



Bribery and corruption

Integrating forensic data analytics in anti-corruption compliance programs

January 23, 2012



Mary Jacoby and Main Justice



MAIN JUSTICE
POLITICS, POLICY AND THE LAW

- ▶ Mary Jacoby is an award-winning former reporter for the Wall Street Journal, Salon magazine, the St. Petersburg Times of Florida, the Chicago Tribune and Roll Call. From 2005 – 2007 she reported from Brussels for the Wall Street Journal, where she covered European Union antitrust and regulatory issues, breaking numerous stories about investigations involving Intel, Microsoft Corp., MasterCard and other major companies.
- ▶ Her investigations have ranged from the influence of Russian oligarchs in Washington to terrorist financing and white-collar crime.

Presenters



Vincent Walden

Partner in Ernst & Young LLP
vincent.walden@ey.com
+1 212 773 3643

Vince specializes in text analytics, forensic data mining and electronic discovery services.

He is experienced with providing clients anti-fraud-based innovation, research and analytics, that integrate statistical, visual and text-based forensic data analytics techniques.

Vince leads teams to help clients discover patterns and anomalies of payment and financial data, as well as employee behavioral analytics, leveraging data mining technologies and extensive libraries of anti-fraud and corruption tests.



Tom Pannell

Senior Manager in Ernst & Young LLP
tom.pannell@ey.com
+1 212 773 1146

Tom has extensive experience leading large complex investigations and proactive anti-fraud projects.

He specializes in fraud and investigation matters related to bribery and corruption, forensic accounting, US Foreign Corrupt Practices Act (FCPA) violations and corporate fraud prevention.

Tom has significant experience working overseas and has led corruption projects in the Americas, Europe, Asia and Africa.

Fraud Investigations & Dispute Services(FIDS)

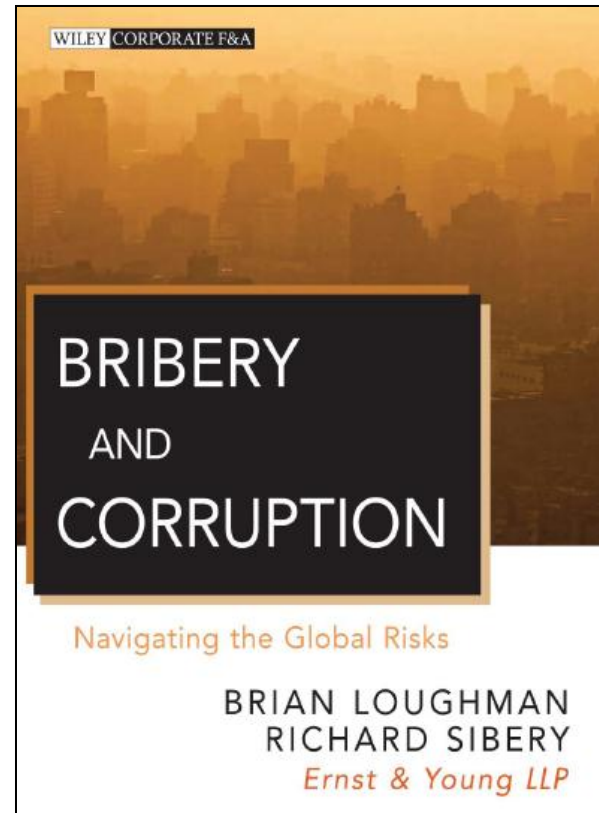
Our professionals have experience performing a wide variety of services, including:

- ▶ Fraud & Investigations
- ▶ Dispute services
- ▶ Forensic technology and discovery services
- ▶ Anti-fraud services
- ▶ Corporate compliance
- ▶ Insurance claims services
- ▶ Government contract services

FIDS is a global practice with offices in more than 60 countries with more than 1,400 practitioners.

Bribery and Corruption -- Navigating the Global Risks

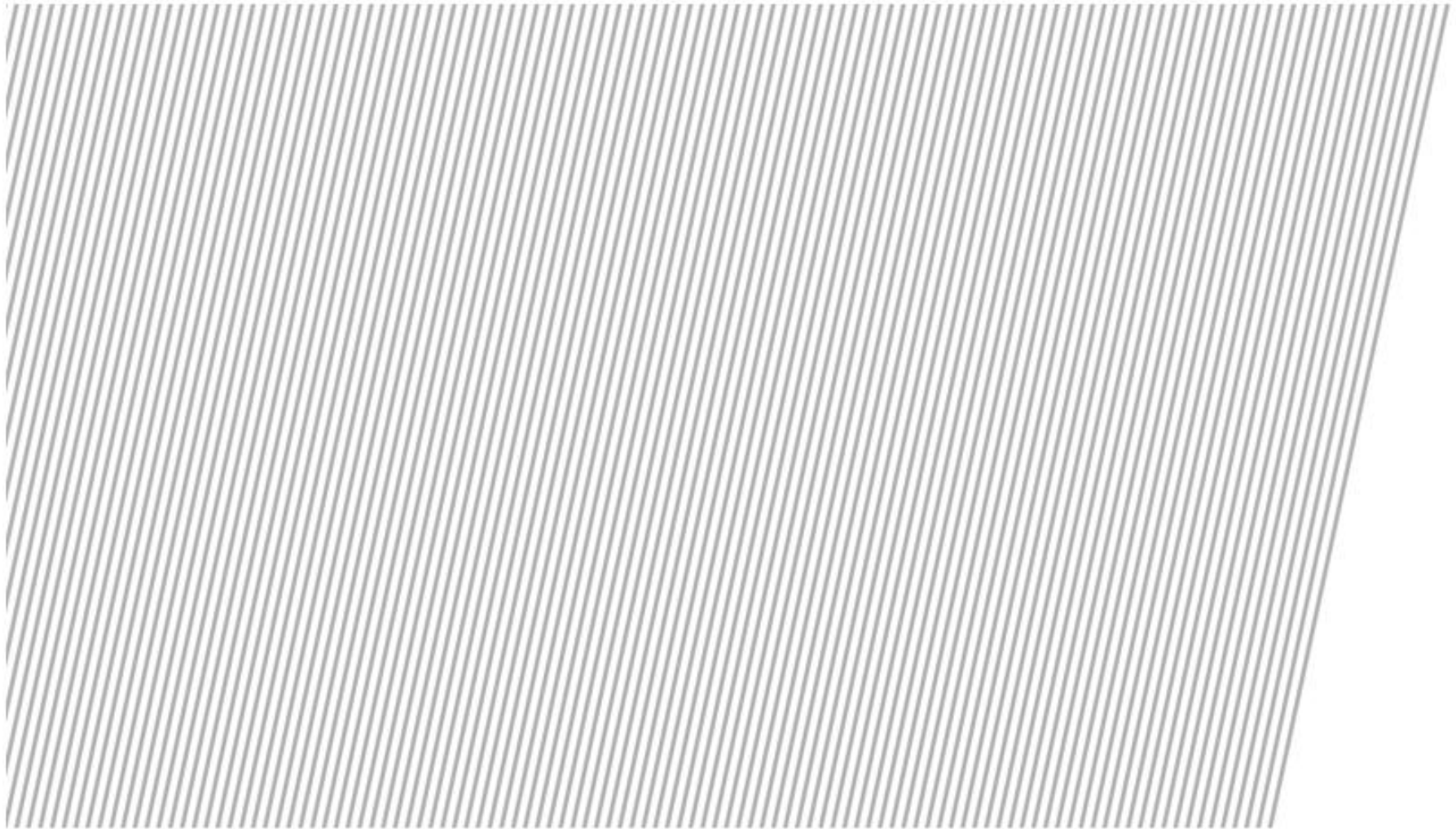
- ▶ An accountant's view of bribery and corruption, its implications and how to deter, detect and prevent
- ▶ Provides industry and geographic perspectives
- ▶ Presents real-life examples of the challenges facing companies conducting business abroad
- ▶ Provides insights about how an effective compliance program can reduce the risks of bribery and corruption



