

Project Finance Data Alliance Loan Default & Recovery Study 1983 - 2017

Kevin Kelhoffer, Director, Data Intelligence

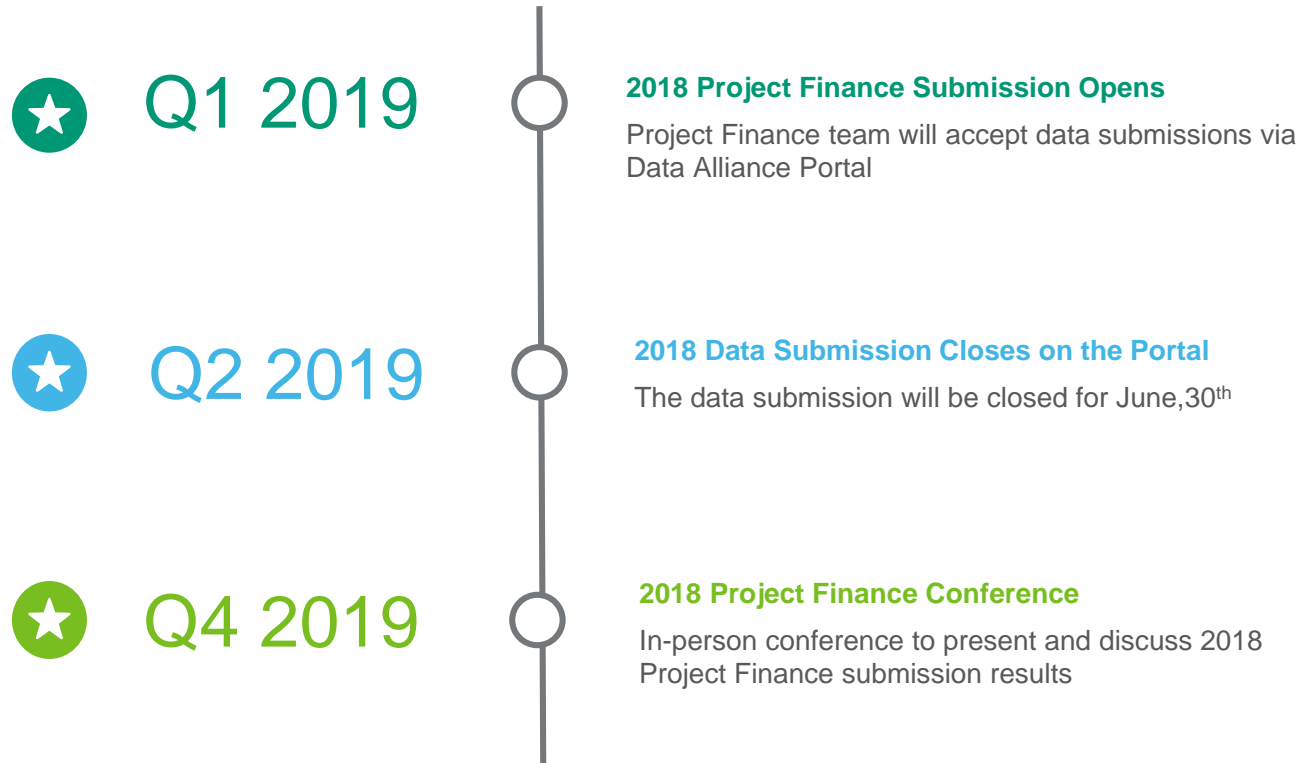
March, 2019

Updates

- ✓ Streamlined processes
- ✓ Improved Data Quality
- ✓ Easily available data and analytics



Upcoming Changes



Results Consistent With Past Studies



1.3%

Marginal Default
Rate (1 Year)



5.6%

Cumulative Default
Rate (10 Year)



77.5%

Ultimate Recovery
(Average)

Agenda

1. Study Characteristics
2. Defaults
3. Recoveries

1

Study Characteristics

Study Overview



8,257

Projects



69%

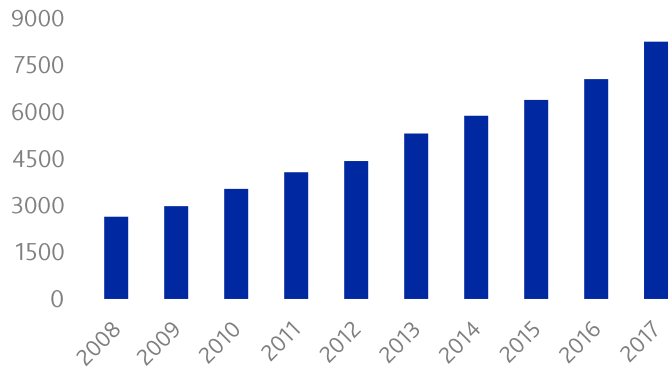
Project Finance
Transactions Covered



570

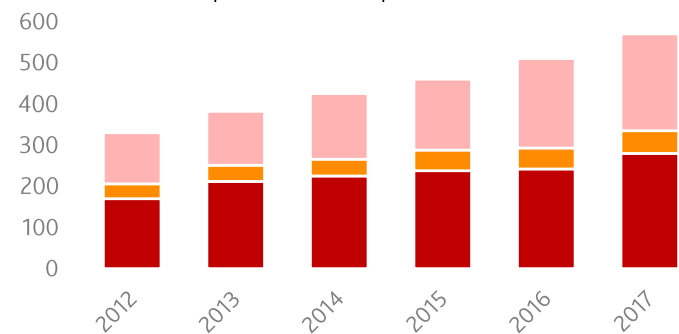
Defaults

Project Count by Study Year



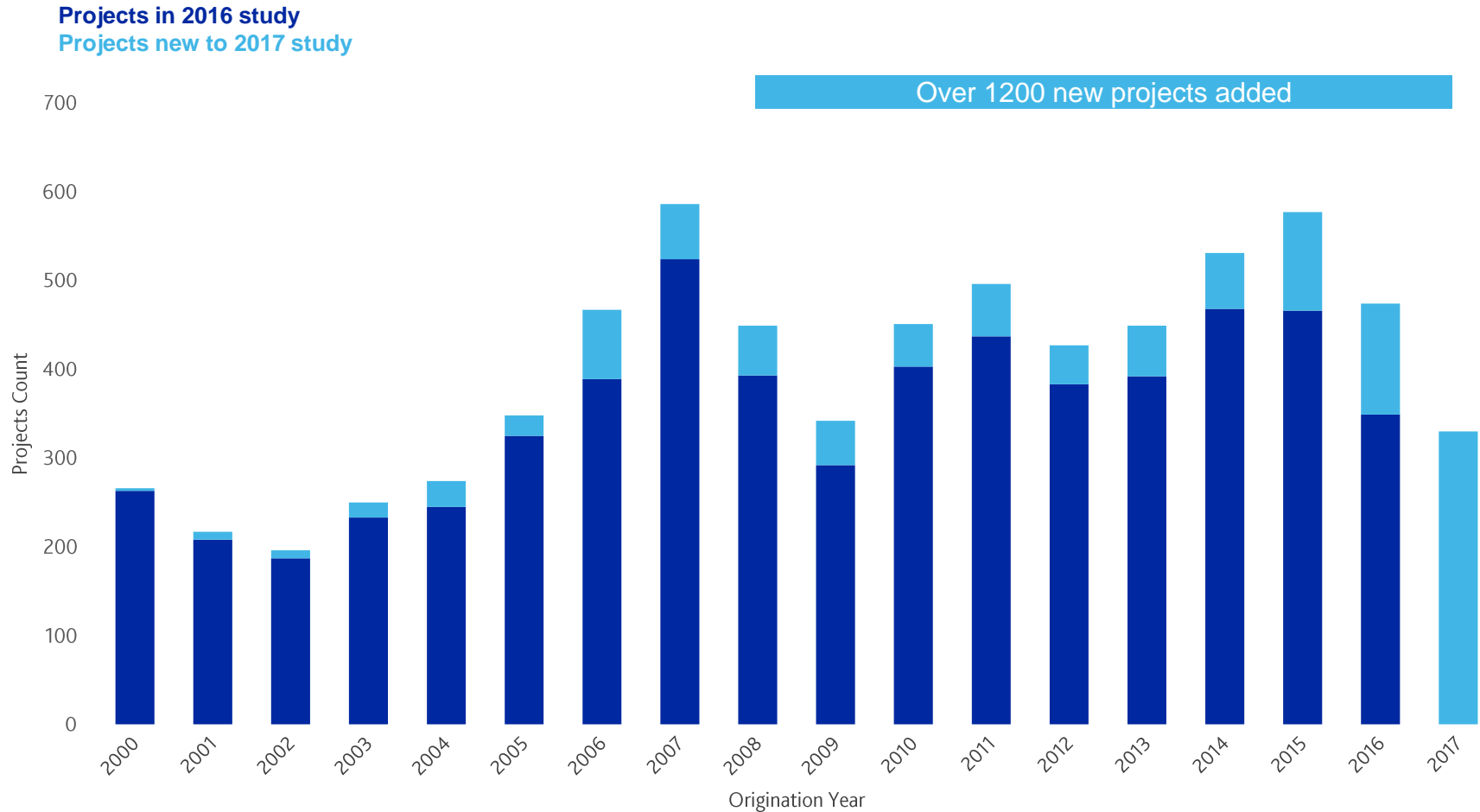
Default Count by Study Year

In Work Out | Distressed Sales | Ultimate



New Data Driven by Recent Originations

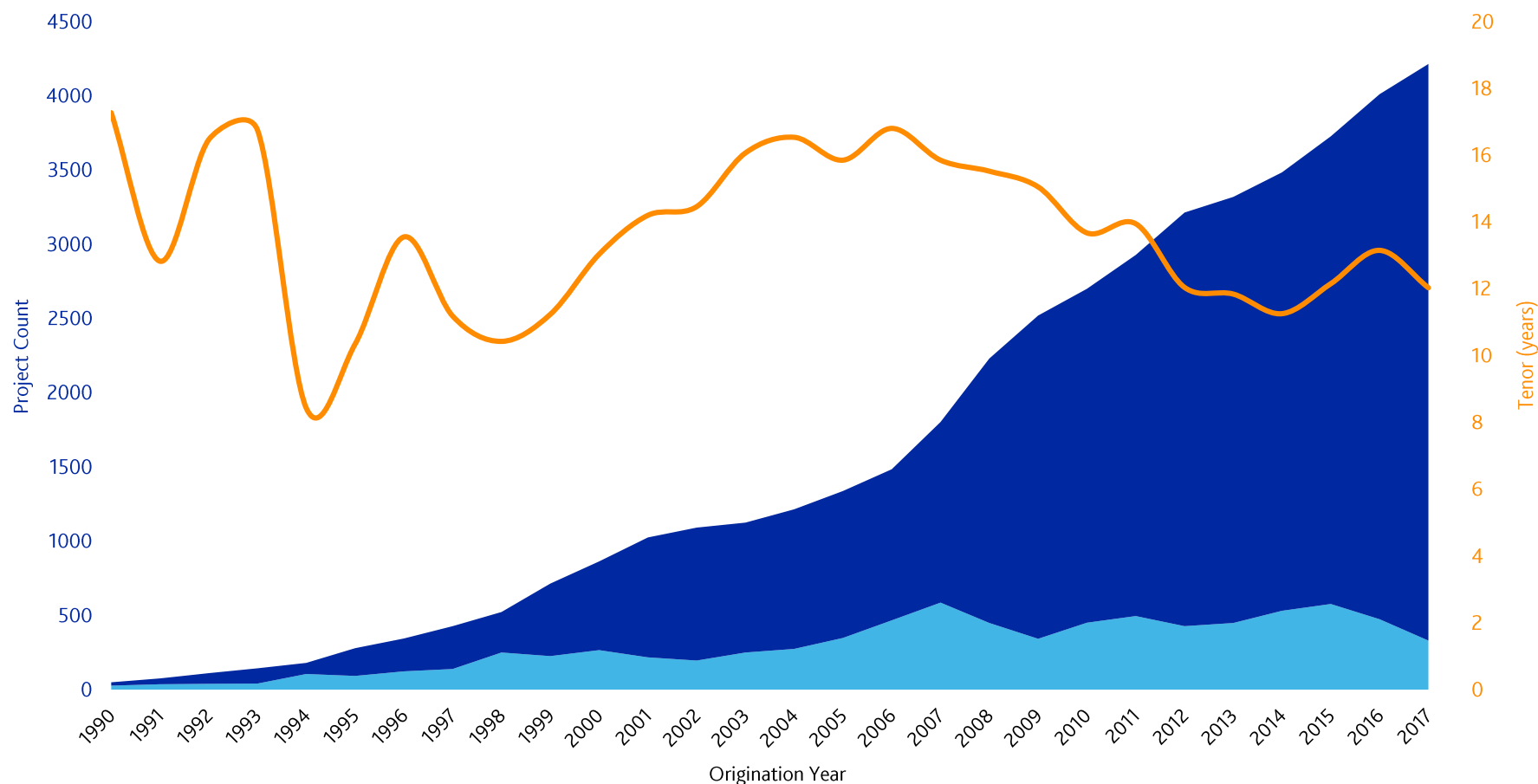
47% of new study projects originated in last three years



