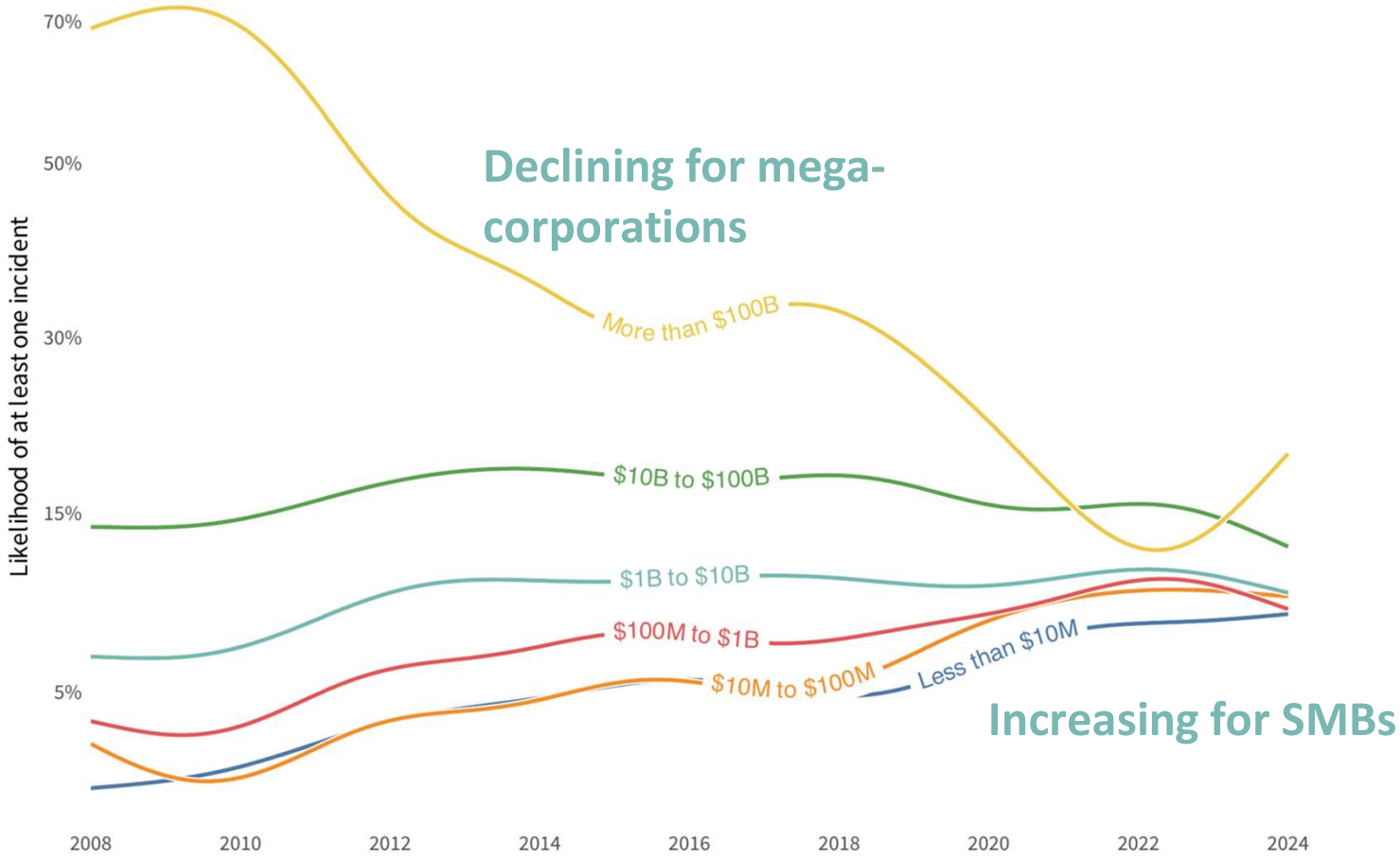
# Overall, firms 3.7x more likely to have incidents…



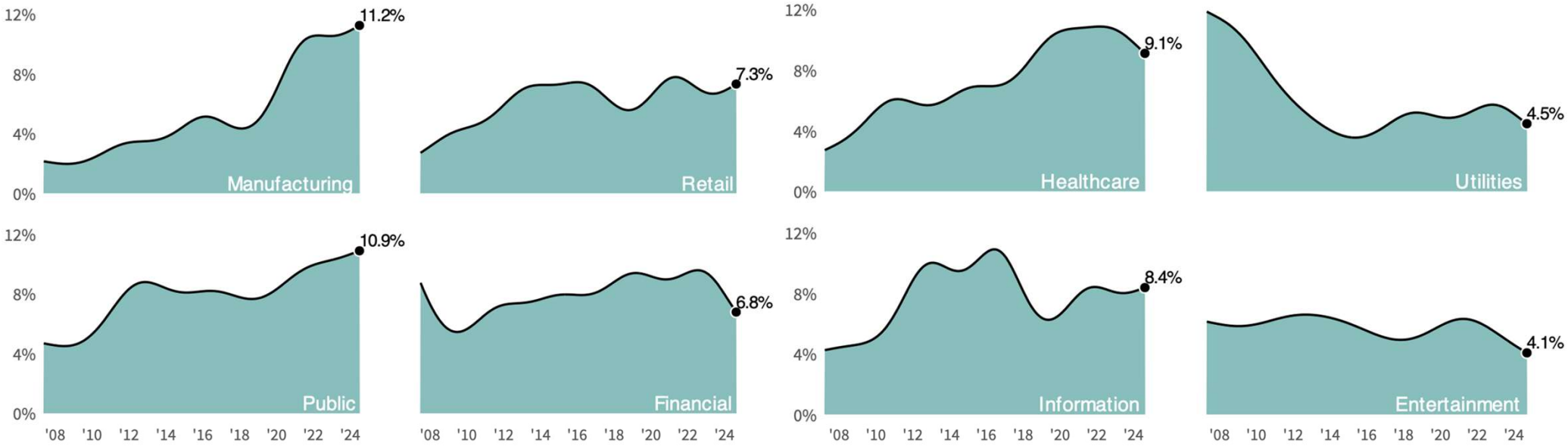

Historical probability of a firm having an incident in the next year

# …but that trend varies for large vs. small firms




Annualized incident probability for firms in each revenue tier (rolling 12mo.)

# …and differs widely among industries as well




Annualized incident probability for firms in each sector (rolling 12mo.)