Today's topics

- ▶ Risk mitigation trends for 2012
- ▶ Anti-corruption compliance programs
- ▶ Integrating forensic data analytics
- ▶ Q&A

Risk mitigation trends for 2012

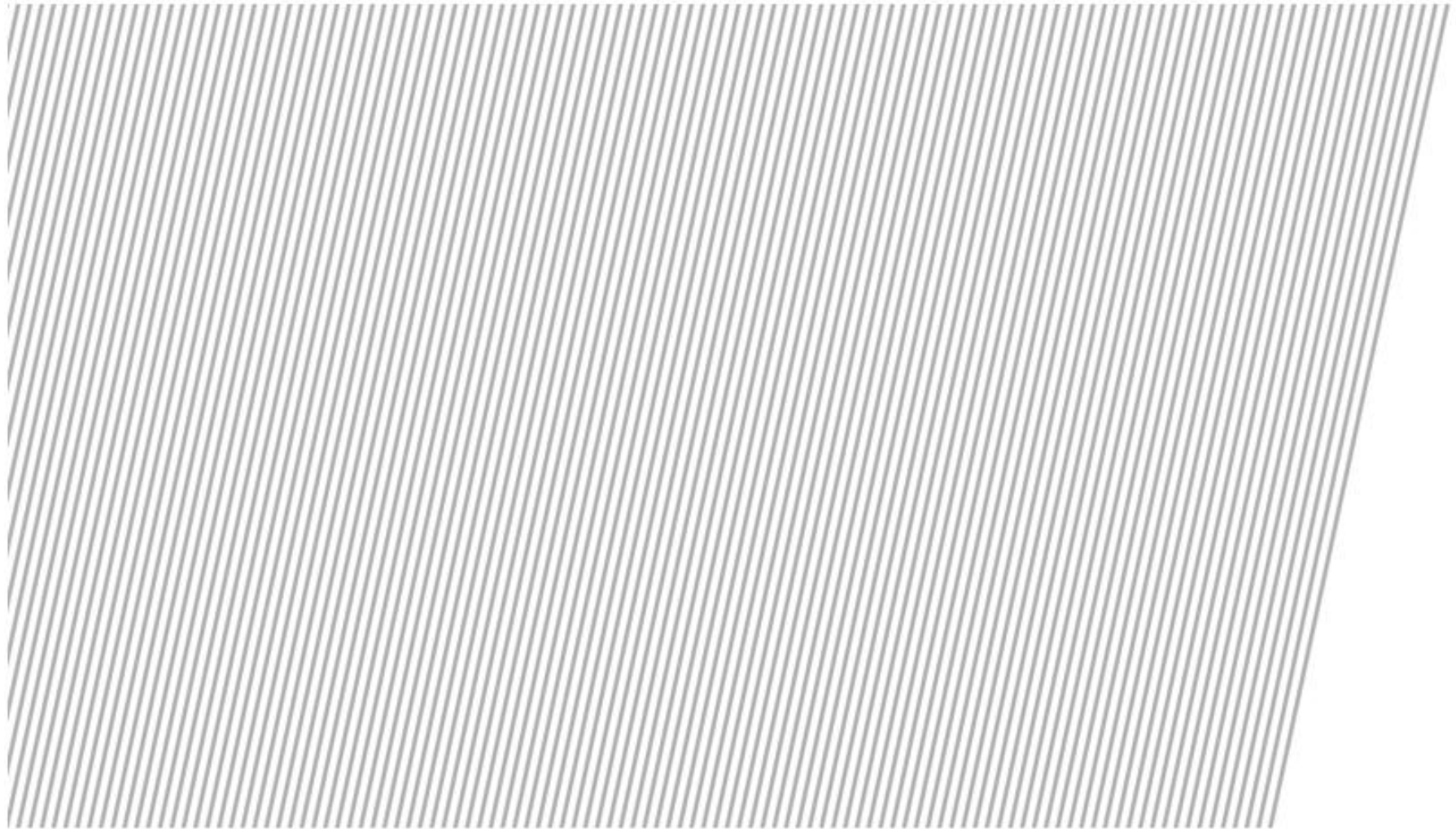


Risk mitigation trends for 2012

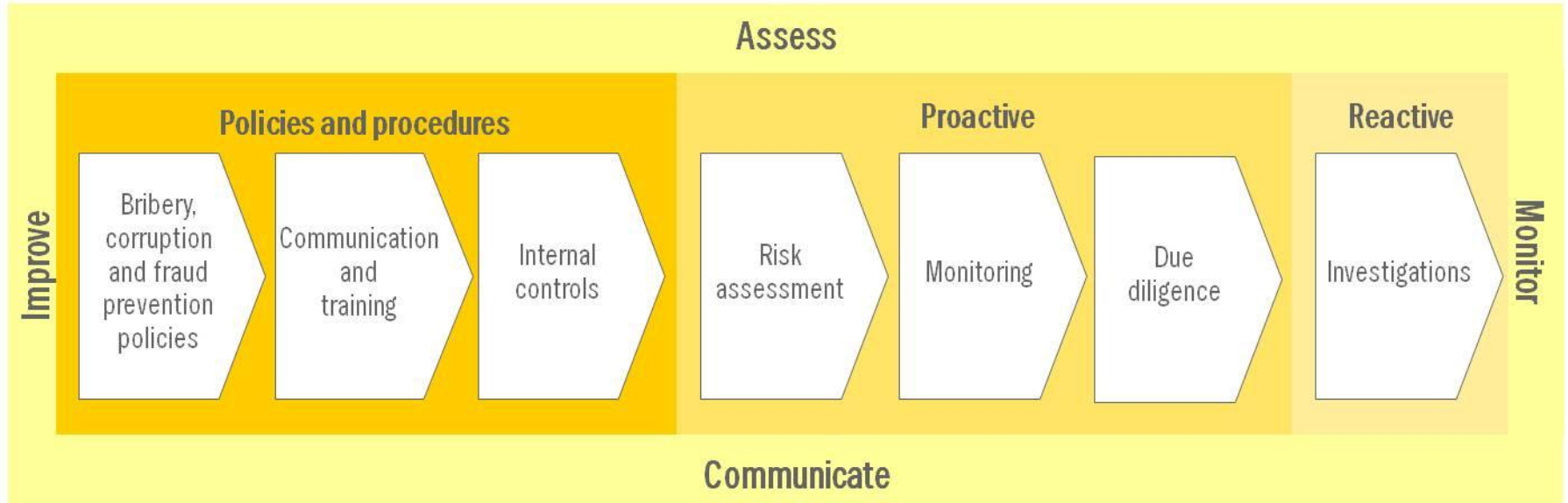
Legal, compliance and accounting professionals will need to integrate new methodologies and processes designed to detect and prevent bribery and corruption.