2017 Average Tenor Lower than Average

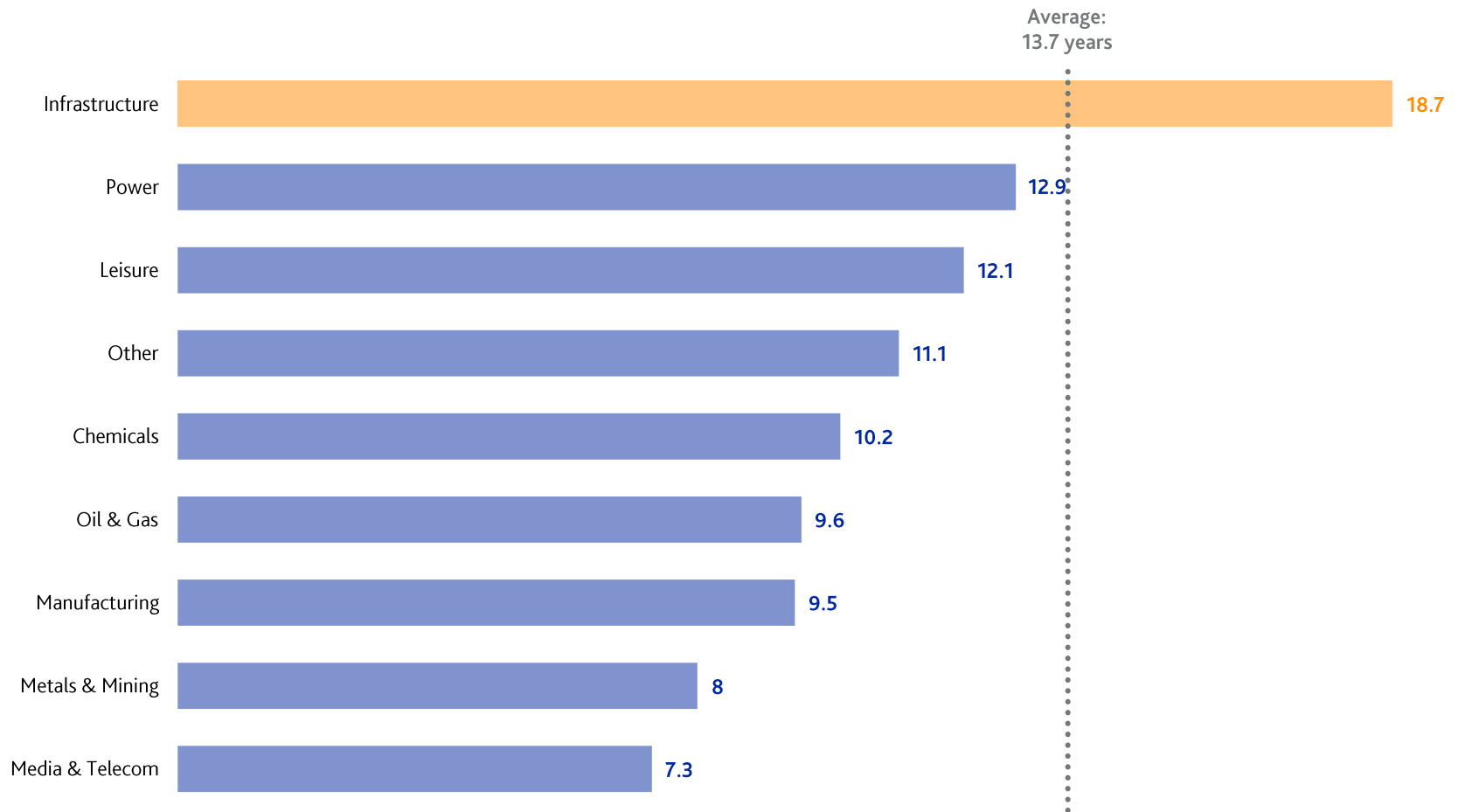
Loan Tenors Lowest Since 2012

Average Tenor | New Originations | All Active Projects



Infrastructure Has Longest Tenors

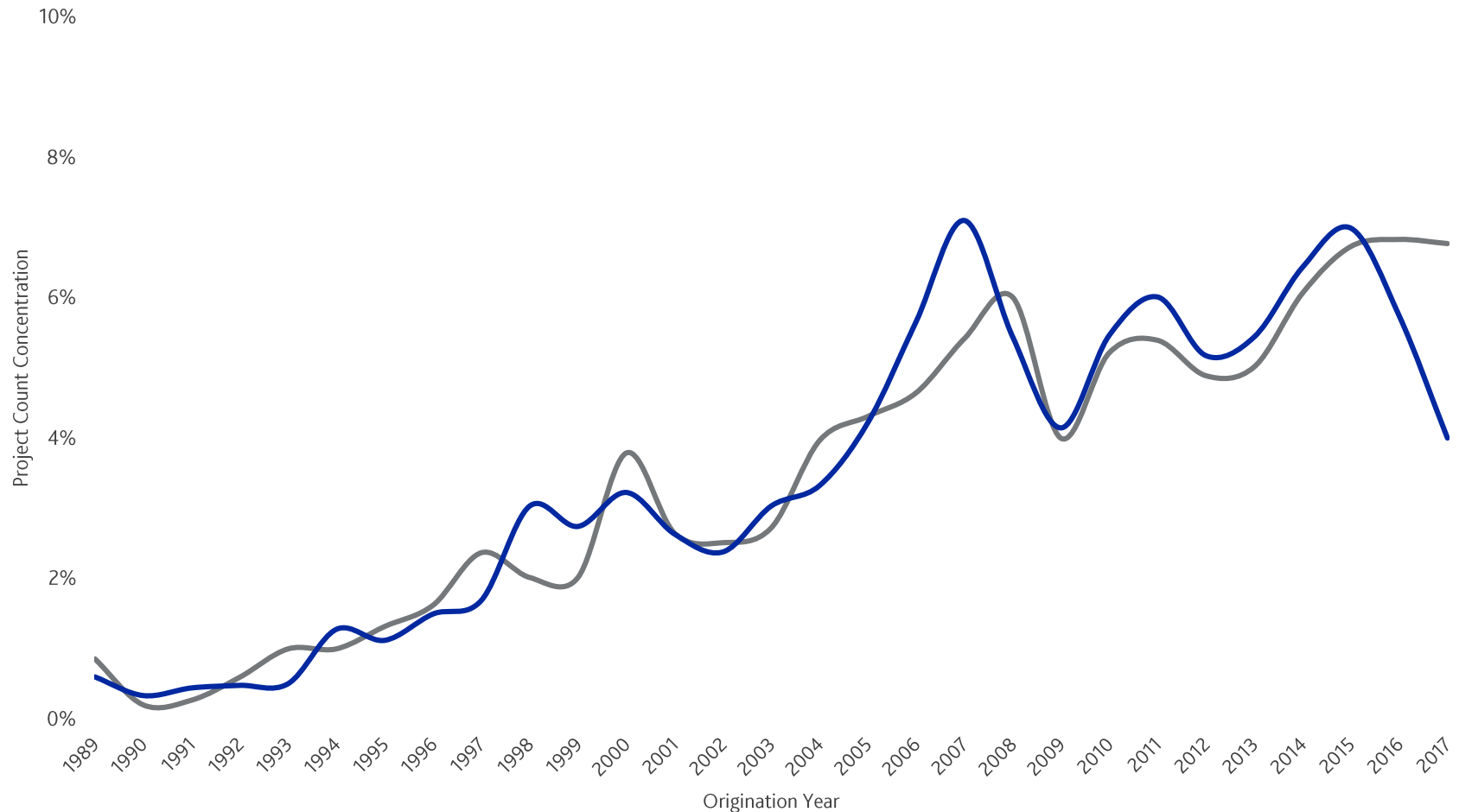
Above Average Tenor | Below Average Tenor