# Chance of multiple incidents

| Likelihood of at least N incidents in the next year | | | |
|---|---|---|---|
| | **At least one** | **At least two** | **At least three** |
| More than $100B | 43.43% | 20.45% | 9.89% |
| $10B to $100B | 31.26% | 12.44% | 5.29% |
| $1B to $10B | 15.13% | 4.54% | 1.56% |
| $100M to $1B | 9.99% | 1.94% | 0.43% |
| $10M to $100M | 8.38% | 1.25% | 0.21% |
| Less than $10M | 7.48% | 0.83% | 0.10% |

Source: IRIS 2025 (Cyentia Institute)

# Have security incidents gotten more costly?

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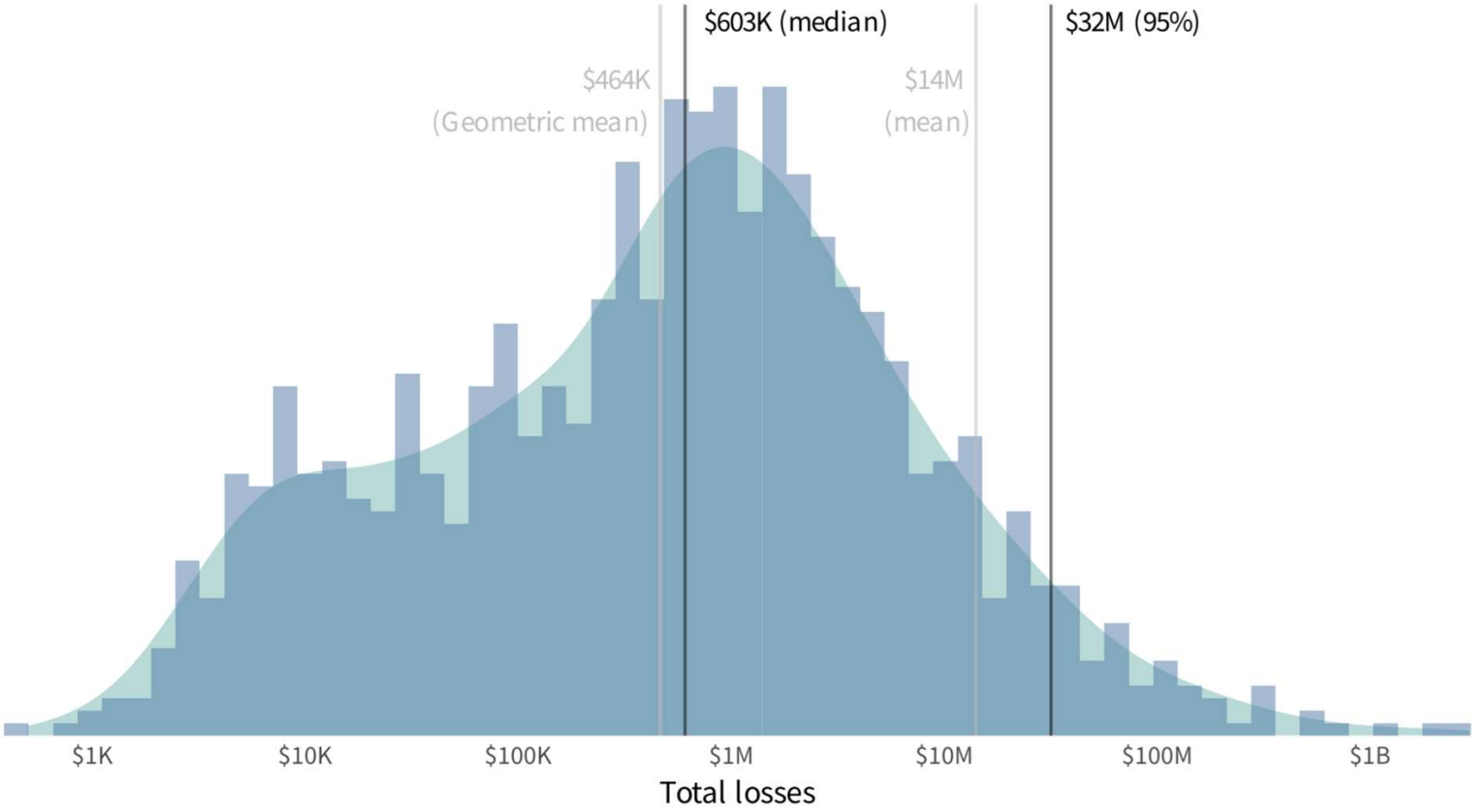
# Typical loss ~$600K; Extreme loss >$32M