- ▶ Heightened awareness of provisions in contracts with third parties, such as agents and consultants
- ▶ Incorporating comprehensive reviews and controls into merger, acquisition and joint venture due diligence
- ▶ Implementing or enhancing monitoring programs
- ▶ Increased use of forensic data analytics tools
- ▶ Reviewing internal controls and corporate compliance policies

Anti-corruption compliance programs



Anti-corruption compliance programs



The goal of an anti-corruption compliance program:

Deter, detect and prevent bribery and corrupt payments.

Accomplished through people, processes, and technology.

Anti-corruption compliance programs

Monitoring

- ▶ Objective
 - ▶ Audit for compliance with the anti-corruption compliance program
 - ▶ Test for substantive compliance (transaction testing)
- ▶ Key steps
 - ▶ Develop monitoring program
 - ▶ Define roles and responsibilities
 - ▶ Planning and preparation
 - ▶ Consider anti-bribery and corruption “ABC” data analytics
 - ▶ Procedures typically include:
 - ▶ In-country fieldwork
 - ▶ Interviews
 - ▶ Transaction testing
 - ▶ Reporting, follow-up and remediation
- ▶ Effective compliance monitoring requires cooperation among:
 - ▶ Leadership
 - ▶ Legal/compliance
 - ▶ Finance
 - ▶ Internal audit