Study Reflects Industry Trends

Origination year distribution vs asset class: 0.93 correlation

Moody's Study Data | Refinitiv Industry Data

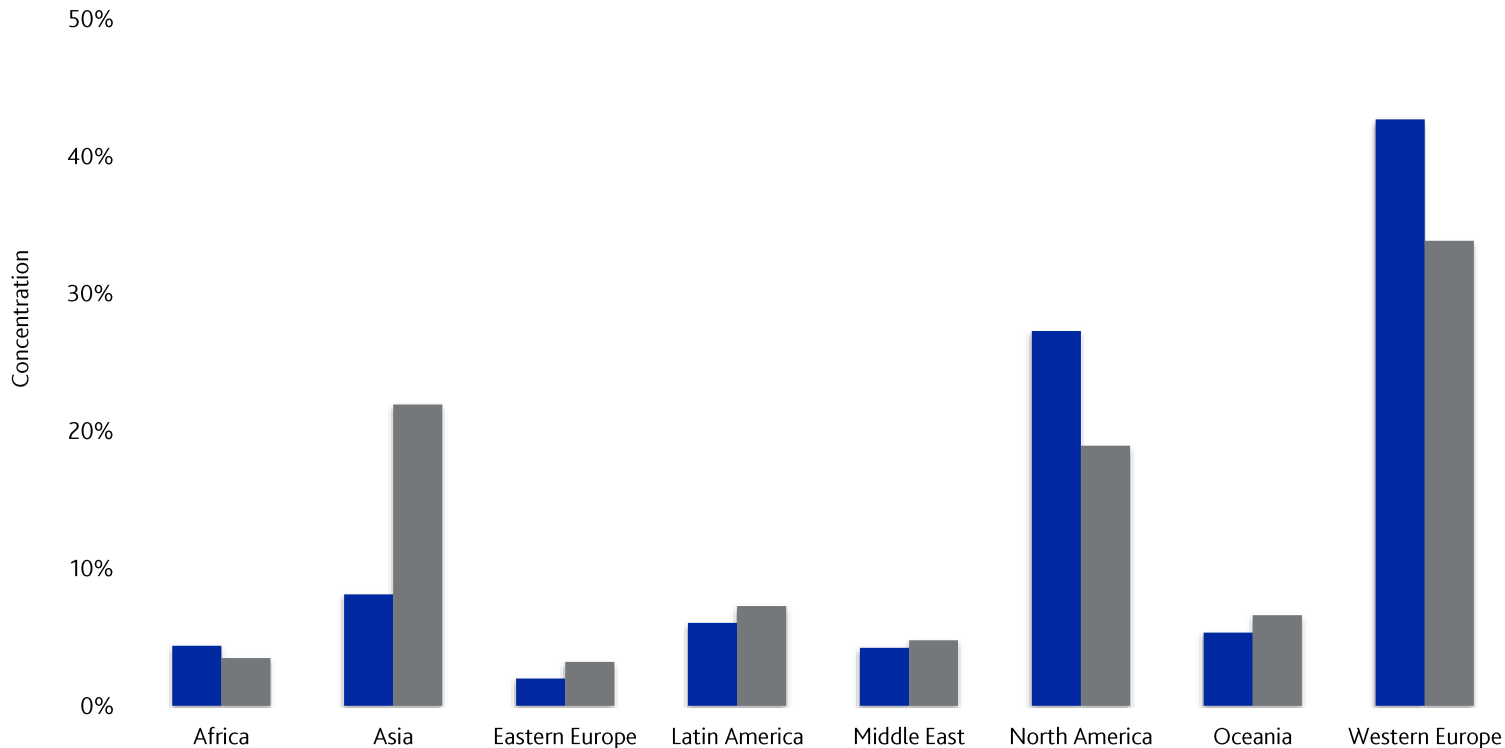


Regional Data Highly Correlated

Concentration by region vs asset class: 0.89 correlation

- » Study under-represents Asia; over-represents North America & West Europe

Moody's Study Data | Refinitiv Industry Data

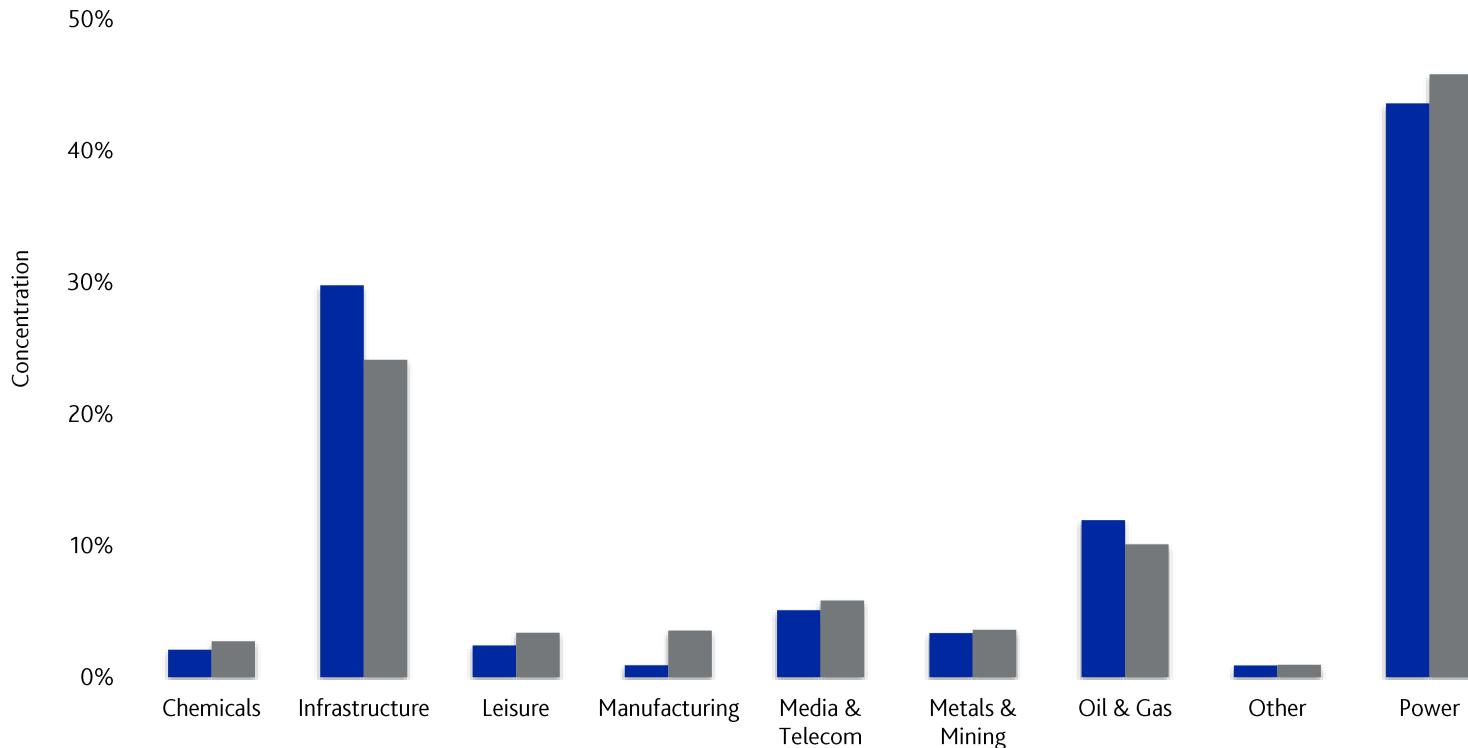


Sector Data Highly Correlated

Concentration by sector vs asset class: 0.99 correlation

- » Study under-represents Manufacturing; over-represents Infrastructure