Distribution of reported losses for security incidents from 2015 to 2024

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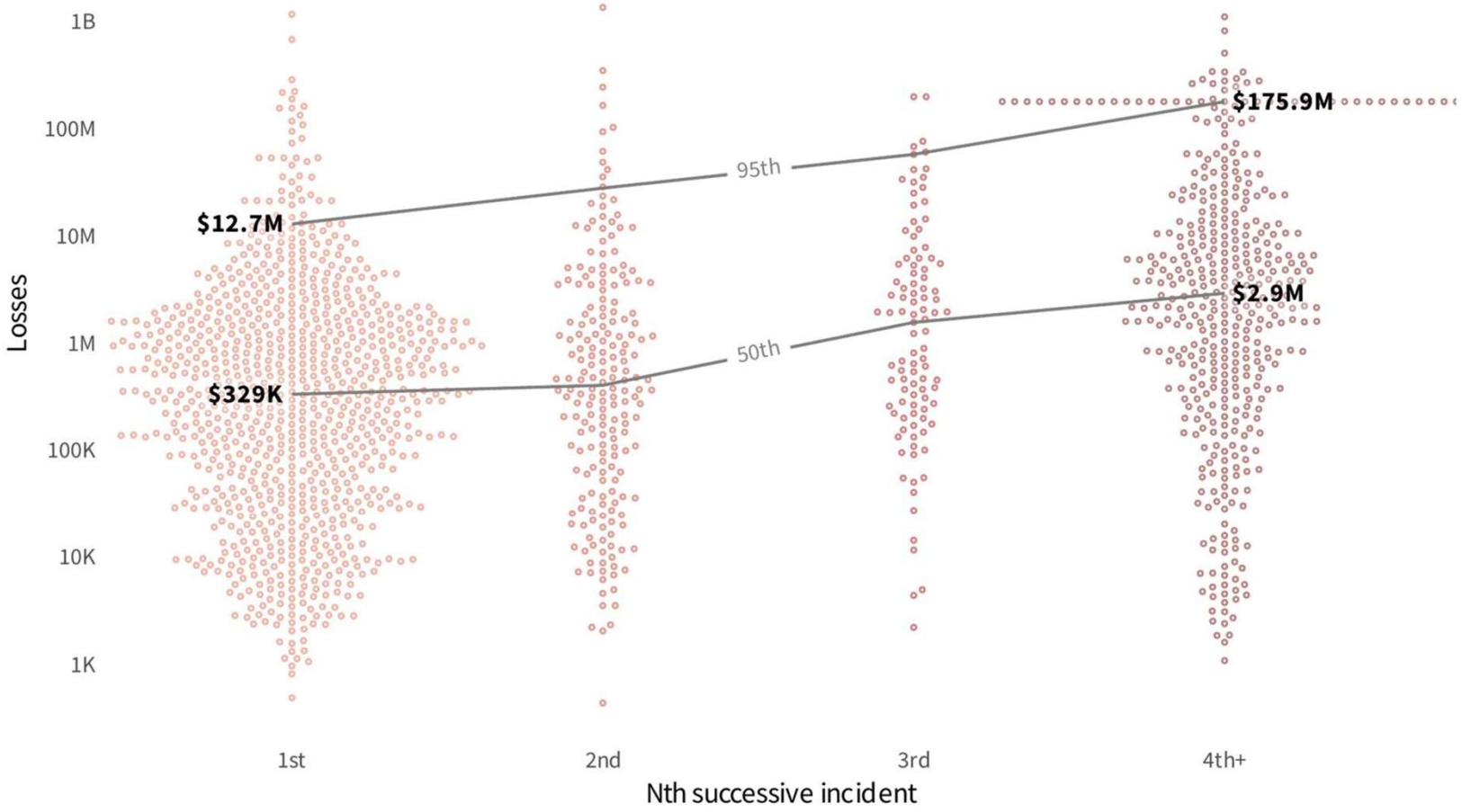
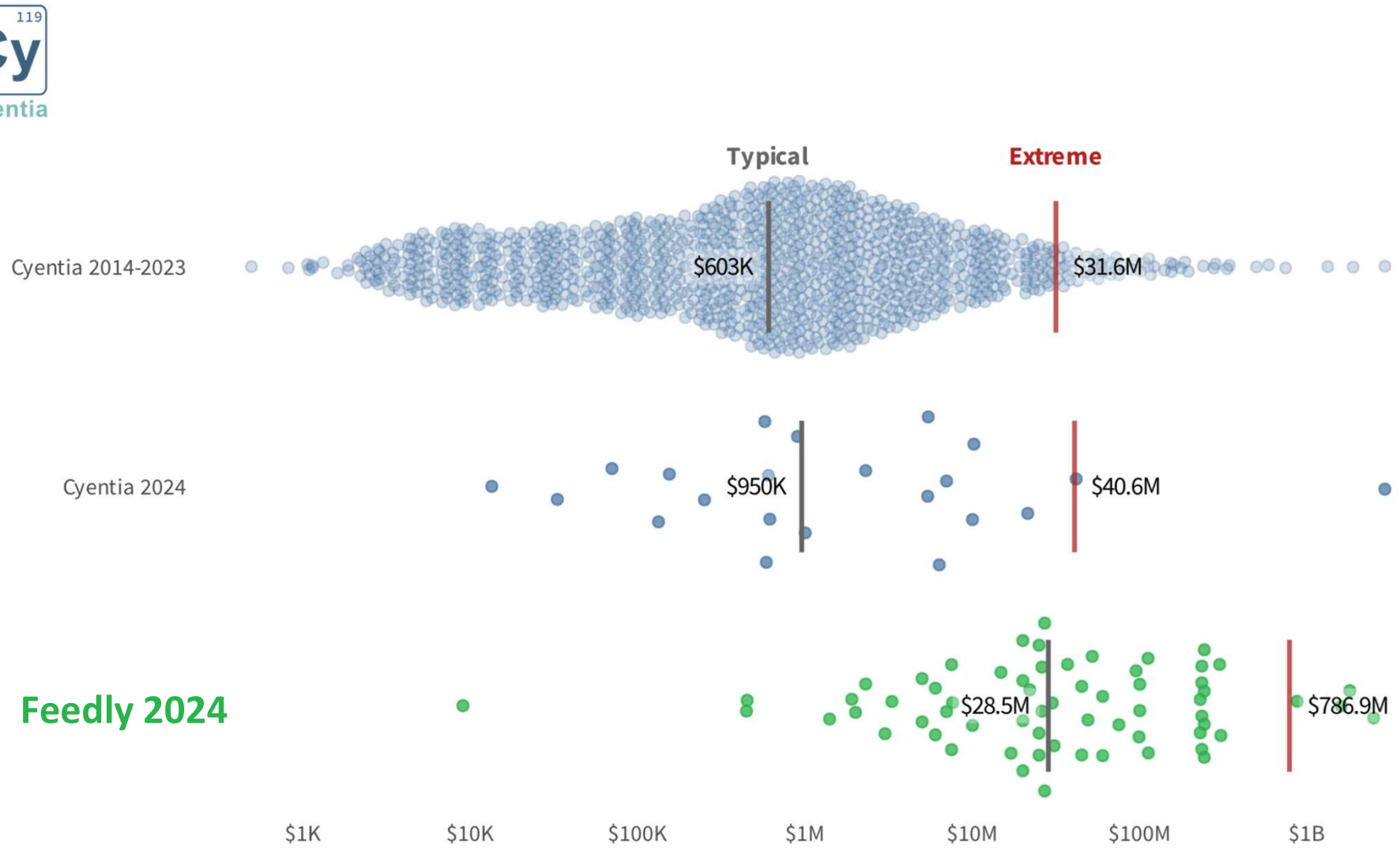
# Losses as firms experience successive incidents