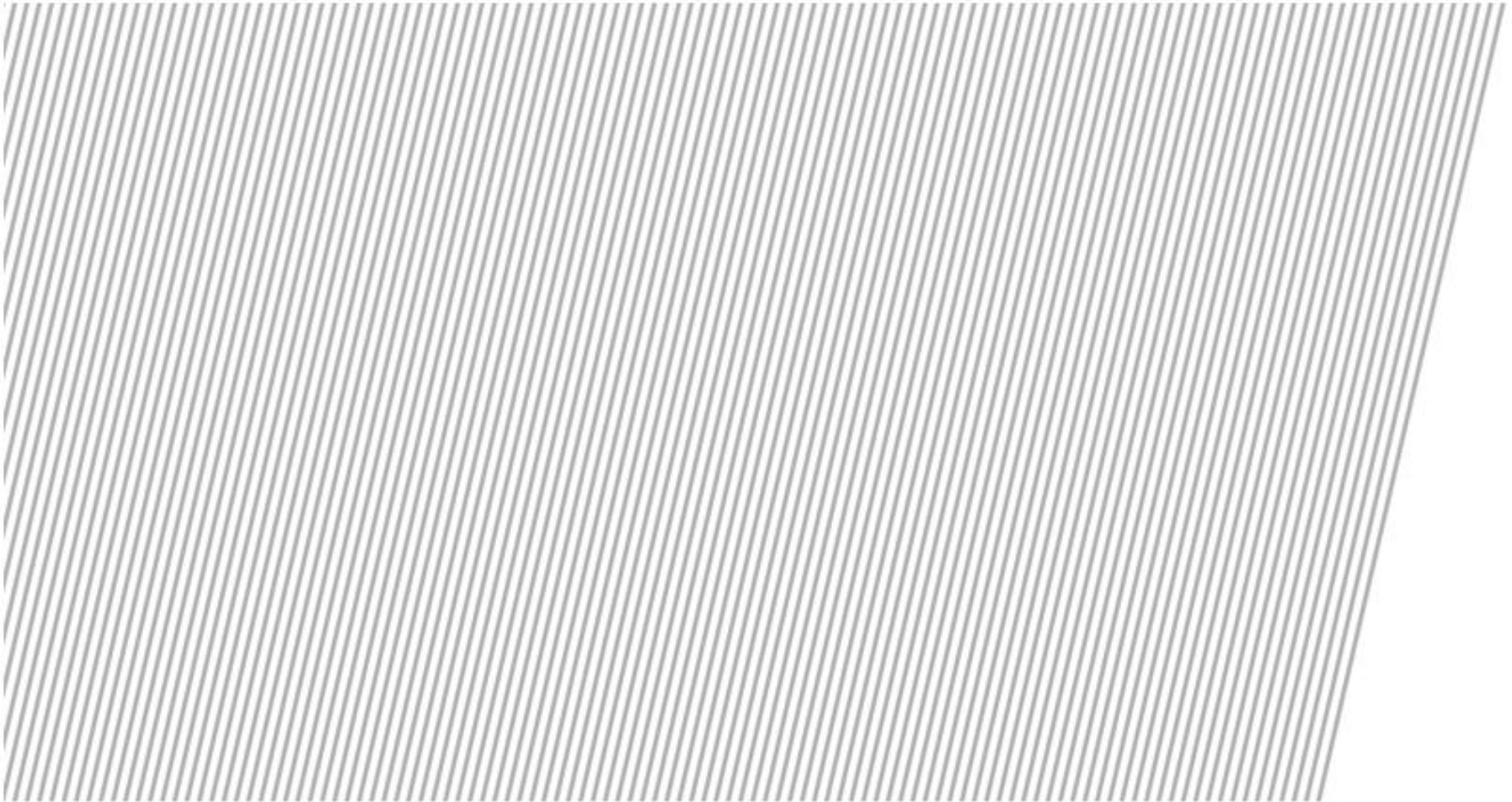
Anti-corruption compliance programs

Monitoring

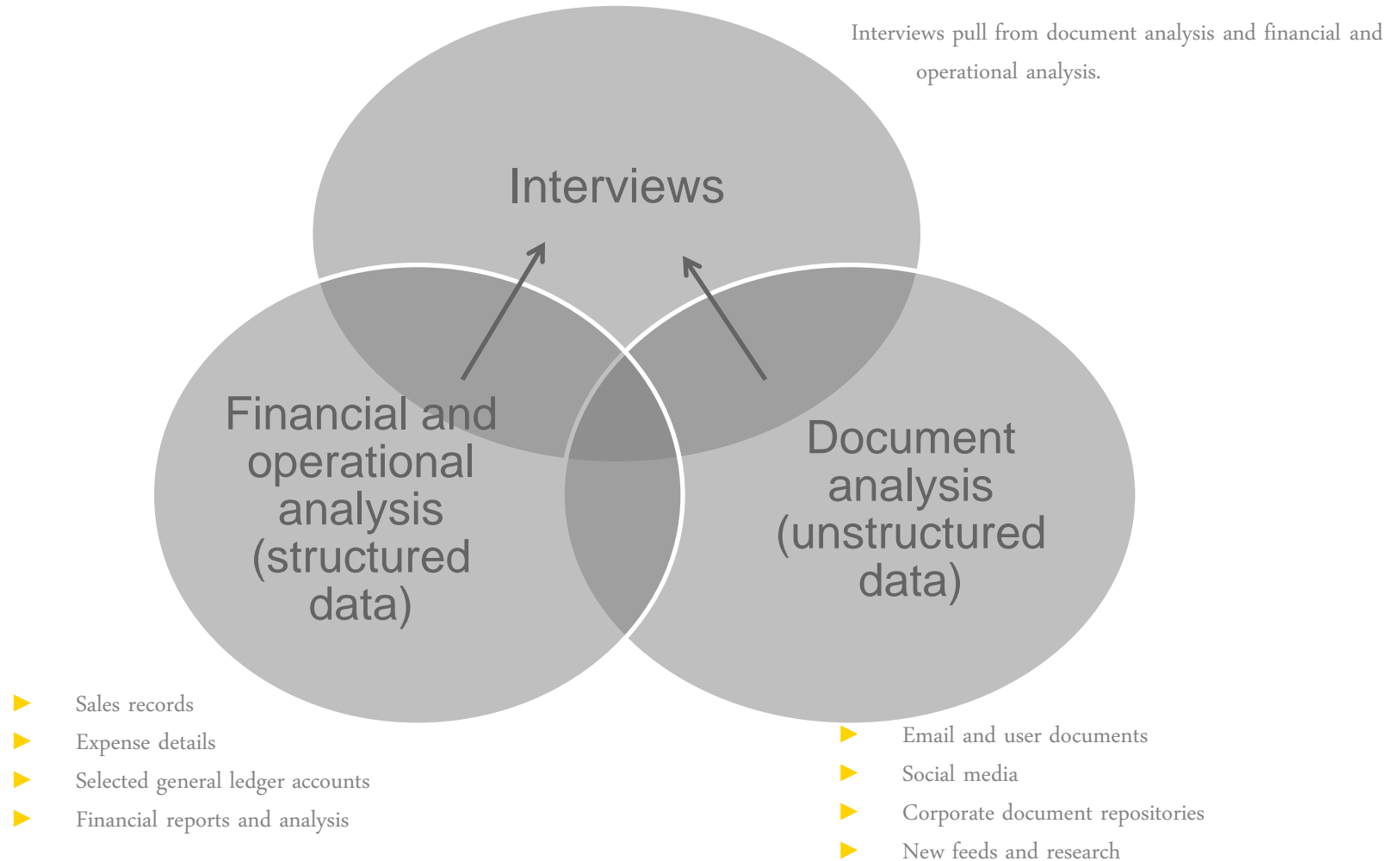
▶ Challenges:

- ▶ How does monitoring fit into the overall compliance structure?
- ▶ How to address an inadequate or non-existent risk assessment?
- ▶ What to do when an issue is identified?
- ▶ How to incorporate issues and observations?
- ▶ How to deal with the volume and complexity of transactional information across multiple regions?