Moody's Study Data | Refinitiv Industry Data

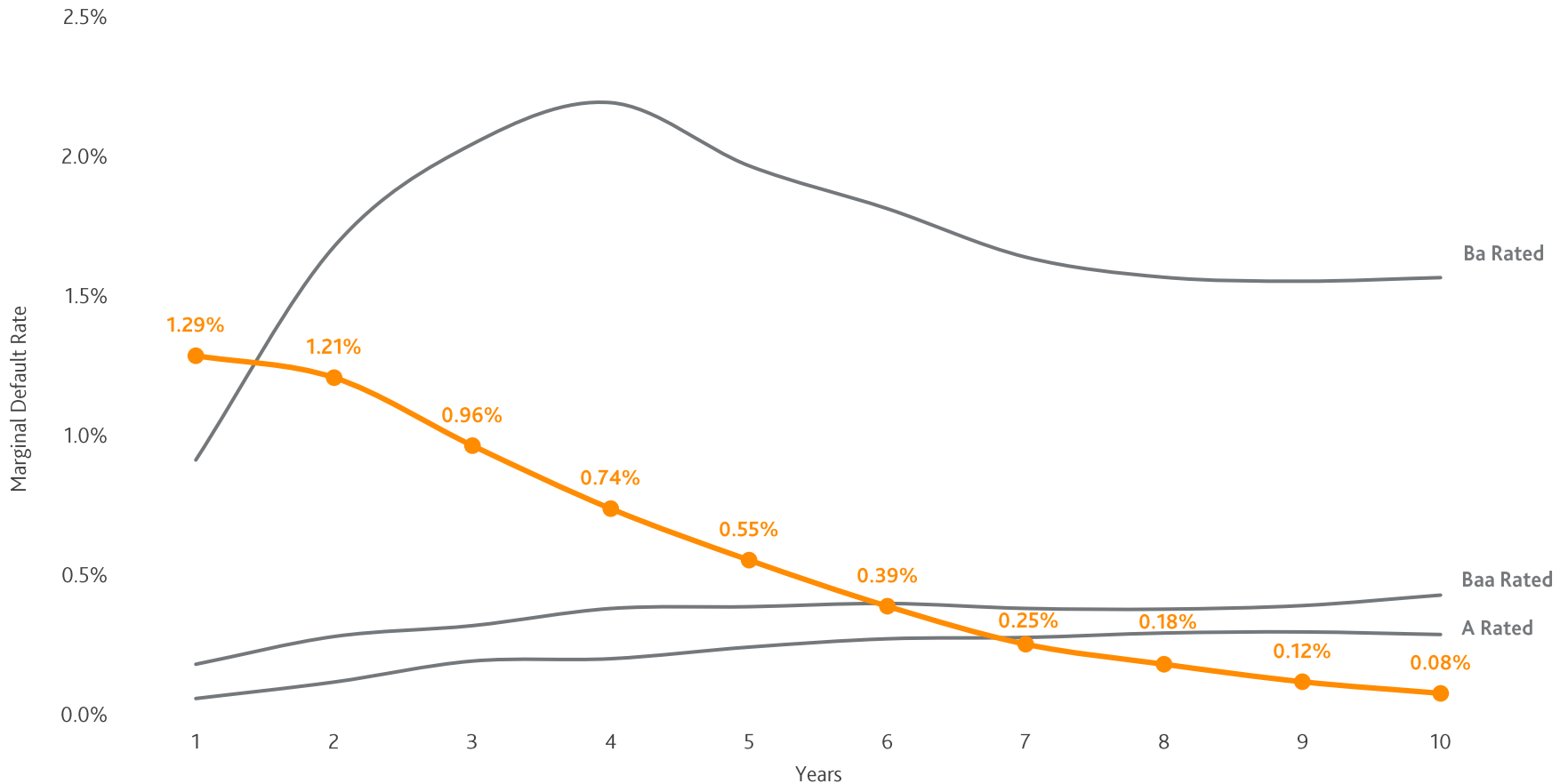


2

Defaults

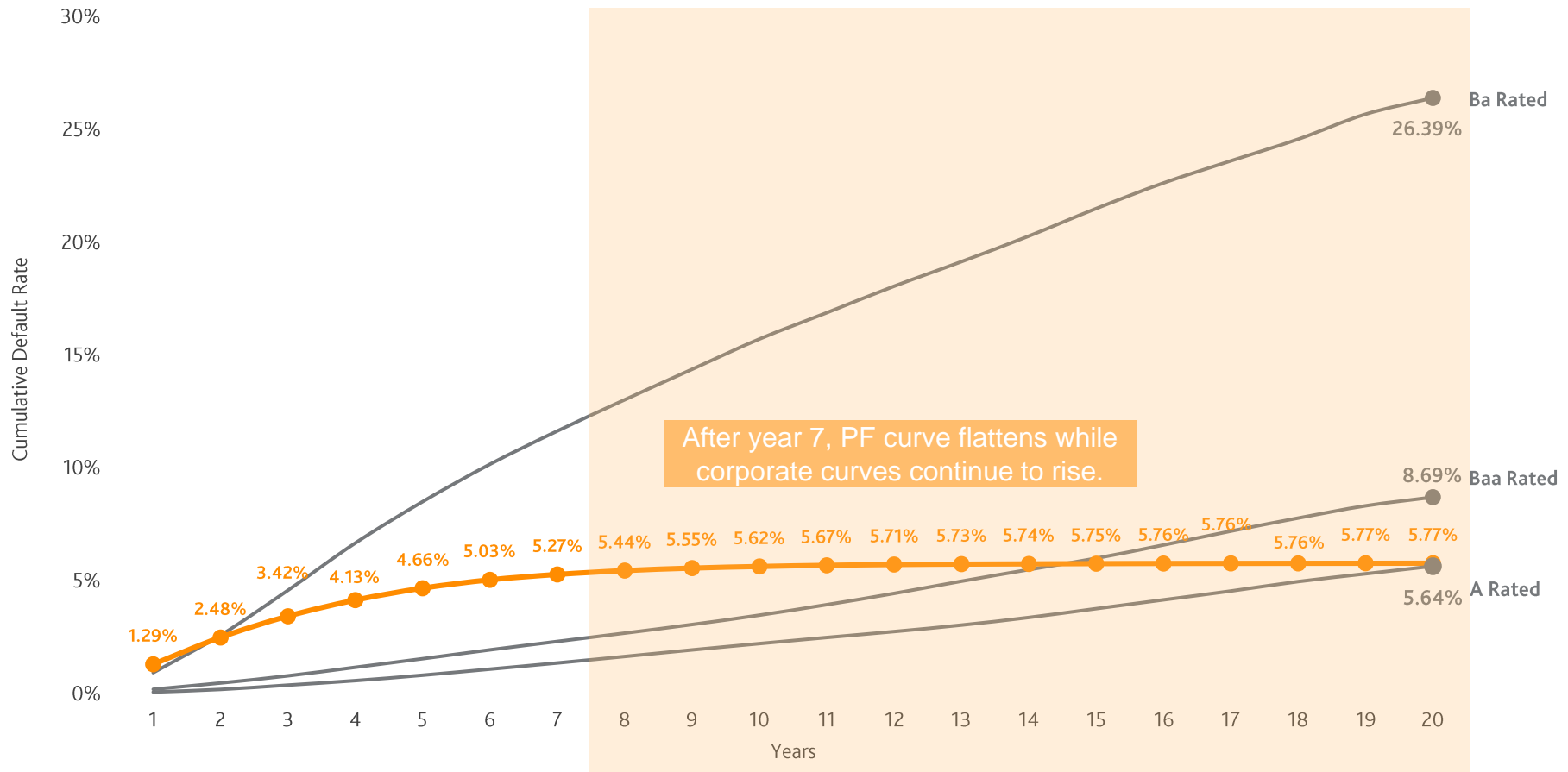
7+ Year MDR Below A Rated Corporate

Study Average | Moody's Ratings



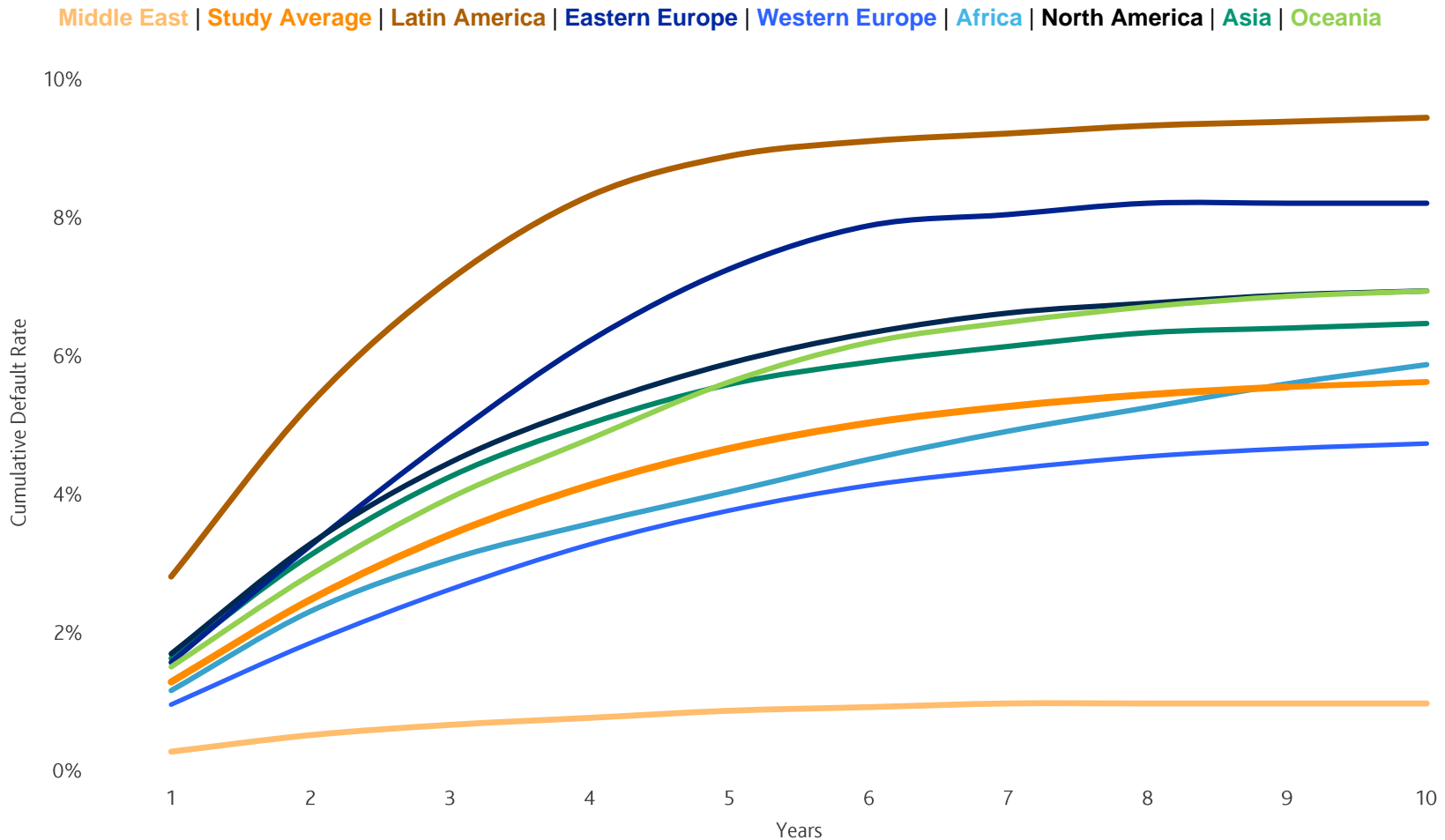
20 Year CDR Comparable to A Rated

Study Average | Moody's Investors Service Rated Corporate Debt



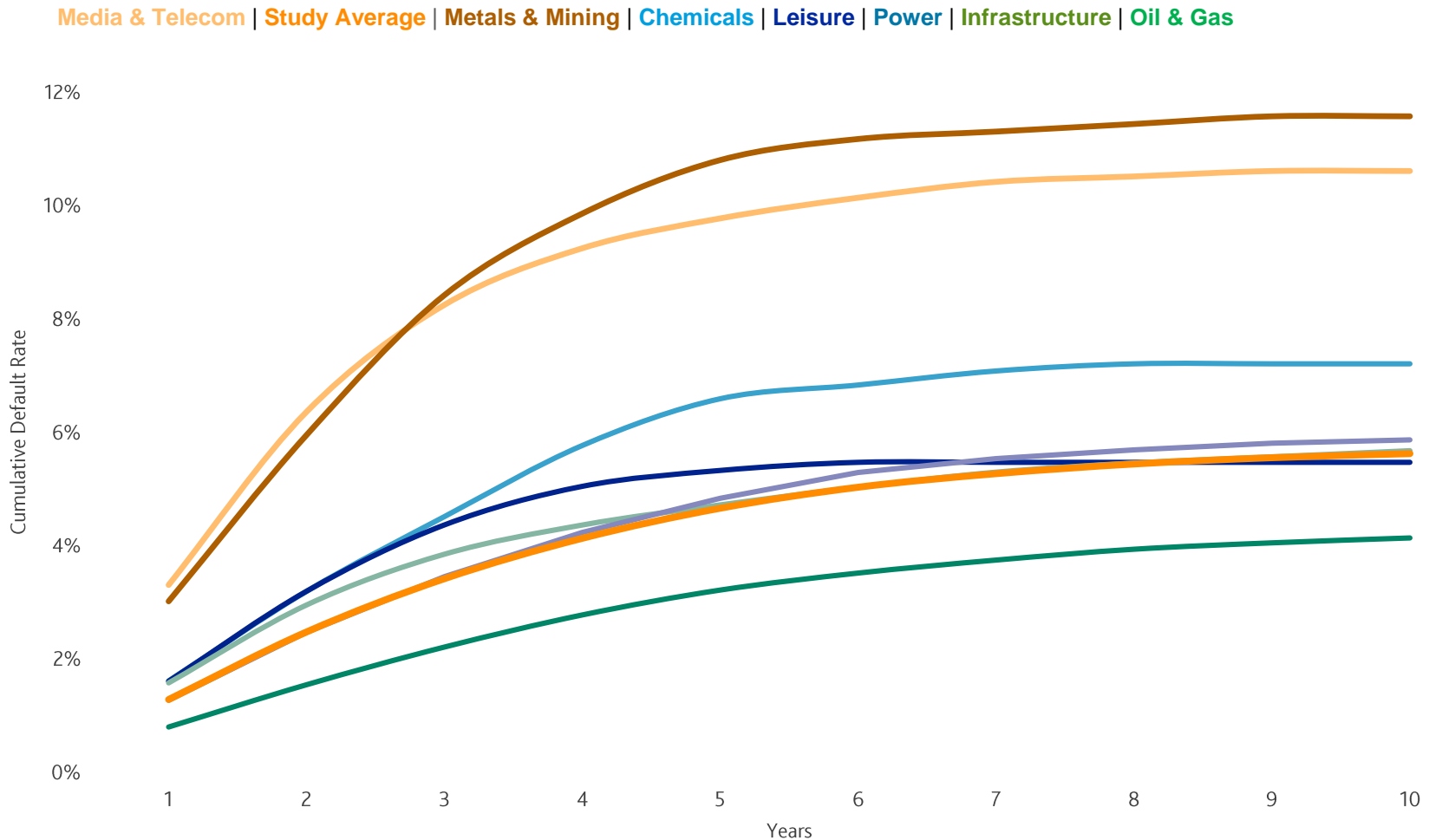
CDR's Lower than 2016

Except Eastern Europe



CDR's Lower than 2016

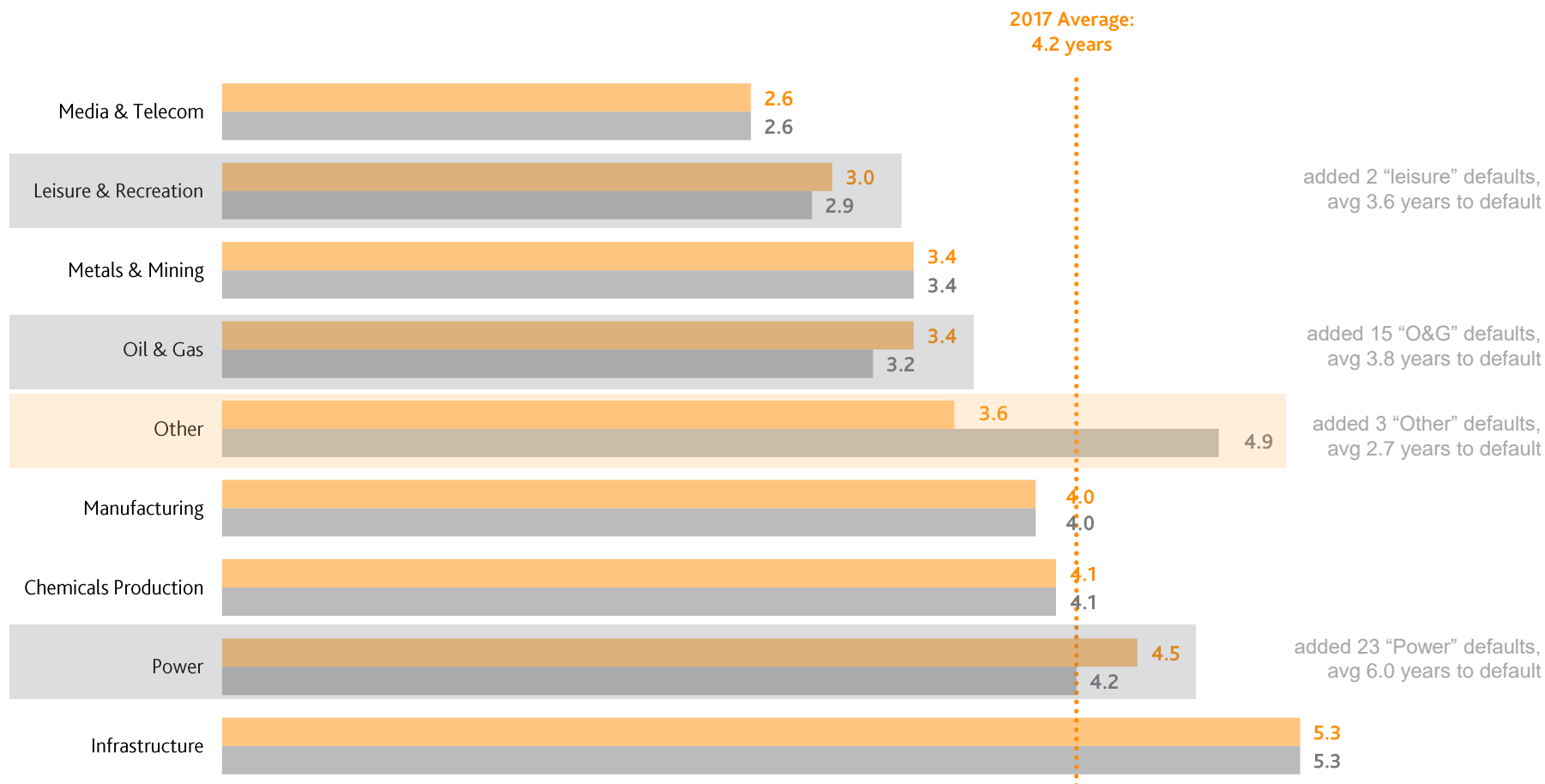
Every Industry Improved



Why Do Years to Default Matter