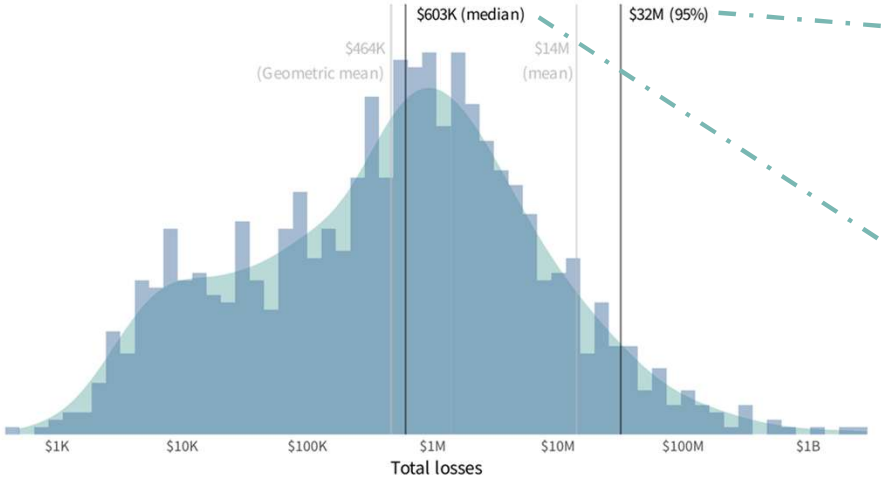


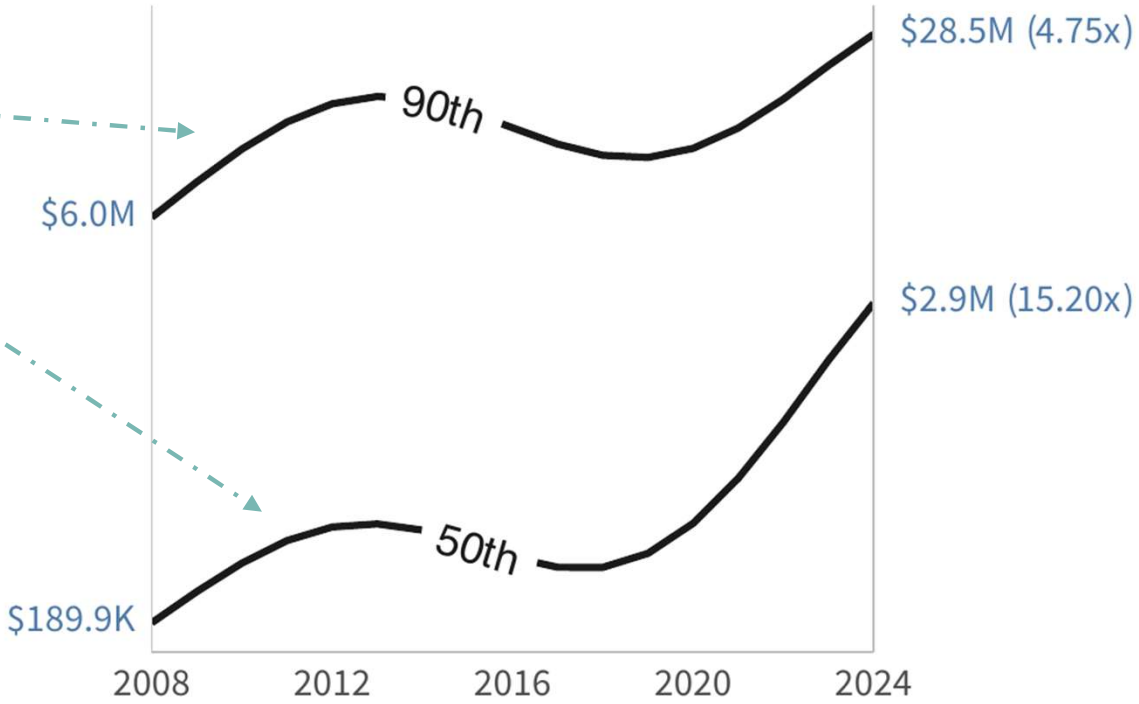

*Source: Cyentia Institute (2025)*




Comparison of reported financial losses from incidents by source

# Median losses 15 times higher; extreme up 5X



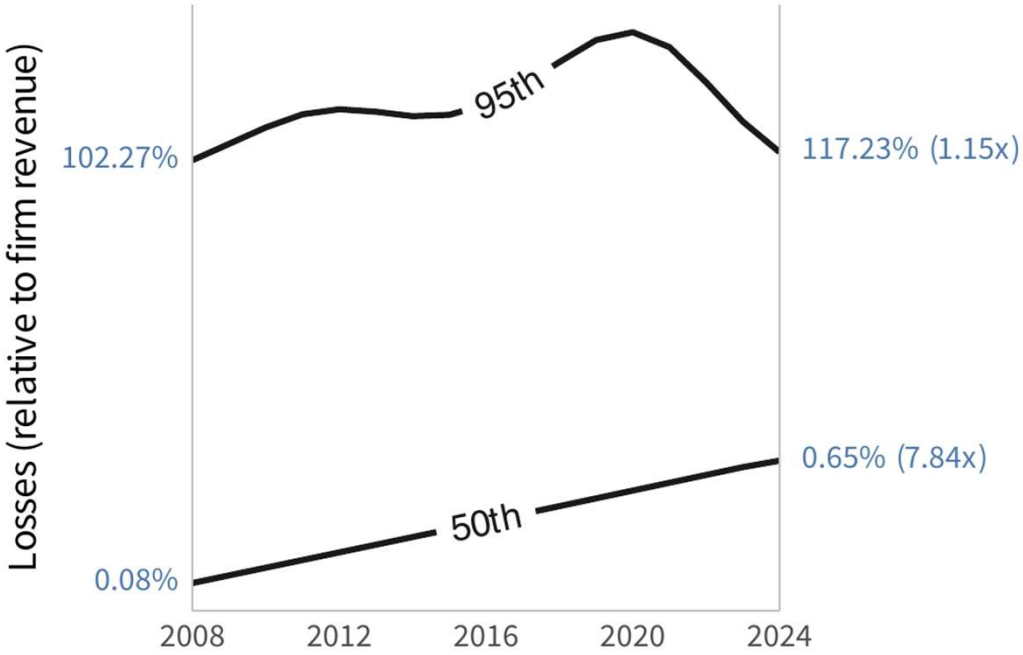




Trend analysis of median and 90th percentile losses

# Costs growing as a proportion of annual revenue

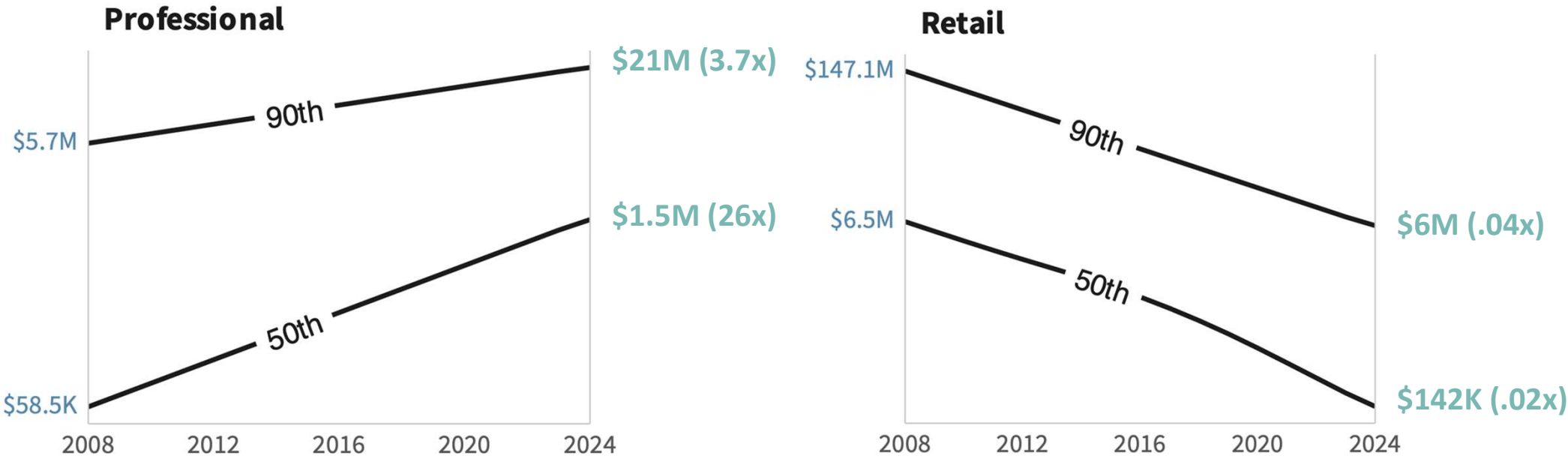
| Revenue | Loss percentile 50% | 95% |
|---|---|---|
| More than $10B | $2.2M | $266.2M |
| $1B to $10B | $1.8M | $61.8M |
| $100M to $1B | $466.7K | $12.3M |
| Less than $100M | $357.0K | $9.1M |