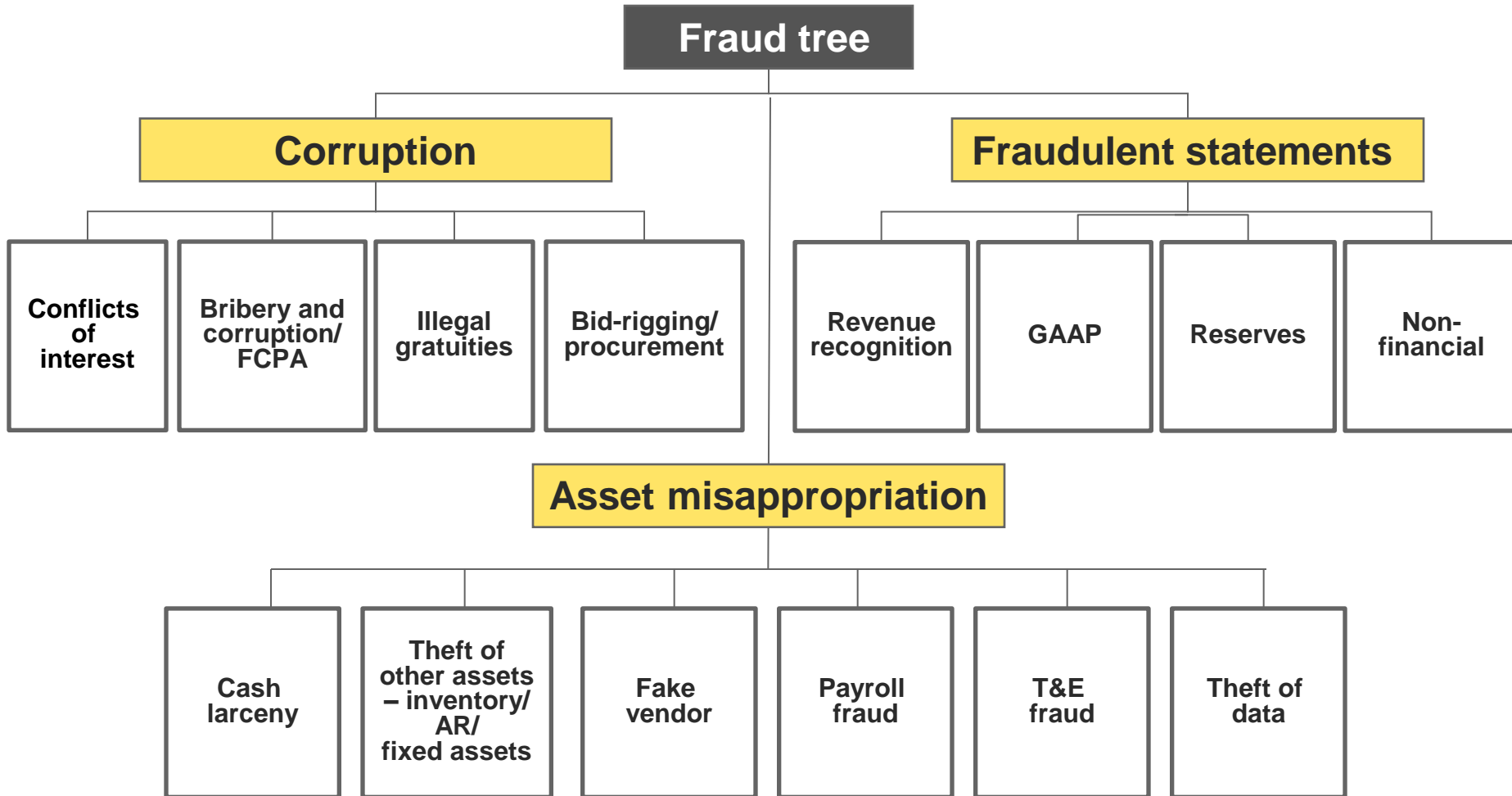
Integrating forensic data analytics



Fact gathering

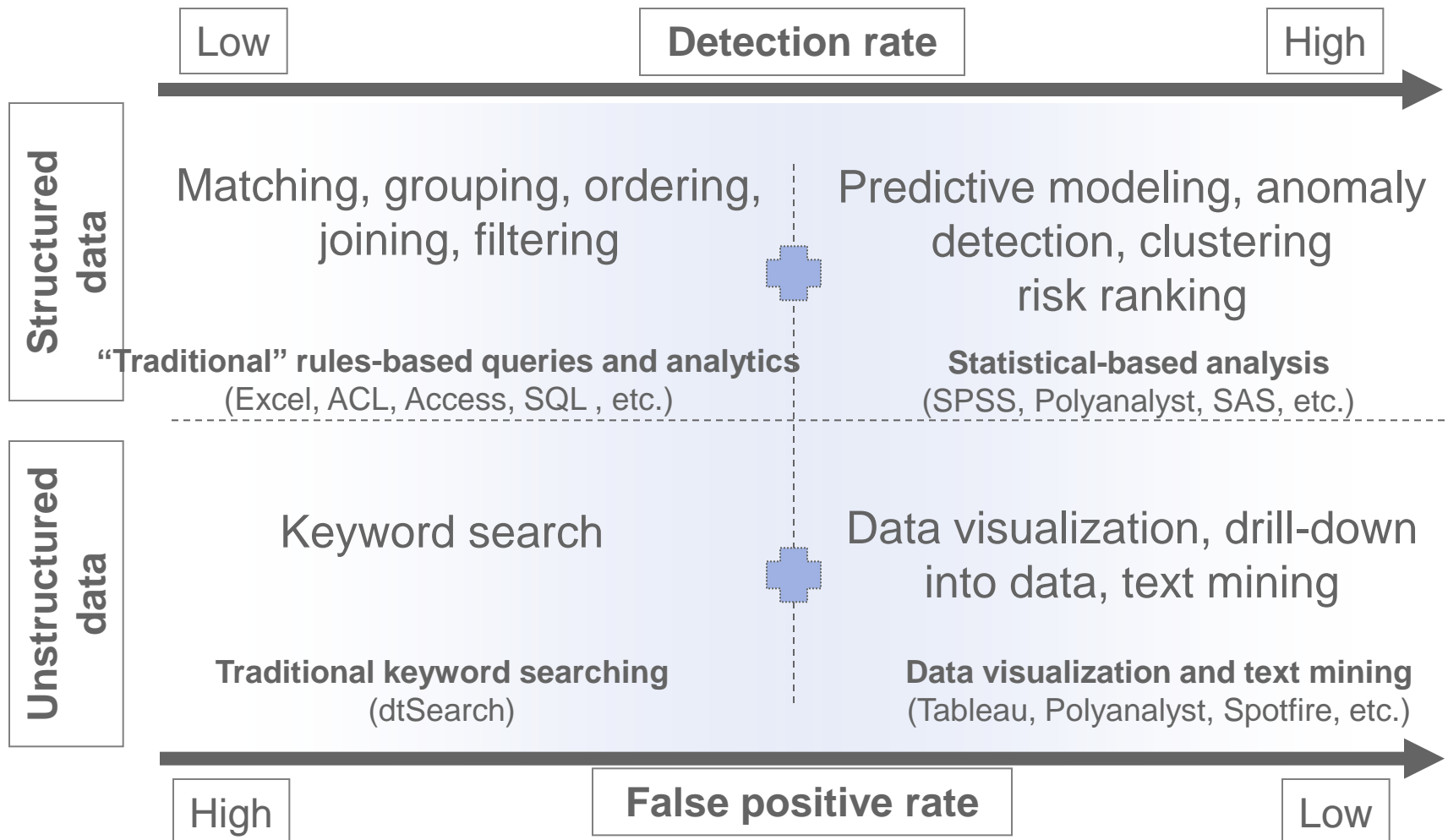


The fraud tree



ABC analytics frame work

Beyond traditional “rules-based queries” – consider all four quadrants



Focus on the payment text descriptions

What if you saw these terms used as justification for payments to third parties?

Nobody calls it “bribe expense”

Stipend *Government fee* *Pay on behalf of*

Friend fee *Special commission* *Honorarium*

Help fee *One-time payment* *Consulting fee*

Commission to the customer *Special payment* *Team-building expense*

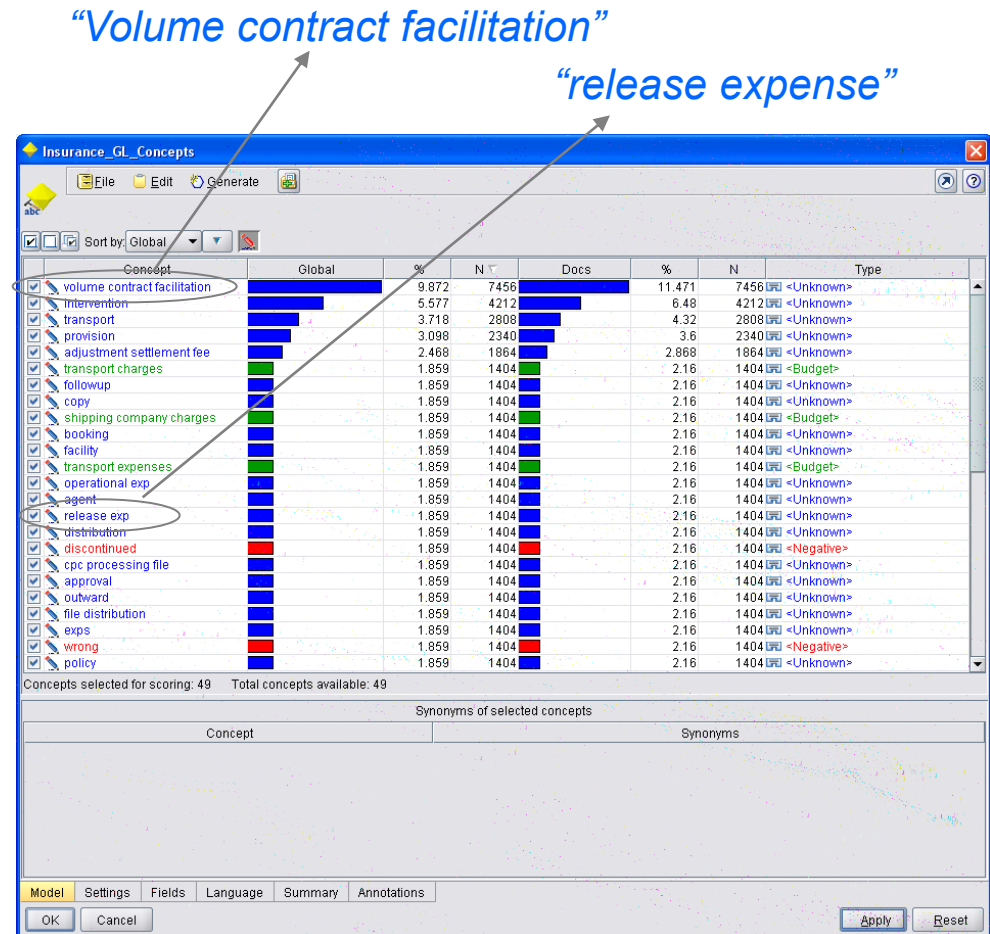
Incentive payment *Volume contract incentive*

Processing fee

Text mining in the cash disbursements journal

Identify potentially improper payments

- Perform Text Analytics on free text fields
- Conduct “term frequency” analysis for most occurring or unusual transaction descriptions
- Capture “concepts”