Slight Increase from 2016

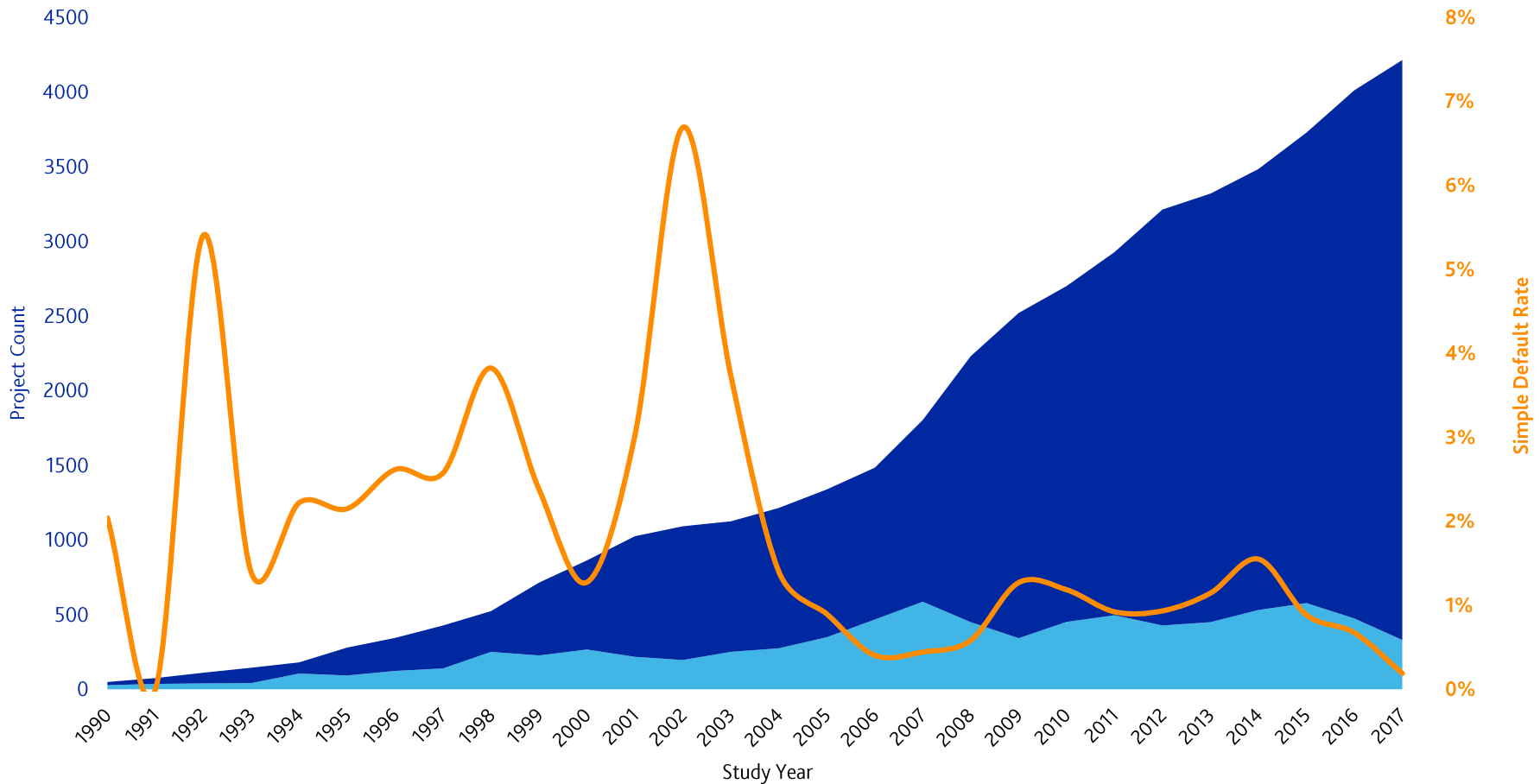
2017 Study | 2016 Study



Originations and Defaults Fell in 2017

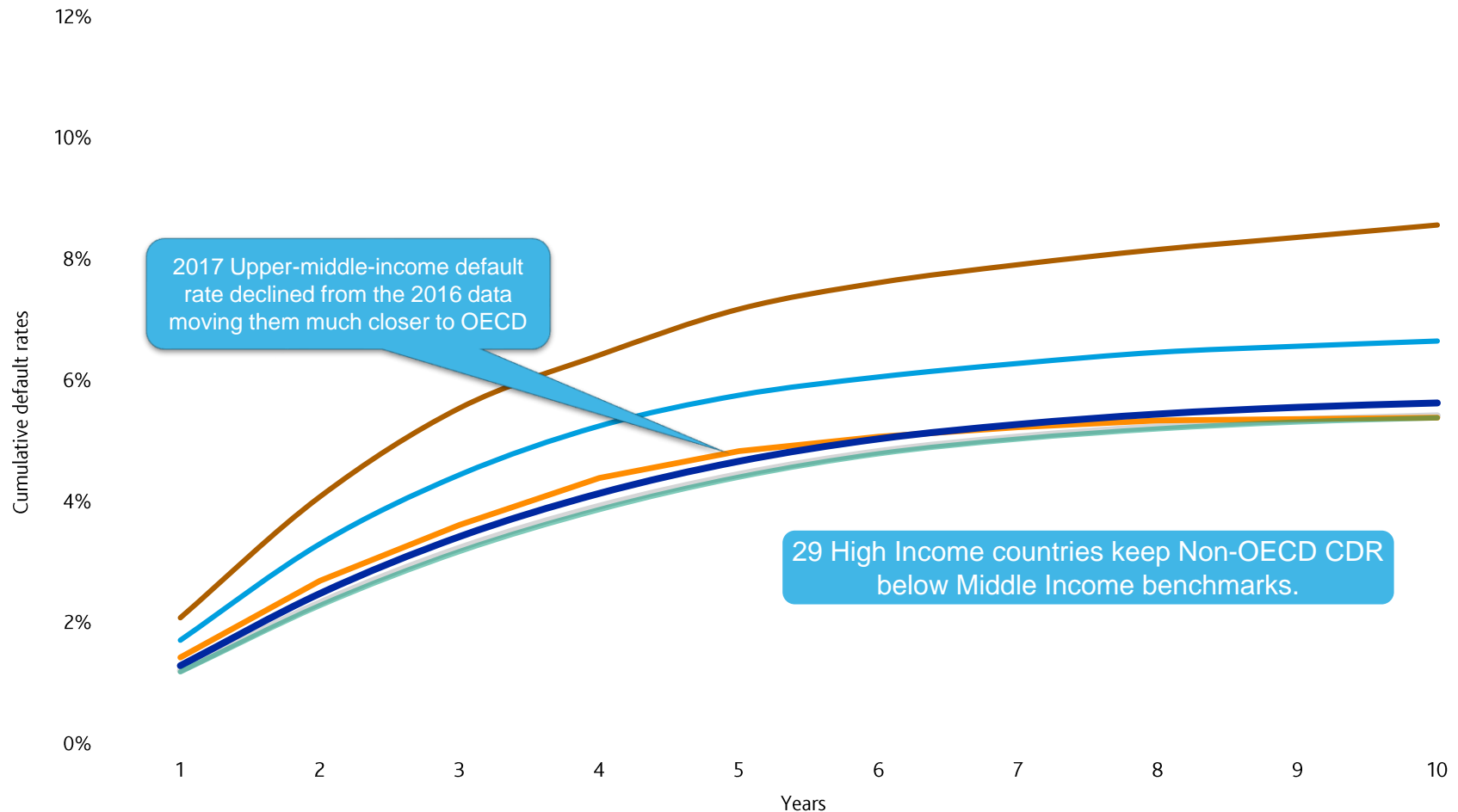
3rd consecutive year of declined default count (lowest since 2007)

Simple Default Rate | New Originations | Active Projects



CDR by Global Income Class Improves

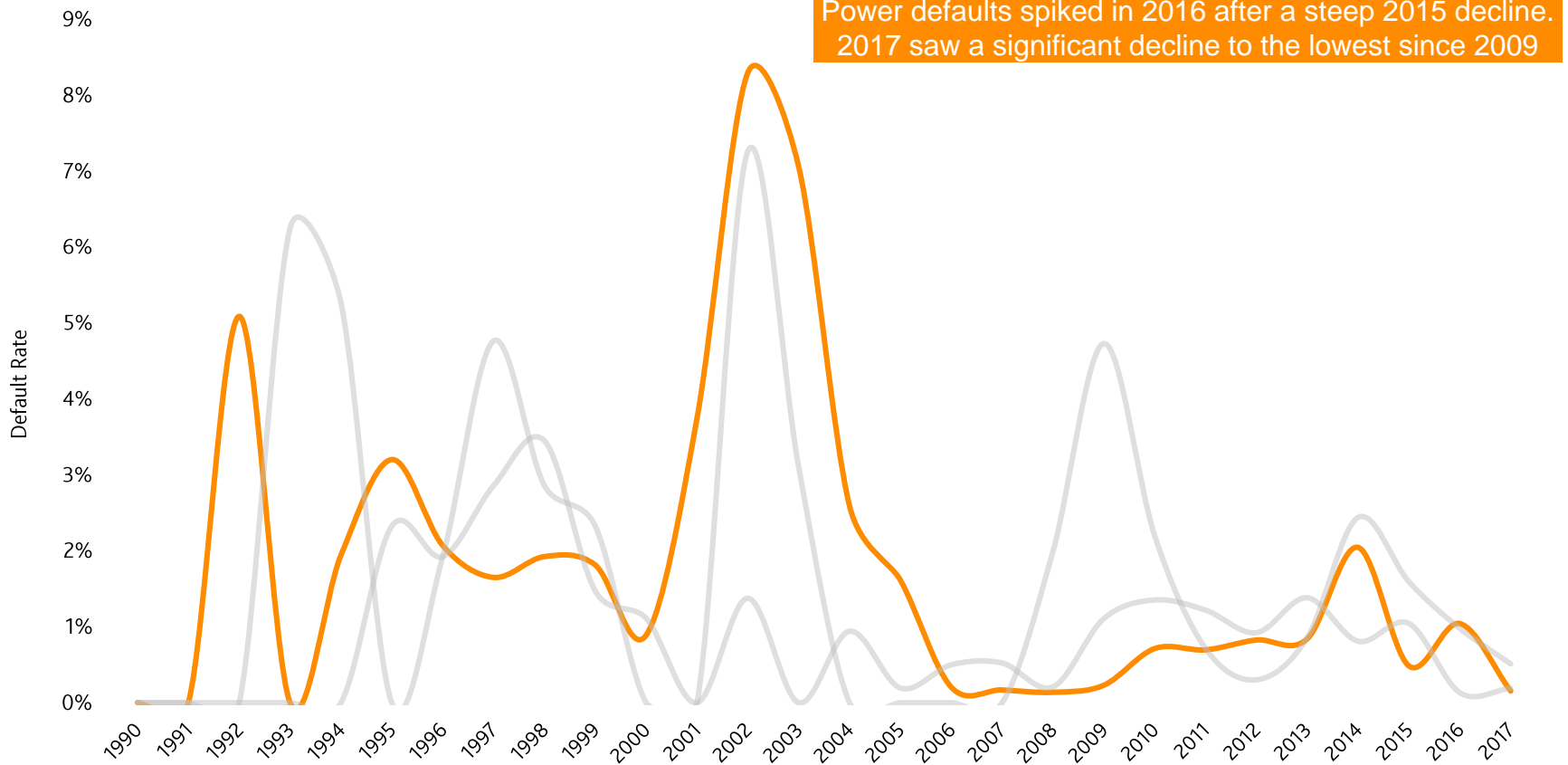
High Income | OECD | Study Average | Non-OECD | Upper-Middle Income | Lower-Middle Income



Defaults Down

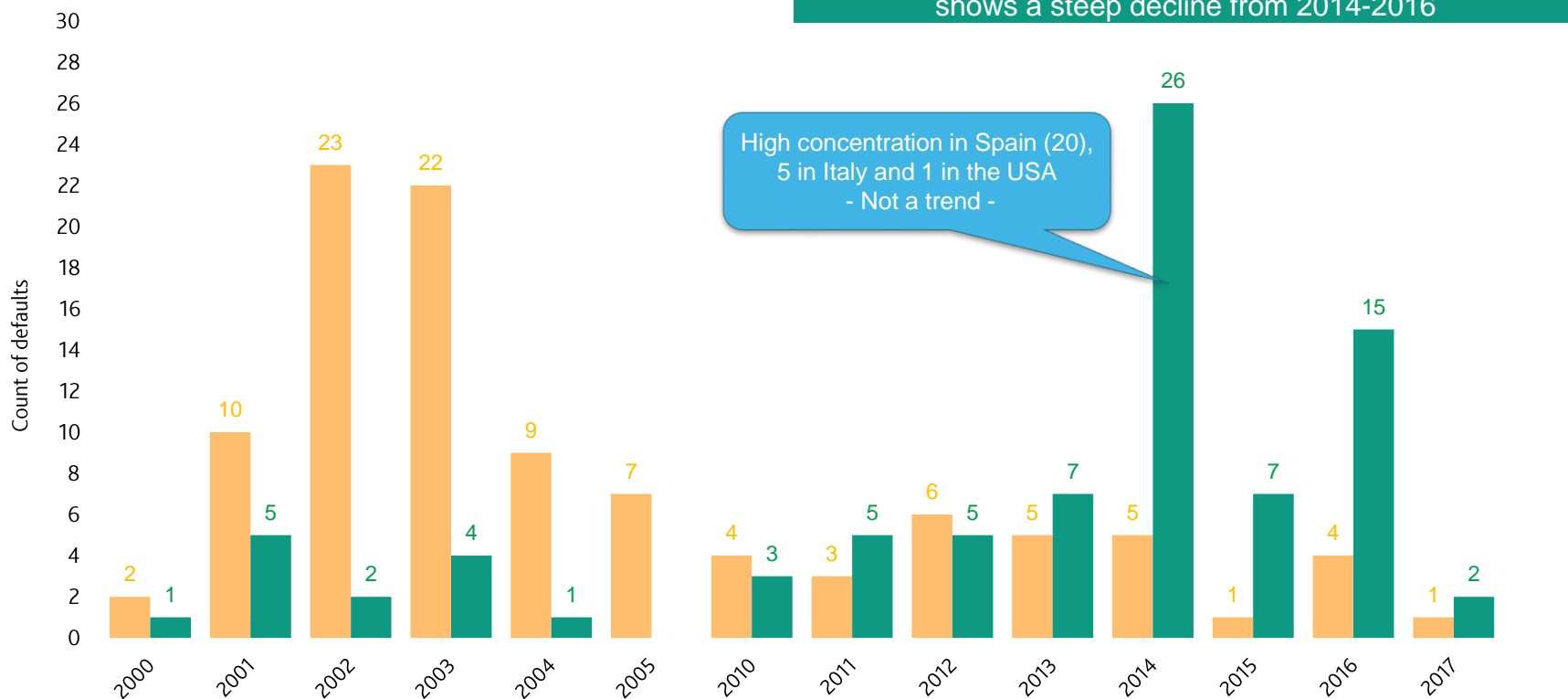
in **Power**, Infrastructure and Oil & Gas