Loss statistics by revenue tier



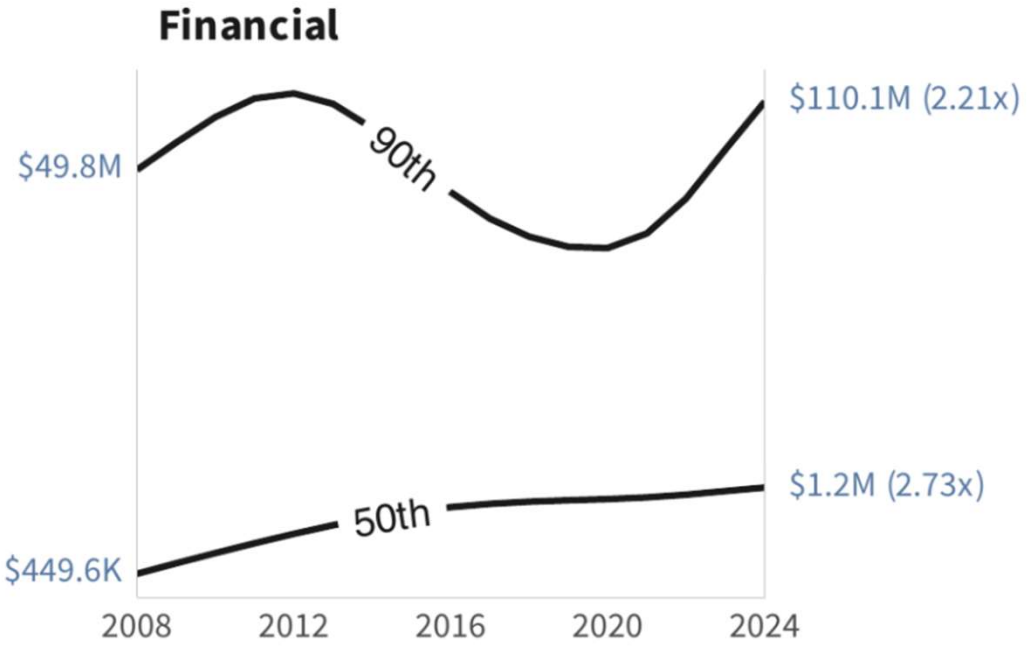

Trend analysis of median and 95th percentile losses as a percent of revenue

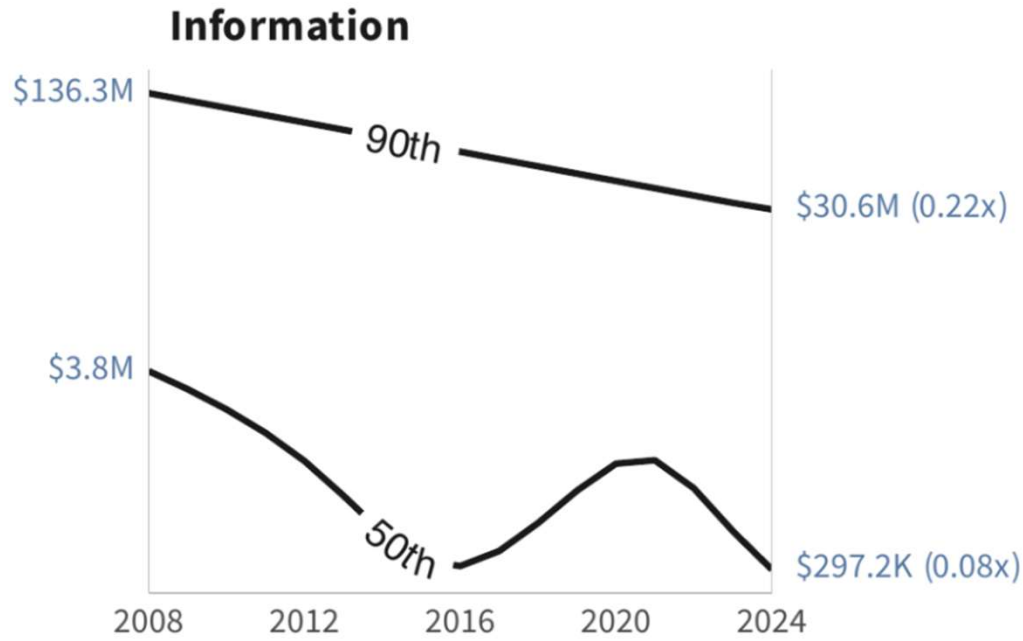
# Losses up for some sectors; down for others




Trend analysis of median and 90th percentile event losses for example sectors

# Losses up for some sectors; down for others

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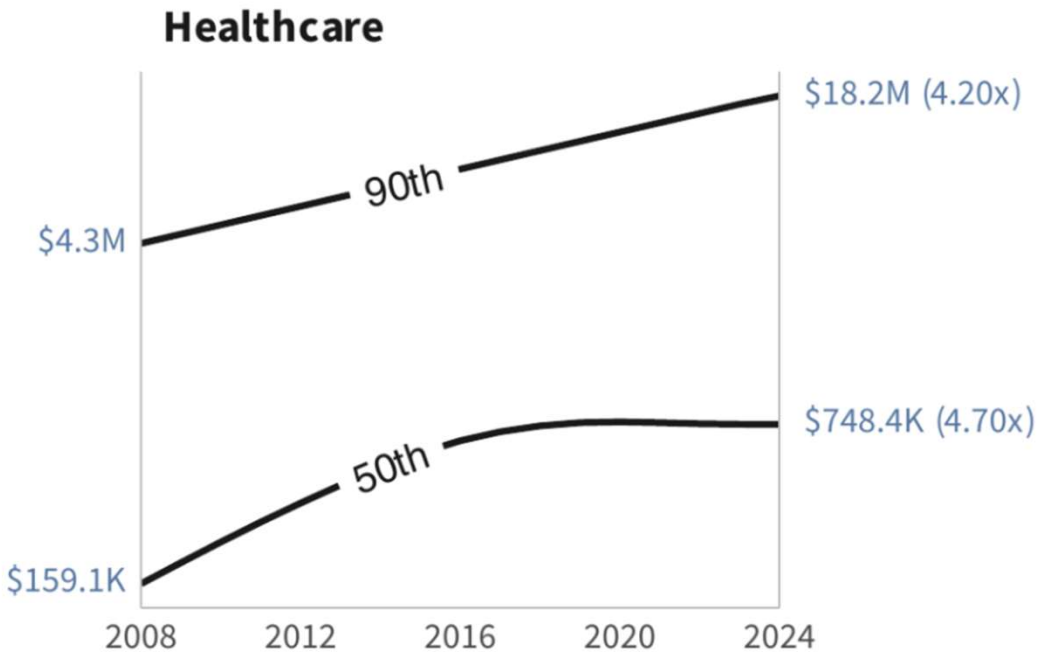


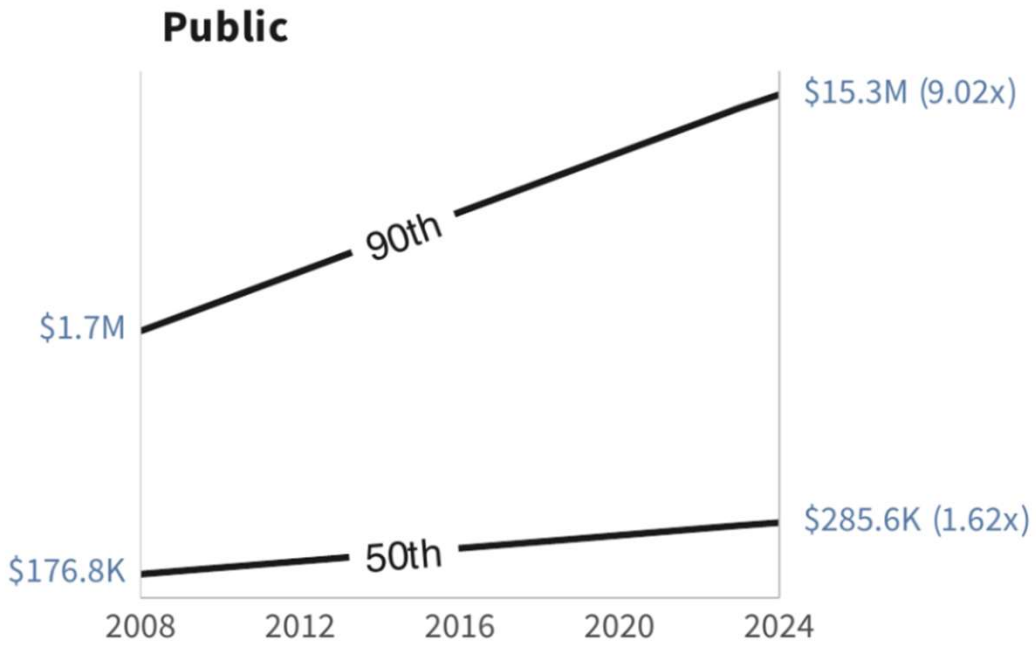


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# Do loss trends differ among event types?