Text mining: *Disbursements Analysis*



Concept Analysis

Concept	Debit Max	Credit Min	Record Count
invoice entry	\$4,285,685	(\$5,494,722)	17,190
cash receipts entry	\$9,991,555	(\$9,991,555)	13,899
transfers	\$24,000,000	(\$24,000,000)	12,789
batch	\$334,142	(\$555,532)	12,498
facilitation payment	\$9,834	(\$126)	12,390
check payment	\$9,079	(\$50,236)	10,804
garnishments	\$9,079	(\$50,236)	10,803
checks	\$8,813,648	(\$3,647,019)	10,175
state disbursement unit	\$4,761	(\$172)	8,959
credit union	\$24,000,000	(\$24,000,000)	8,738
check register	\$5,494,722	(\$5,494,722)	8,308
sponsorship to congress	\$20,000	(\$226)	7,928
inventory write-off	\$8,440,196	(\$8,440,196)	7,787
chk	\$334,142	(\$133,912)	7,651
payment batch	\$848,009	(\$5,494,722)	7,578
nets	\$8,813,648	(\$3,647,019)	6,765
port entry fee	\$233,319	(\$597,862)	6,751
december	\$116,466,911	(\$125,337,813)	5,668
connecticut-ccspc	\$3,097	(\$127)	5,373
wire	\$70,000,000	(\$70,000,000)	5,324
franchise tax board	\$12,000,000	(\$12,000,000)	4,835
inventory tax	\$2,516,485	(\$2,516,485)	4,830
march	\$110,194,369	(\$112,684,746)	4,728

Number of Records Comprised

20,318

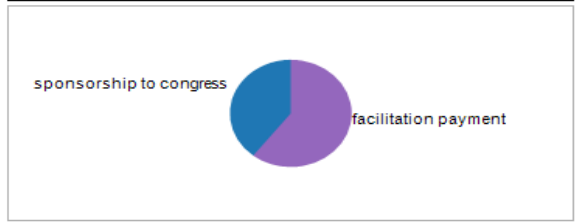
Average of Credit Min: (\$176) | Average of Debit Min: \$0

Average of Credit Max: \$0 | Average of Debit Max: \$14,917

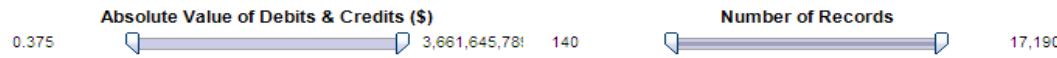
Average of Credit Sum: (\$612) | Average of Debit Sum: \$1,457,373

Concept Search

Concept Comparison



- Concepts
- facilitation payment
 - sponsorship to congress



Anti-Bribery & Corruption Analytics

Who entertained whom, where, why, what and for how much?



EY Anti Bribery & Corruption Analytics | XYZ Corp Limited
Travel & Entertainment Analysis

Concept Search

Purpose Search

Incurring Employee

- (All)
- Adams, Andrew S
- Adams, John
- Alston, Raefer D
- Anthony, Paul M
- Ashley, Laura
- Ashley, Leslie
- Baker, Andrew R
- Baker, Bob

Approving Employee

- (All)
- Alexandra, Alex
- Alston, Ian D
- Alston, Raefer
- Arns, Matthew J
- Barker, Bob
- Barker, Bryan G
- Barnes, Raymond
- Barwick, Maurice

Expense Amount (€)

€2 €35,678

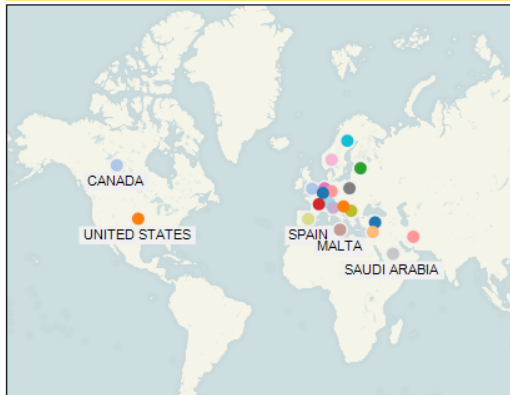
Transaction Date

- (All)
- 2000
- 2008
- 2009
- 2010

Payment Type

- (All)
- BigBank Corp Card
- Cash
- Corp Card
- P-Card

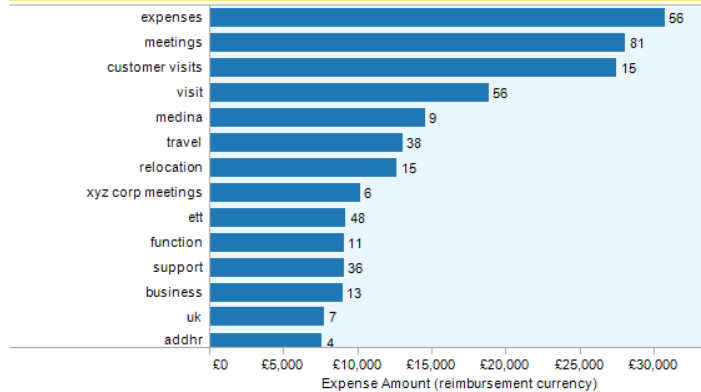
WHERE | Country Incurred



Expenses by Country

UNITED KINGDOM	€338,901
SAUDI ARABIA	€30,260
UNITED STATES	€27,889
IRAN	€14,448
BELGIUM	€3,807
GERMANY	€3,135
SERBIA	€2,480
SWEDEN	€2,413
SWITZERLAND	€1,615
NETHERLANDS	€949
CANADA	€917
TURKEY	€912
SPAIN	€594
CYPRUS	€358
POLAND	€252
CROATIA (local na...	€251

WHY | Expense Concept



WHAT | Expense Type

Expense Type	Number of Records	Amount
Airfare	450	€145,474
Hotels	1,094	€122,695
Meals	1,454	€22,652
Car Rental	205	€17,060
Parking	476	€16,406
Train/Bus/Tube/Others	700	€15,785
Car Mileage - Personal	448	€14,595
Car Mileage - Company	753	€13,599
Relocation	30	€12,929
Taxi	490	€10,743
Entertainment	127	€9,863
Booking Fees	307	€6,544

HOW | Expense Description

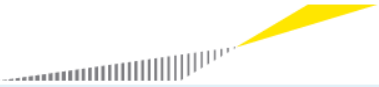
Employee-Described Purpose	Number of Reco..	Amount
(Not Populated)	92	€18,731
VTI Visit, Conti Visit, Ops Council Meeting, OP..	55	€9,158
ASEFI meetings in Medina	12	€77
various expenses HR Review	3	€3,125
Company expenses Trip to Washington to Att..	1	€1,938
Ops Strategic Meeting, Xmas Function, Year ..	12	€4,030
To attend LEP in Washington (which was canc..	2	€3,760
CQI Subscription, Supplier Quality Council Me..	20	€3,586
RSL Ops Review, Ops Council Meeting, OPC ..	12	€169
Relocation Relocation	6	€4,258
Operations workshop	50	€2,293
Travel, Telephone and Entertaining, Homele..	1	€1,631