Power | Infrastructure | Oil & Gas



Power Defaults

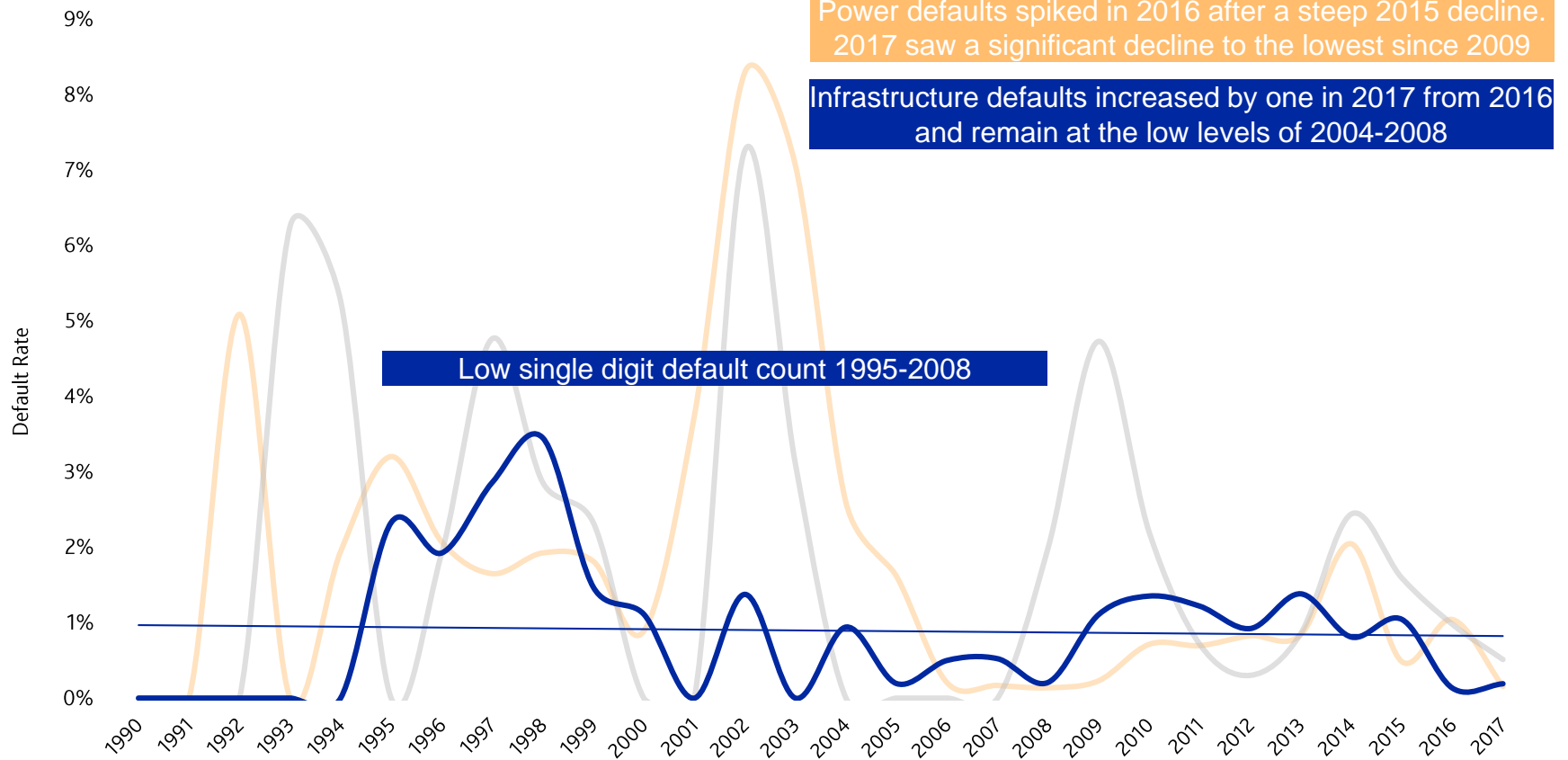
Non-Renewable | Renewable



Defaults Down

in Power, Infrastructure and Oil & Gas

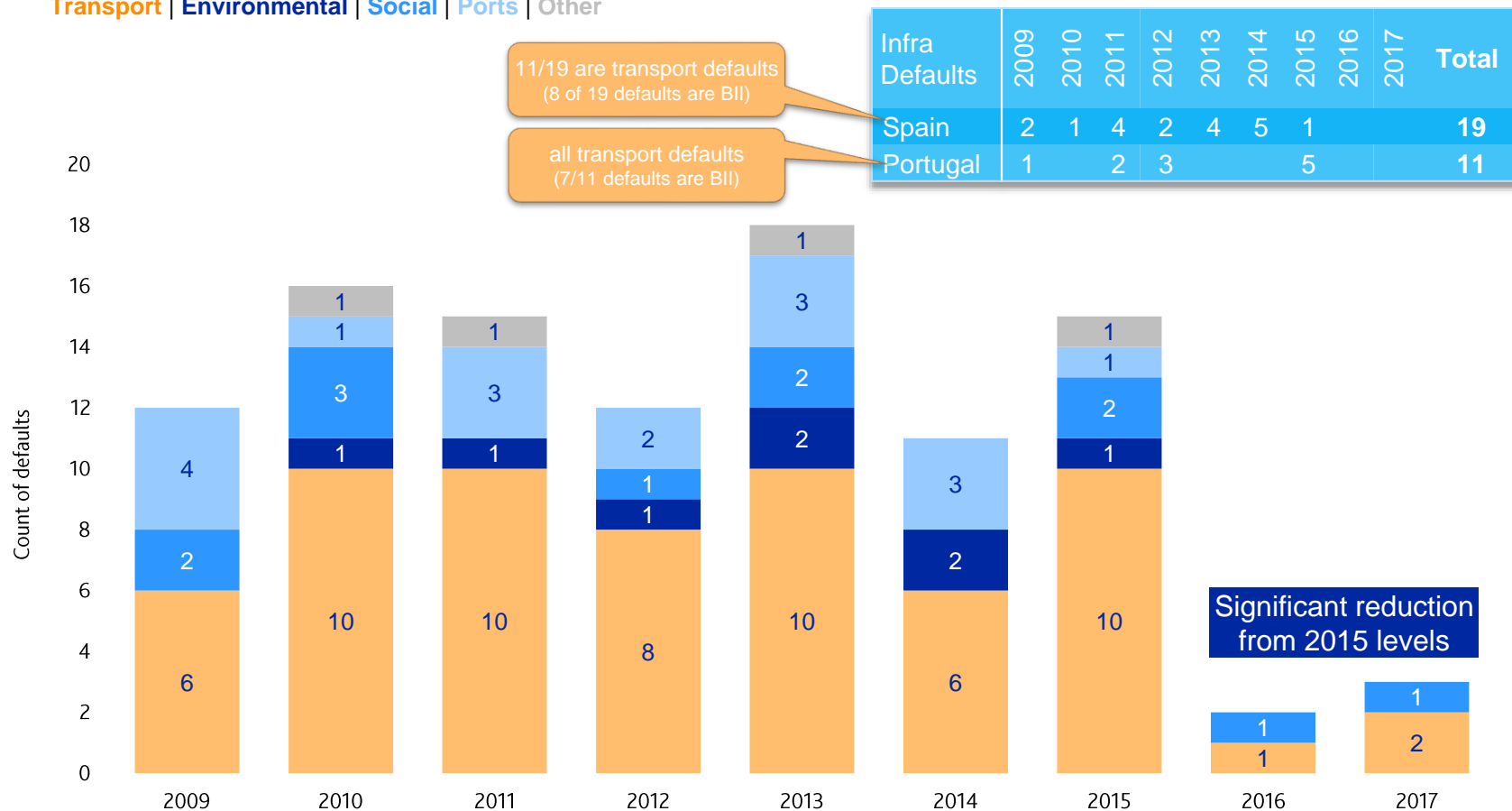
Power | Infrastructure | Oil & Gas



Transport Drives Infrastructure Defaults

Substantial improvements in 2016 and 2017

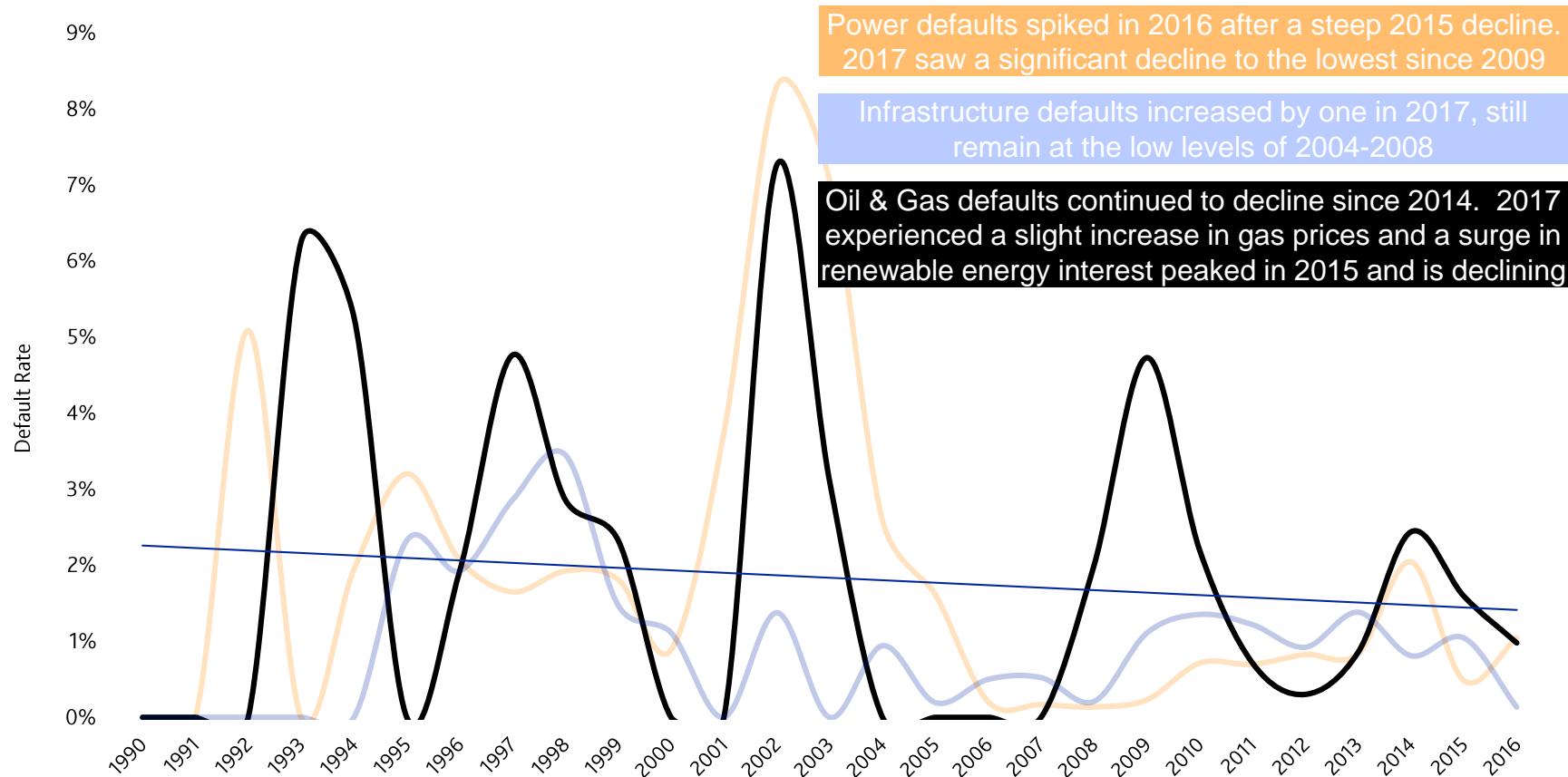
Transport | Environmental | Social | Ports | Other