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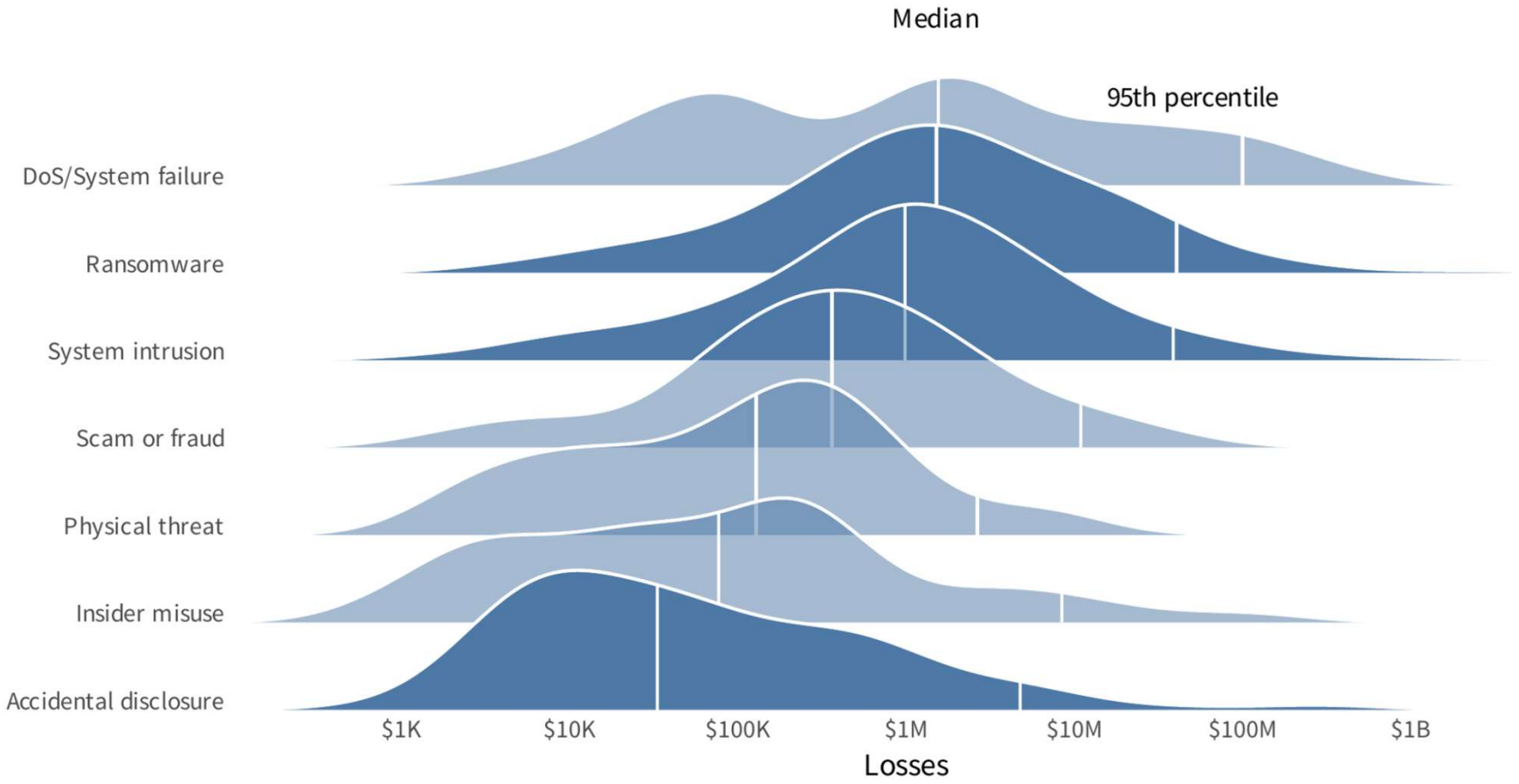
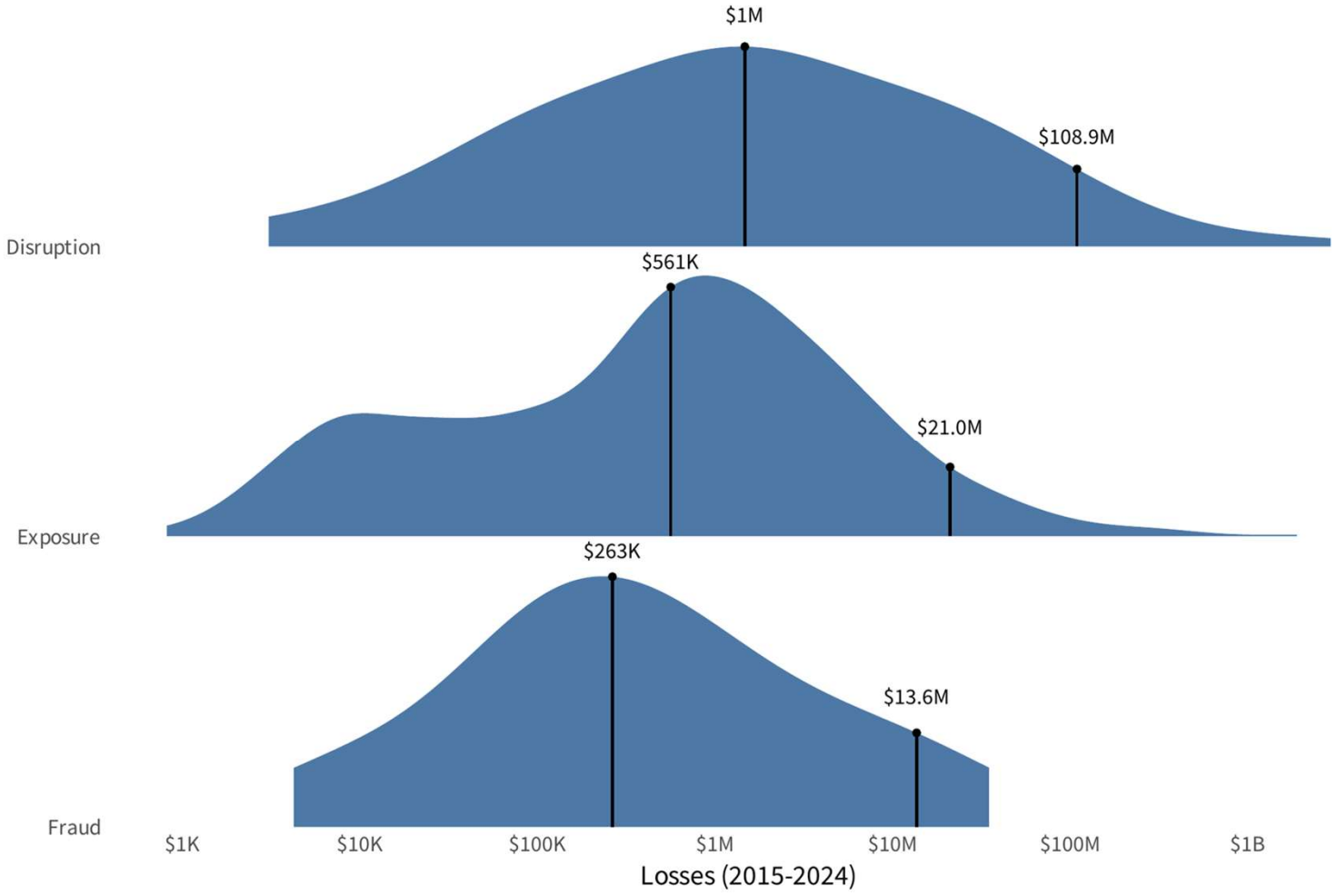
# Loss distributions vary by incident type