WHO | Employee

Employee	Employee Assigned to Step	Number of Records	Amount
Adams, Andrew S	Busy, Stephen S	38	€352
Adams, John	Kelly, John L	29	€1,001
Alston, Raefer D	Jamieson, William	66	€2,771
	Smith, David G	44	€1,185
Anthony, Paul M	Missett, Samantha	45	€602
Ashley, Laura	Woods, Andrew P	98	€2,917
Ashley, Leslie	Lawson, David T	49	€1,927
	Lawson, Michael T	2	€18
Baker, Andrew R	Woodstock, Michael G	22	€5,873
Baker, Bob	Woodstock, Michael G	3	€242
	Woodstock, Peter	18	€910
Baker, David E	Barwick, Maurice	1	€13

Anti-Bribery & Corruption Analytics

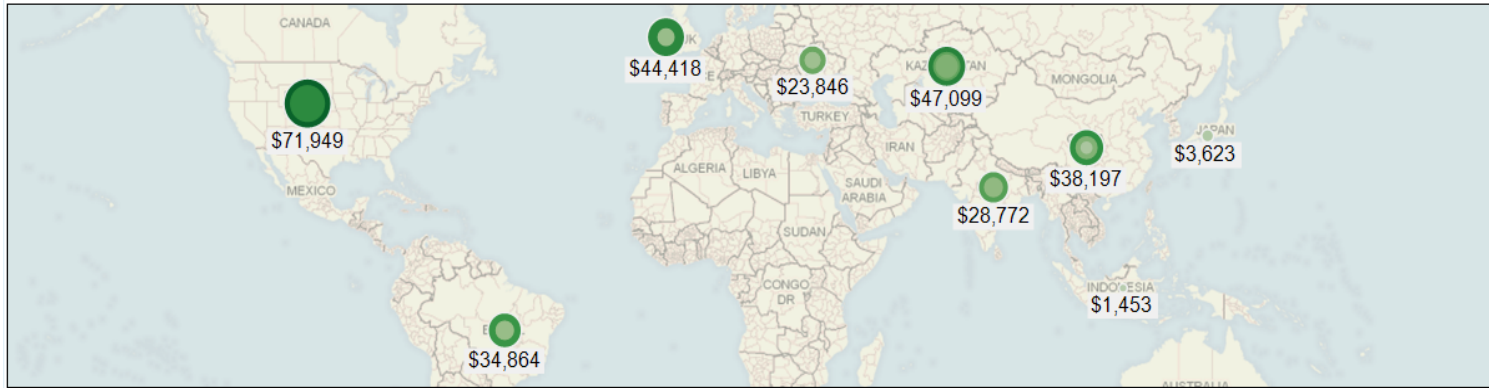
Who said what, where and how much?



FCPA Risk Assessment & Monitoring
XYZ Manufacturing

Disbursements to Review
199

Disbursements by Country



My Filter Selections

- Payment Type**
- (All)
 - Foreign Official
 - Foreign Political Party
 - Legitimate
- Payment Authorizer**
- (All)
 - E. Sakan
 - E. Smith
 - J. Nelson
 - M. Paulson
 - R. Paulson
- Disbursement Description**
- (All)
 - AIRPORT CONTROLLER
 - CARRY OUT
 - EXPENSE
 - FACILITATION PAY
 - HELP FEE
 - INVOICE
 - LOAD UP
 - LOAD UP FEE
 - MGMT FEE
 - PROBLEM RESOLUTION
 - REIMBURSE
- Payment Date**
- (All)
 - February 2008
 - March 2008
 - April 2008
 - May 2008
 - June 2008
 - July 2008
 - August 2008

Disbursement Totals

Country	Text	Authorizer	Amount
Brazil	PROBLEM RESOLUTION	E. Smith	\$7,000
	PROBLEM RESOLUTION	M. Paulson	\$10,000
Brazil	TO GET THINGS MOVING	E. Smith	\$2,000
	TO GET THINGS MOVING	R. Paulson	\$3,000
China	CARRY OUT	E. Smith	\$4,000
	EXPENSE	E. Sakan	\$8,000
		E. Smith	\$10,000
		M. Paulson	\$4,000
	EXPENSE	R. Paulson	\$7,000
	FACILITATION PAY	R. Paulson	\$2,000
INVOICE	E. Sakan	\$4,000	
		E. Smith	\$4,000

Payment risk scoring demonstration

EY Payment Sample Selection Tool



Review breaches on targeted analytics

Project XYZ
Payment Sample Selection Tool

Back 1 2 3 4 Next

EY_ID	Item Text	Risk Score	#7 - Outliers	#8 - Extracted Entities	#9 - Sequential Invoice	#10 - Invoice Incomplete	#12 - Max Risks	#13 - Max Risks	#14 - One	#15 - Cyclical Change	#16 - VMD Change & Chec...	#17 - VMD Change & Auto...	#18 - VMD Change & Man...	#19 - VMD Change & Invo...	#20 - VMD Change for Delet...	#21 - Statistical Cluster An...	#22 - Low Dollar High Freq...	#23 - High Dollar Low Freq...	#24 - Round Payment Amnt	#26 - ABC Analysis Key...	#27 - Street View Inconsistency	#28 - One Time Payment to...	#29 - Fuzzy Vendor to Empl...	
1568257		160	1	0	0	0	3	3	1	0	0	3	0	3	0	1	0	0	0	0	0	0	0	0