Defaults Down

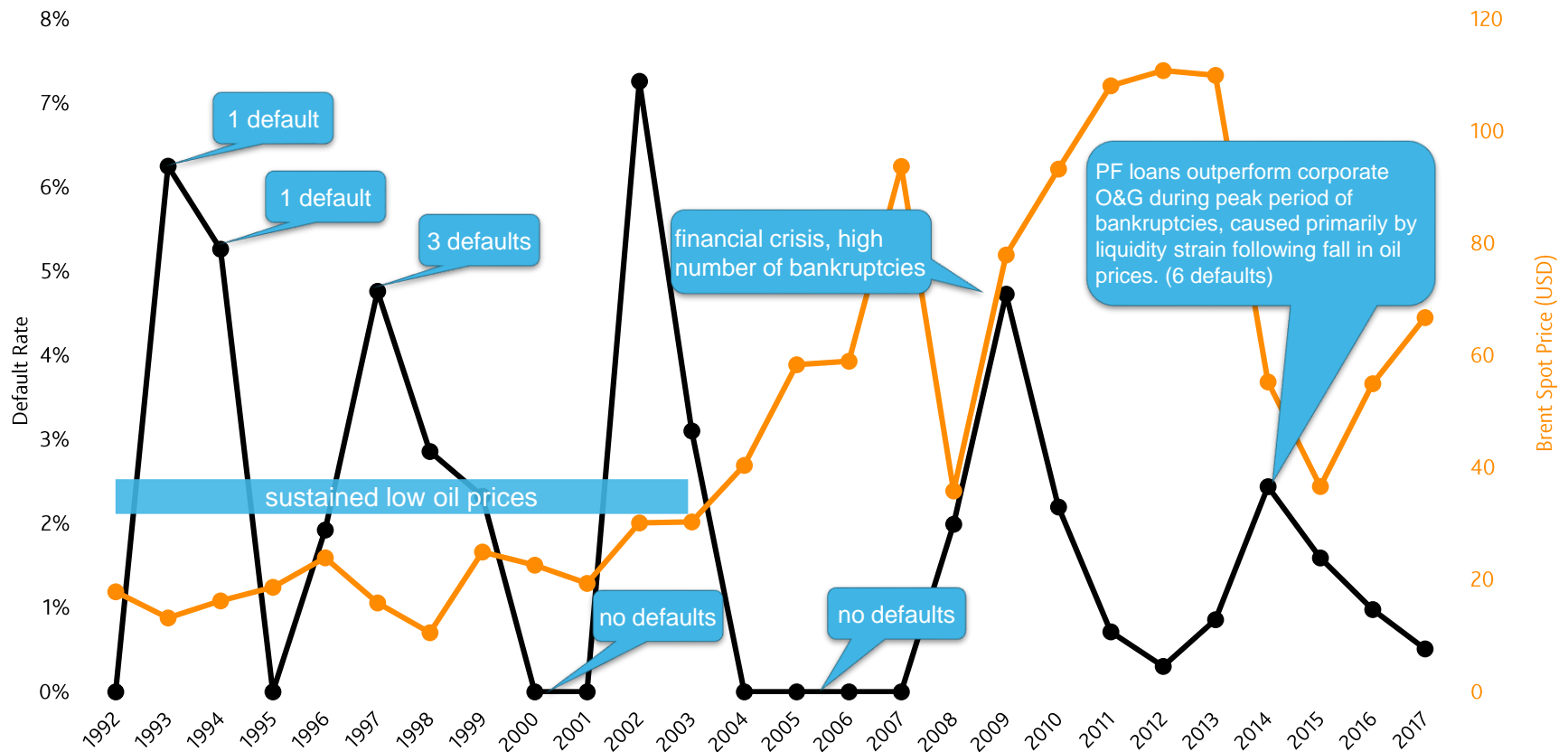
in Power, Infrastructure and Oil & Gas

Power | Infrastructure | Oil & Gas



Oil Defaults Negatively Correlated With Oil Prices

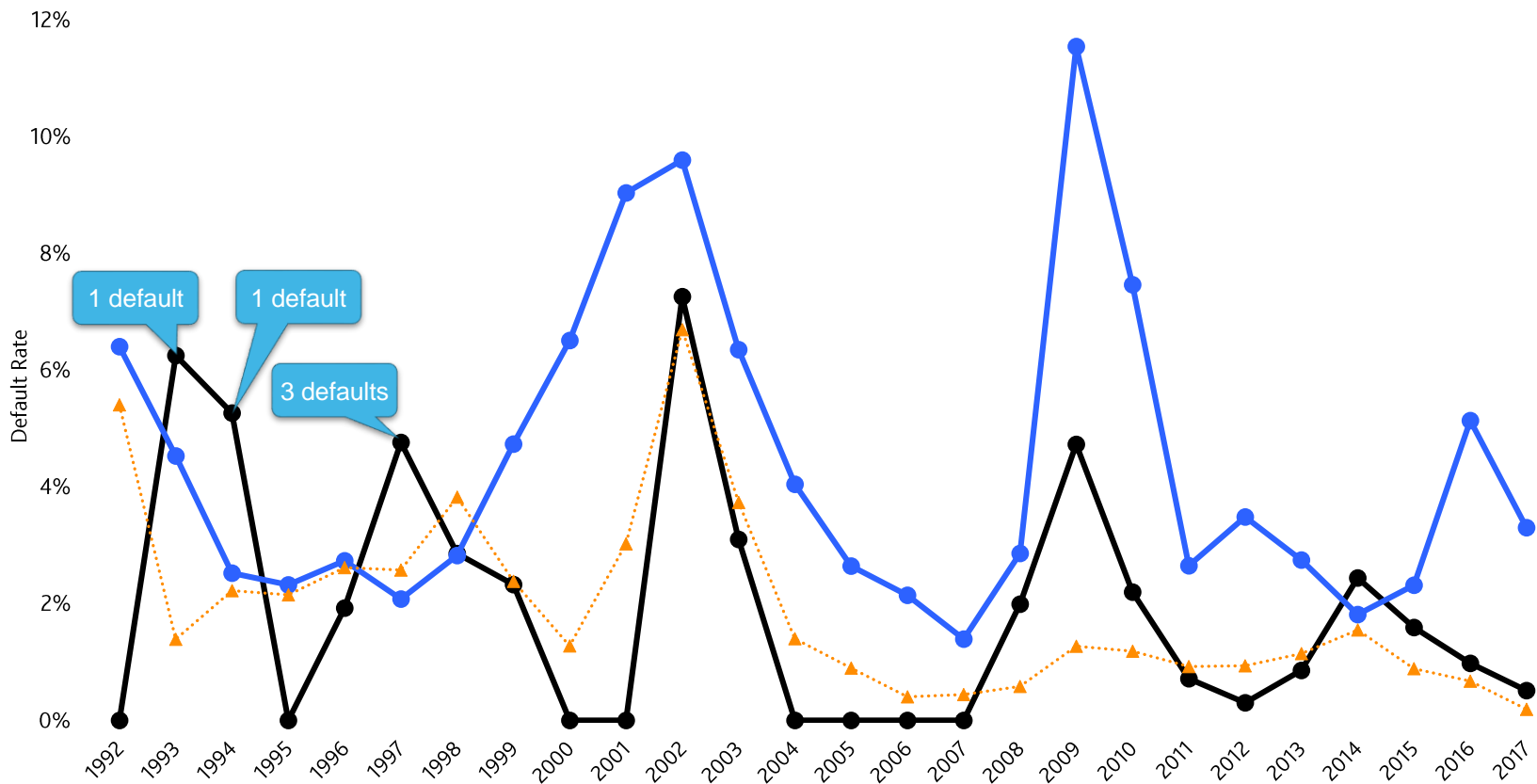
Brent Spot Price (USD) | Oil & Gas Default Rate



Source: U.S. Energy Information Administration

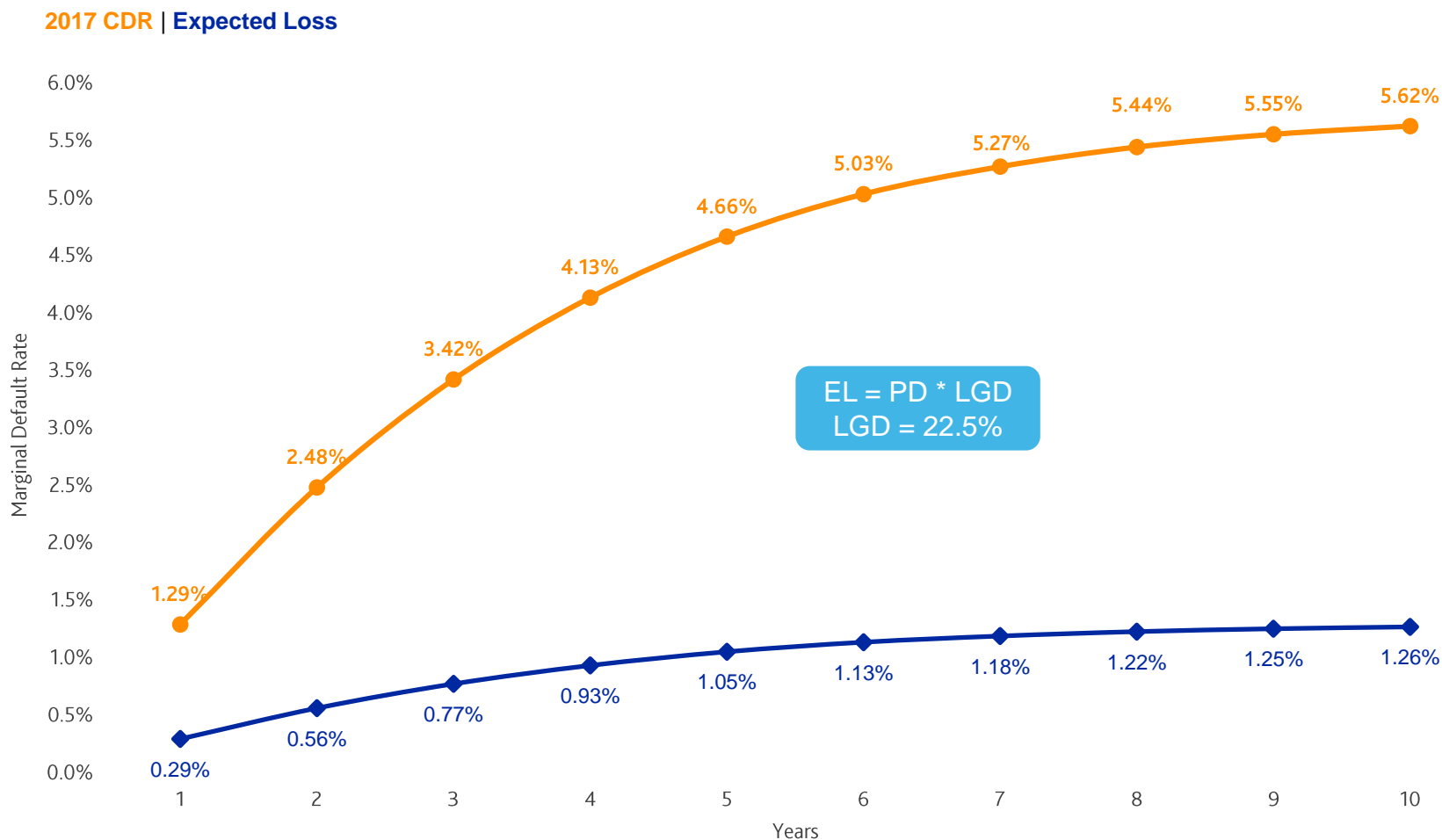
Project Finance Outperforms Corporate Spec Grade

Corporate Speculative Grade Default Rate | Oil & Gas Default Rate | Study Average



Source: Moody's Investors Service: "Lessons Learned from the 2015 Oil Bust"