Distribution of reported losses by incident pattern (2008 to 2024)

# Loss distributions vary by technical outcome

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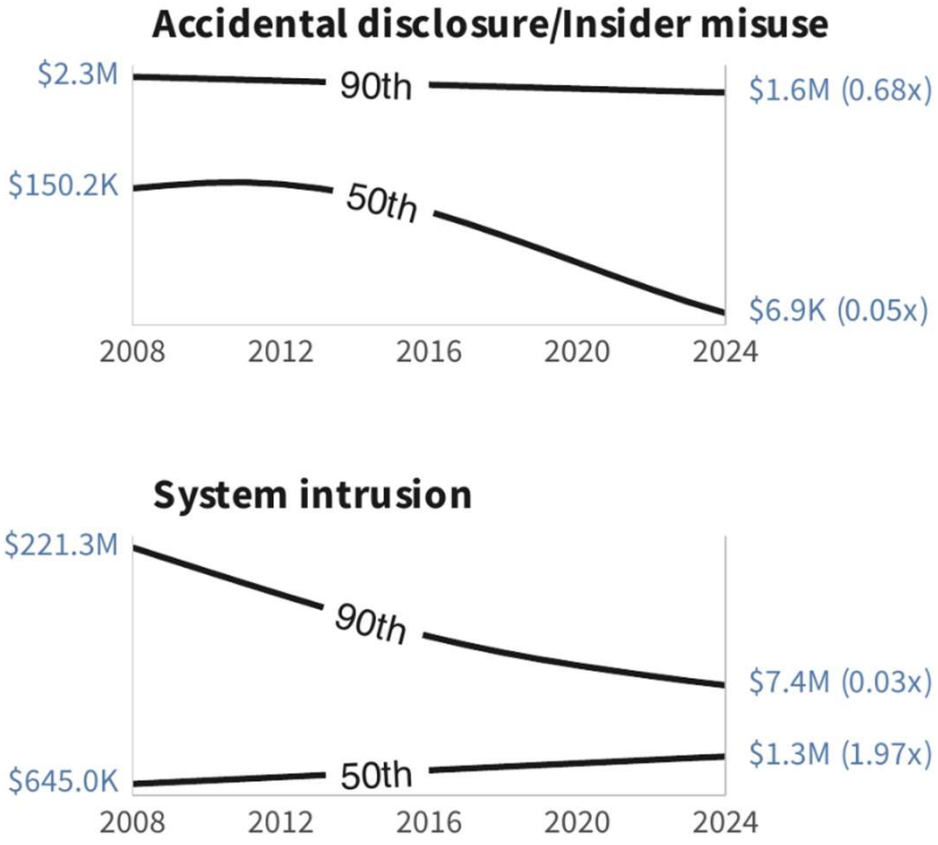
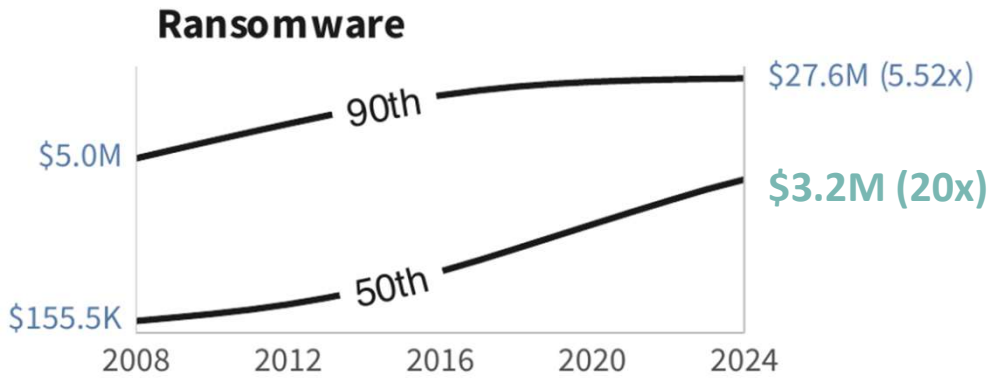
# Loss trends vary by incident type




Trend analysis of median and 90th percentile losses by incident pattern

# Are intrusion methods changing over time?

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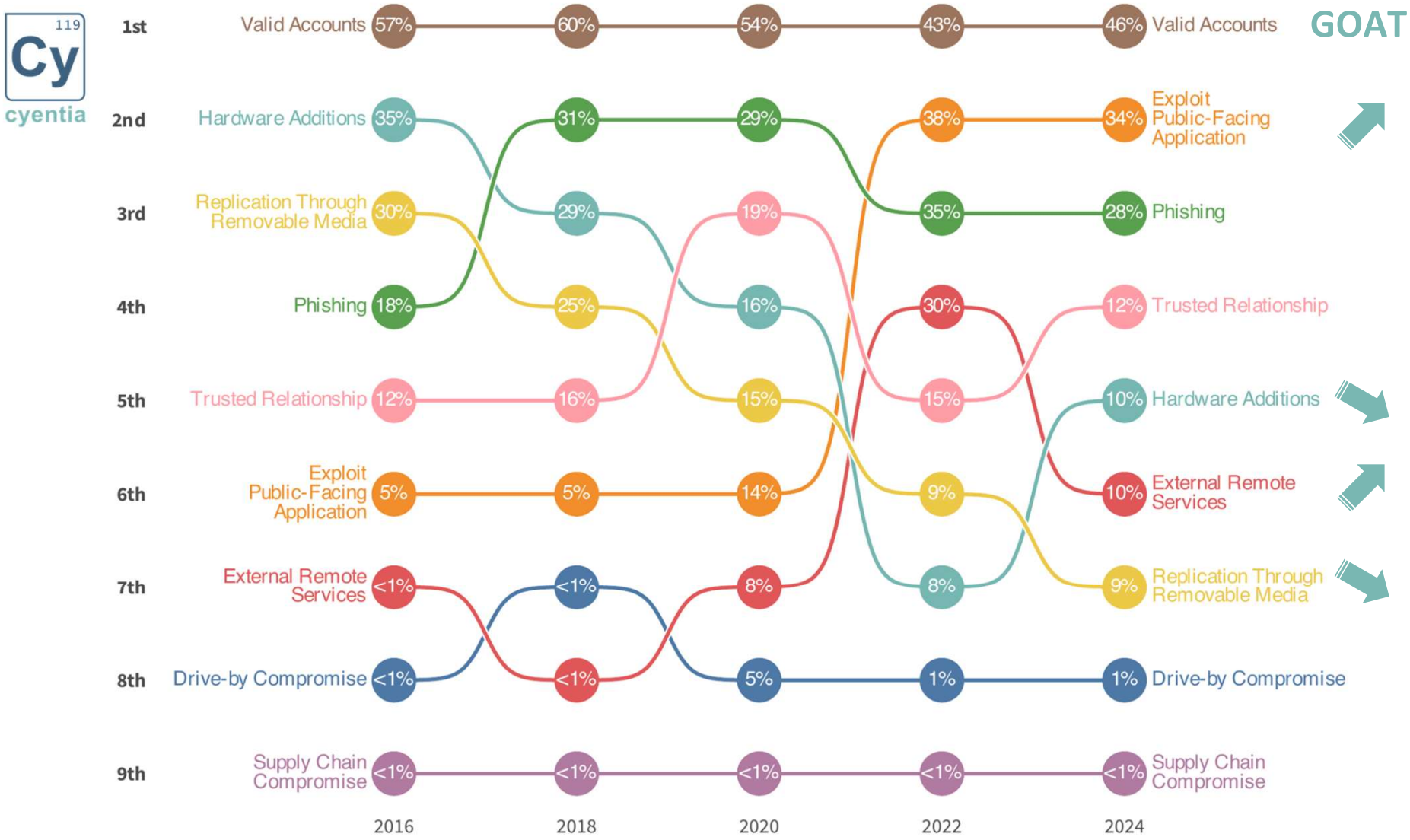