Payment risk score

Payment details

Filter by jurisdiction

EY_ID	Risk Score	Document Date	Amount in d...	Country	Account number...	Fiscal year	Accounting do...	Amount in loca...y	Clearing Docum...	Docu...	Vendor Name	Item Text
550754	240	6/18/2009 12:00:...	600000.00	Philippines	0000174146	2009	2800008722	12420.00	0500062744	KB	DINAL S...	*reimbursement for phi
204415	190	6/23/2010 12:00:...	6961.62	Philippines	0000275442	2010	2800003471	6961.62	0500017702	KB		*Inv. 190337
1568257	160	11/27/2009 12:00:...	2302.00	Philippines	0000047625	2009	0500001140	2302.00	0500010940	ZP	ISOCIA...	
815003	160	7/10/2009 12:00:...	300.00	Philippines	0000047625	2009	2800009579	300.00	0400014079	KB	ISOCIA...	*Debit Note 2009-338
72425	160	1/30/2009 12:00:...	170.00	Philippines	0000047625	2009	0500009579	170.00	0500009579	ZP	ISOCIA...	
474518	160	4/16/2009 12:00:...	170.00	Philippines	0000047625	2009	0500005565	170.00	0500006685	KB	ISOCIA...	*DEBIT NOTE NO: 20
721048	160	5/7/2009 12:00:0...	160.00	Philippines	0000047625	2009	2800003194	160.00	0500003194	KB	ISOCIA...	*Debit Note 2009-272
179120	160	3/2/2009 12:00:0...	130.00	Philippines	0000047625	2009	0500020096	130.00	0500020096	ZP	ISOCIA...	
280453	160	3/19/2009 12:00:...	90.00	Philippines	0000047625	2009	2800003950	90.00	0500028354	KB	ISOCIA...	*DEBIT NOTE NO: 2
192432	160	1/29/2009 12:00:...	930.00	Philippines	0000047625	2009	2800000273	930.00	0400000869	KB	ISOCIA...	*DEBIT NOTE NO: 2
2268417	160	1/13/2010 12:00:...	1246.00	Philippines	0000047625	2010	2800000128	1246.00	0400000759	KB	ISOCIA...	*2009-716/2009-717
1886252	160	2/16/2010 12:00:...	200.00	Philippines	0000047625	2010	2800000519	200.00	0400000951	KB	ISOCIA...	*DEBIT NOTE NO: 2
2019838	150	3/18/2010 12:00:...	100.00	Philippines	0000047625	2010	2800000978	100.00	0400001968	KB	ISOCIA...	*DEBIT NOTE NO: 2
2043016	140	4/14/2010 12:00:...	109789.04	Philippines	0000243233	2010	0500032689	2455.98	0500033836	ZP	ENAVE...	
797142	140	7/20/2009 12:00:...	66972.23	Philippines	0006520041	2009	0500001380	47911.91	0500001380	ZP	OSTING...	
757477	140	6/18/2009 12:00:...	450000.00	Philippines	0000318742	2009	2800009264	9391.50	0500070294	KB	HILIPPI...	*reimbursement for phi
1688562	140	1/20/2010 12:00:...	8361.59	Philippines	0006550041	2010	0500001338	8361.59	0500001338	ZP		
5453	140	1/6/2009 12:00:0...	1096.00	Philippines	0000047625	2009	0500000844	1096.00	0500000844	ZP	ISOCIA...	
280207	140	3/24/2009 12:00:...	926.00	Philippines	0000047625	2009	2800001318	926.00	0400005859	KB	ISOCIA...	*Debit Note 2009-51,
1343001	140	11/12/2009 12:00:...	772.00	Philippines	0000047625	2009	2800005806	772.00	0500010940	KB	ISOCIA...	*Debit 2009- 600; - 60
524275	140	5/7/2009 12:00:0...	692.00	Philippines	0000047625	2009	2800002193	692.00	0400010286	KB	ISOCIA...	*2009-249, -260, -268
468950	140	4/9/2009 12:00:0...	632.00	Philippines	0000047625	2009	2800001704	632.00	0400008139	KB	ISOCIA...	*Debit Note 2009-208
260905	140	3/19/2009 12:00:...	585.00	Philippines	0000047625	2009	2800003952	585.00	0500028356	KB	ISOCIA...	*DEBIT NOTE NO: 20
1623859	140	1/22/2010 12:00:...	556.00	Philippines	0000047625	2010	0500001503	556.00	0500001503	ZP	ISOCIA...	
1045037	140	8/5/2009 12:00:0...	516.00	Philippines	0000047625	2009	2800003810	516.00	0500003071	KB	ISOCIA...	*Debit No. 2009-372,
996141	140	8/20/2009 12:00:...	516.00	Philippines	0000047625	2009	0500003071	516.00	0500003071	ZP	ISOCIA...	
537152	140	5/7/2009 12:00:0...	510.50	Philippines	0000047625	2009	2800002192	510.50	0400010285	KB	ISOCIA...	*Debit Note 2009-218

Filters

Type to search filters

metrics

Country

Type to search in list

(All) 126 values

- Albania
- Algeria
- Andorra
- Argentina
- Armenia
- Aruba

EY Population Filters

Risk Score

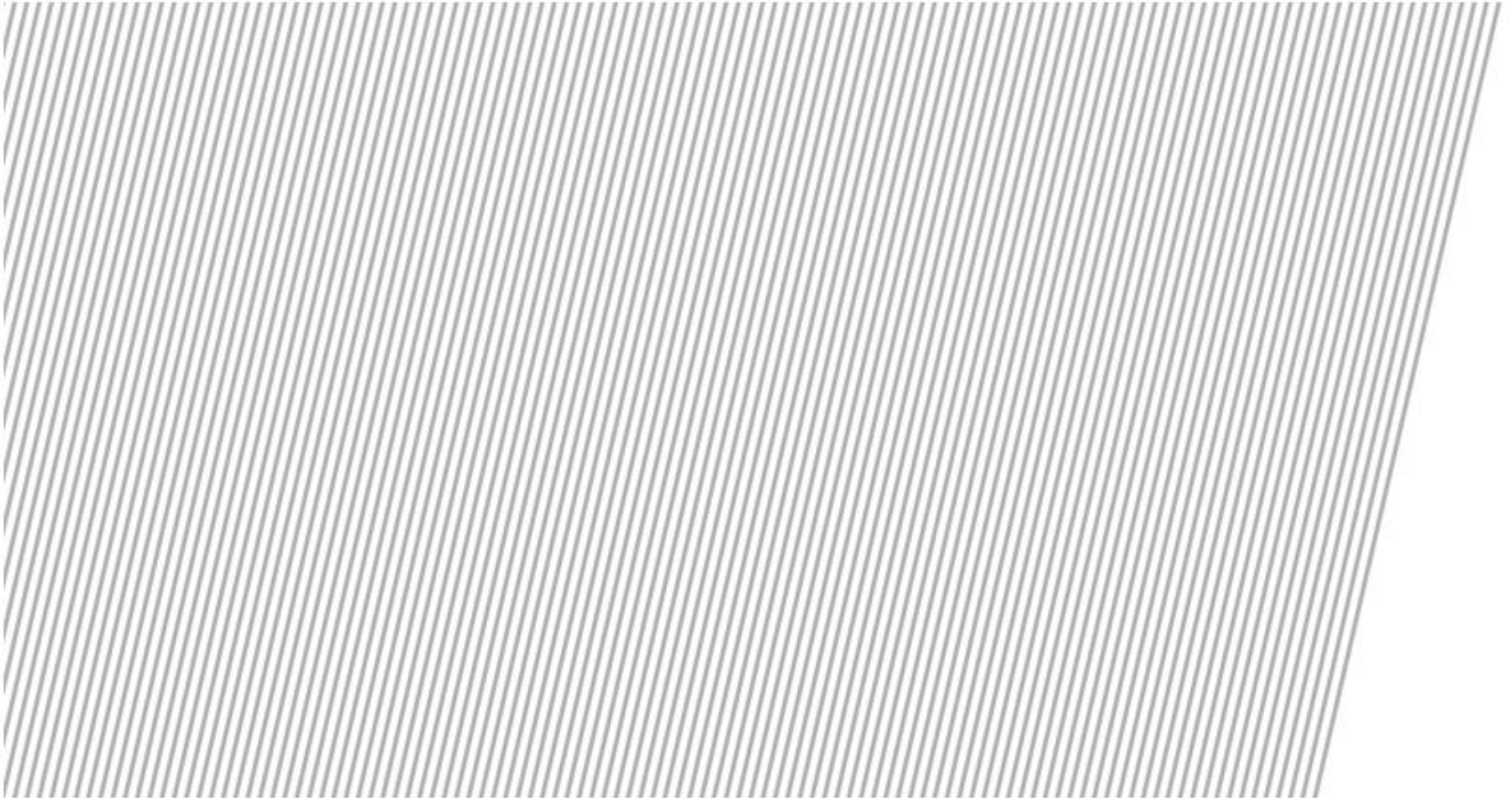
0 260

EY Analytics Filters

Replication Detail
EY Metrics last replicated by osinsje at Jun 30 2011 1:01PM. Associated replica ID = F1CF5D83-659A-481E-8D99-74FD2A656053

Adjust Weightings Risk Weighting

Q&A



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