Prevalence of ATT&CK Initial Access techniques observed in incidents over time

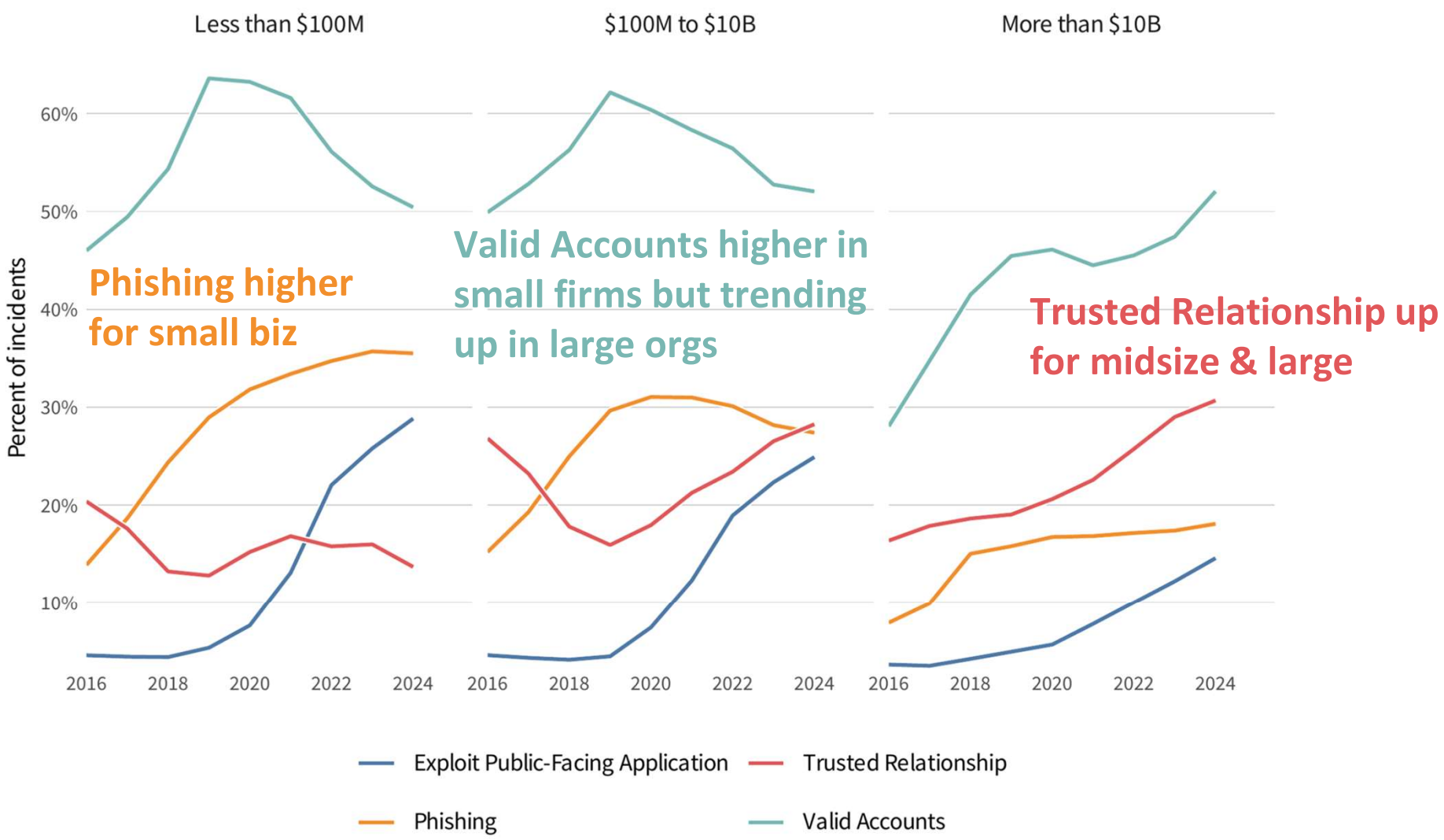
# Supply chain compromise: Last place or top 3?

## Frequency of MITRE ATT&CK Initital Access Techniques

Top ATT&CK initial access techniques identified by Cyentia (2014-2023 & 2024) and Feedly (2024)

| Name | Cyentia (2014-2023) | Cyentia (2024) | Feedly |
|---|---|---|---|
| Phishing (T1566) | 2nd | 3rd | 1st |
| Valid Accounts (T1078) | 1st | 1st | 2nd |
| Exploit Public-Facing Application (T1190) | 6th | 2nd | 6th |
| **Supply Chain Compromise (T1195)** | 9th | 9th | **3rd** |
| **Hardware Additions (T1200)** | **3rd** | **5th** | - |
| Drive-by Compromise (T1189) | 8th | 8th | 4th |
| Replication Through Removable Media (T1091) | 4th | 7th | 7th |
| **Trusted Relationship (T1199)** | **5th** | **4th** | - |
| External Remote Services (T1133) | 7th | 6th | 5th |

Comparison of top ATT&CK Initial Access techniques observed in incidents by source




Prevalence of ATT&CK Initial Access techniques observed by revenue size

# Tips for Data-Driven Risk Analysis

1. Get your FAIRings straight
2. Tip 2: Aim high; adjust low

    Tip 2.5: You don't have to play FAIR

1. You're inherently wrong
2. Tip 4: Enter the Multiverse
3. Tip 5: Use the IRIS!

# Thank you!

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