Cumulative Default Rates and Expected Loss

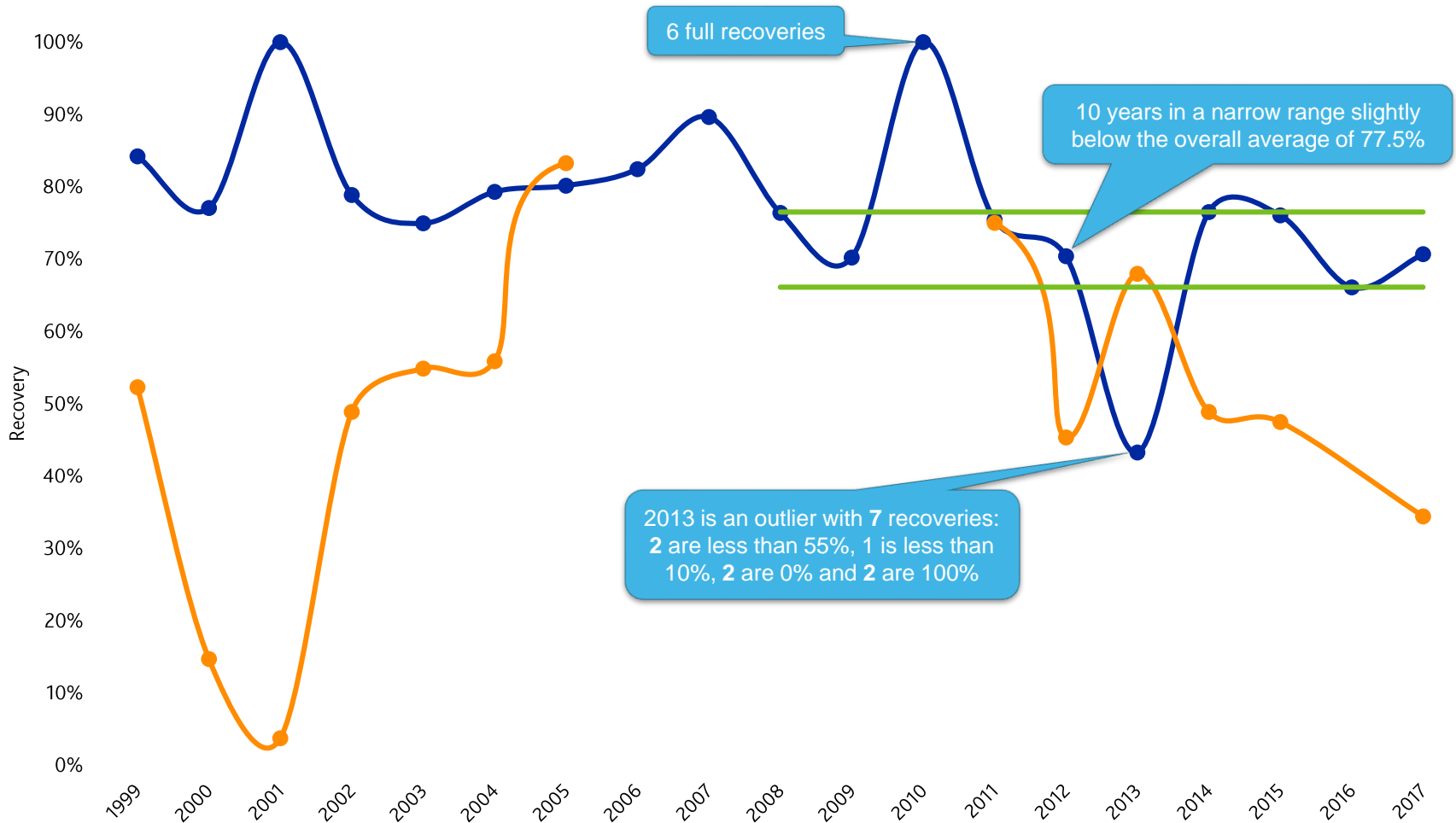


3

Recoveries

Recovery Volatility is Decreasing

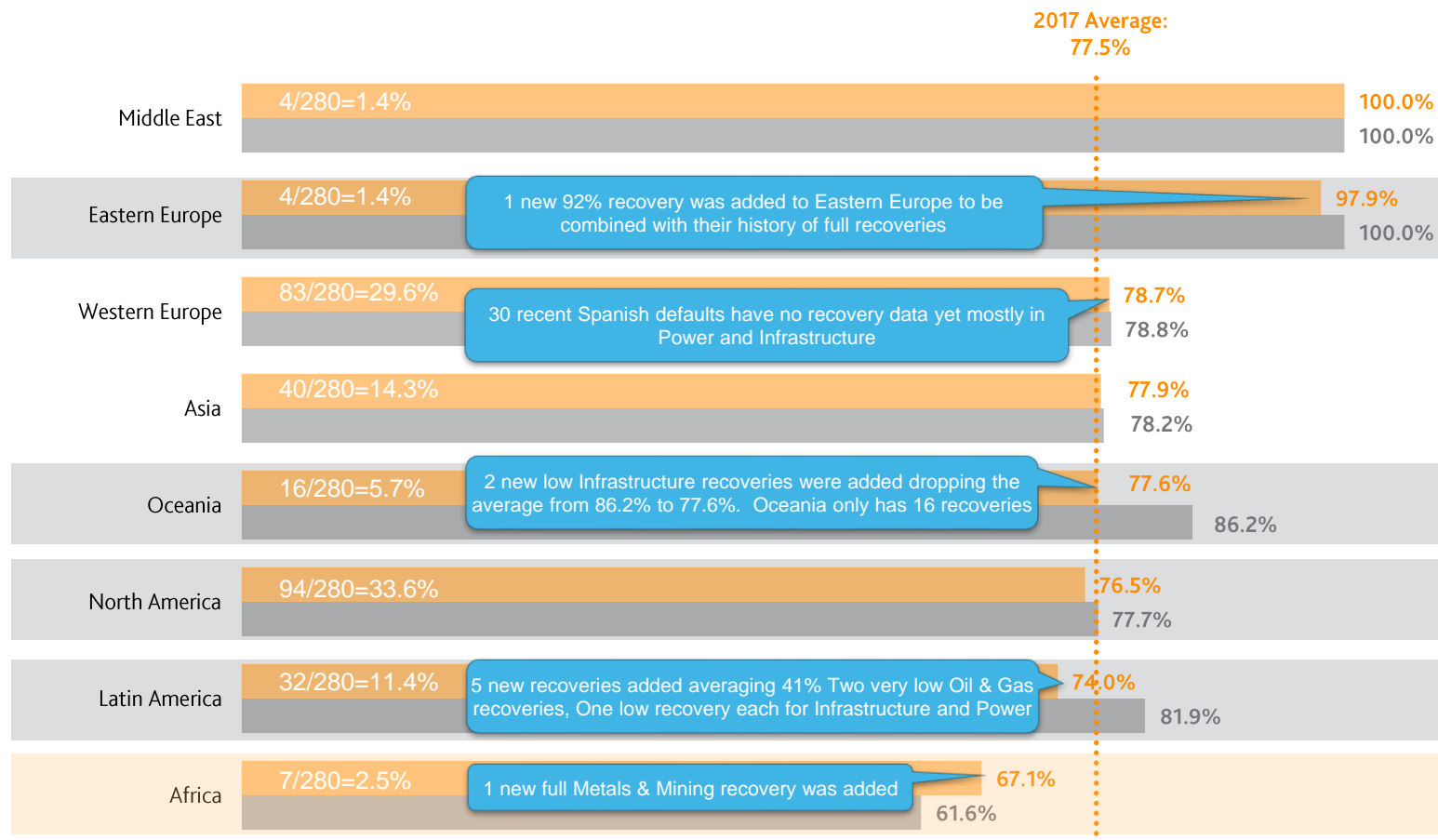
Distressed Sales Average Recovery by Year | All Projects Average Recovery by Year



Highest Recovery:

Middle-East, Eastern and Western Europe

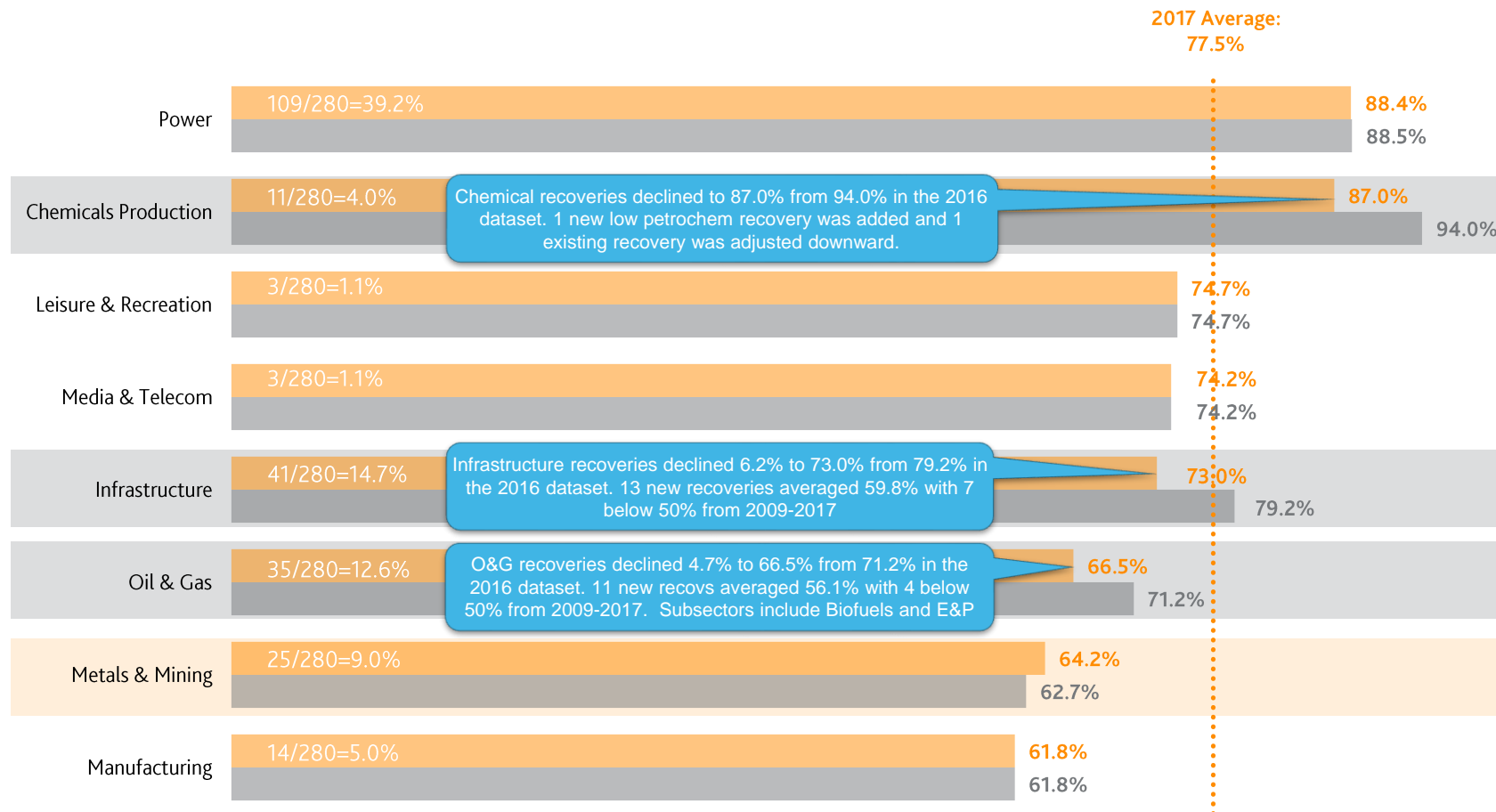
2017 Study | 2016 Study



Highest Recovery:

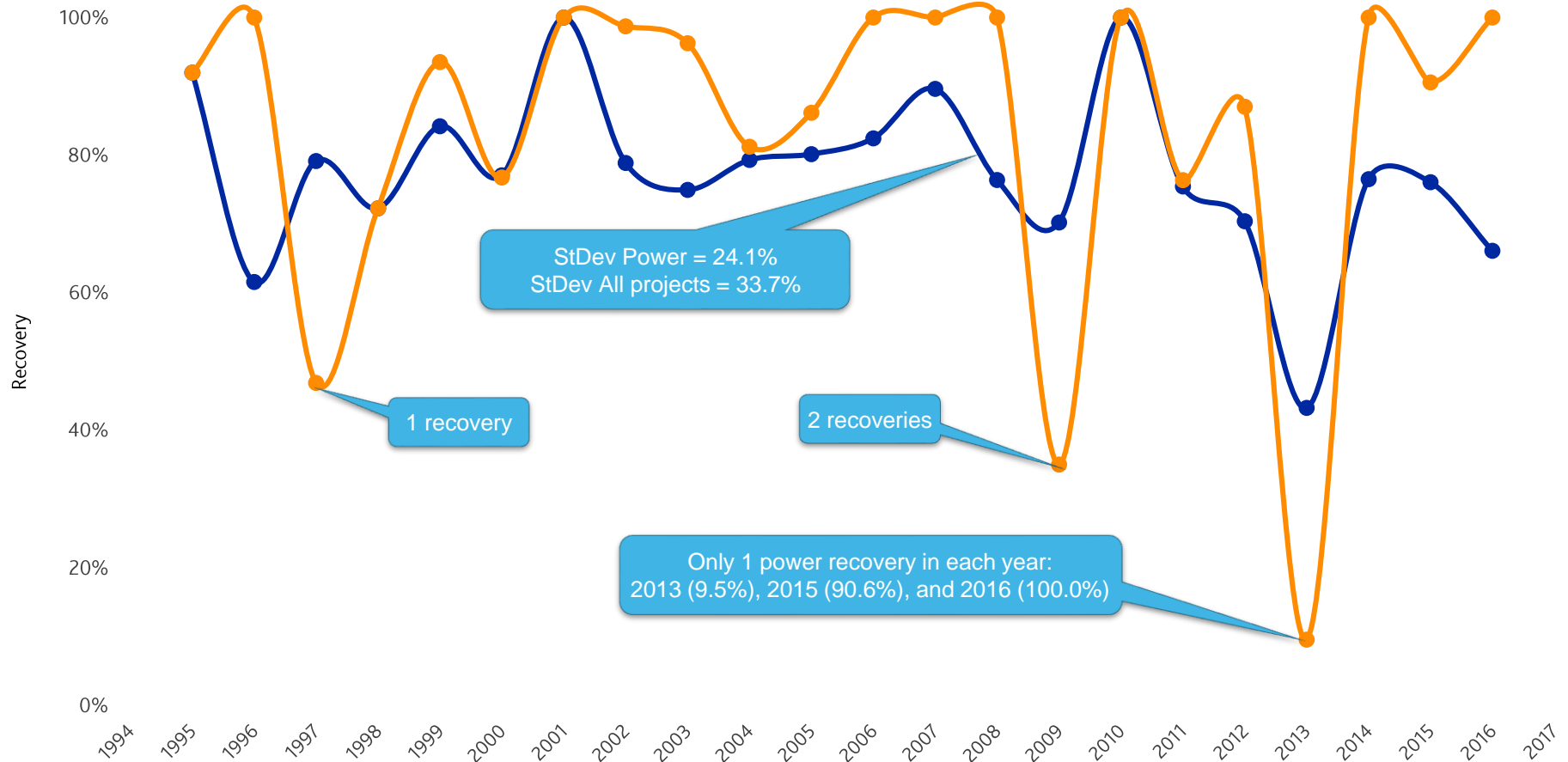
Power, Chemicals

2017 Study | 2016 Study



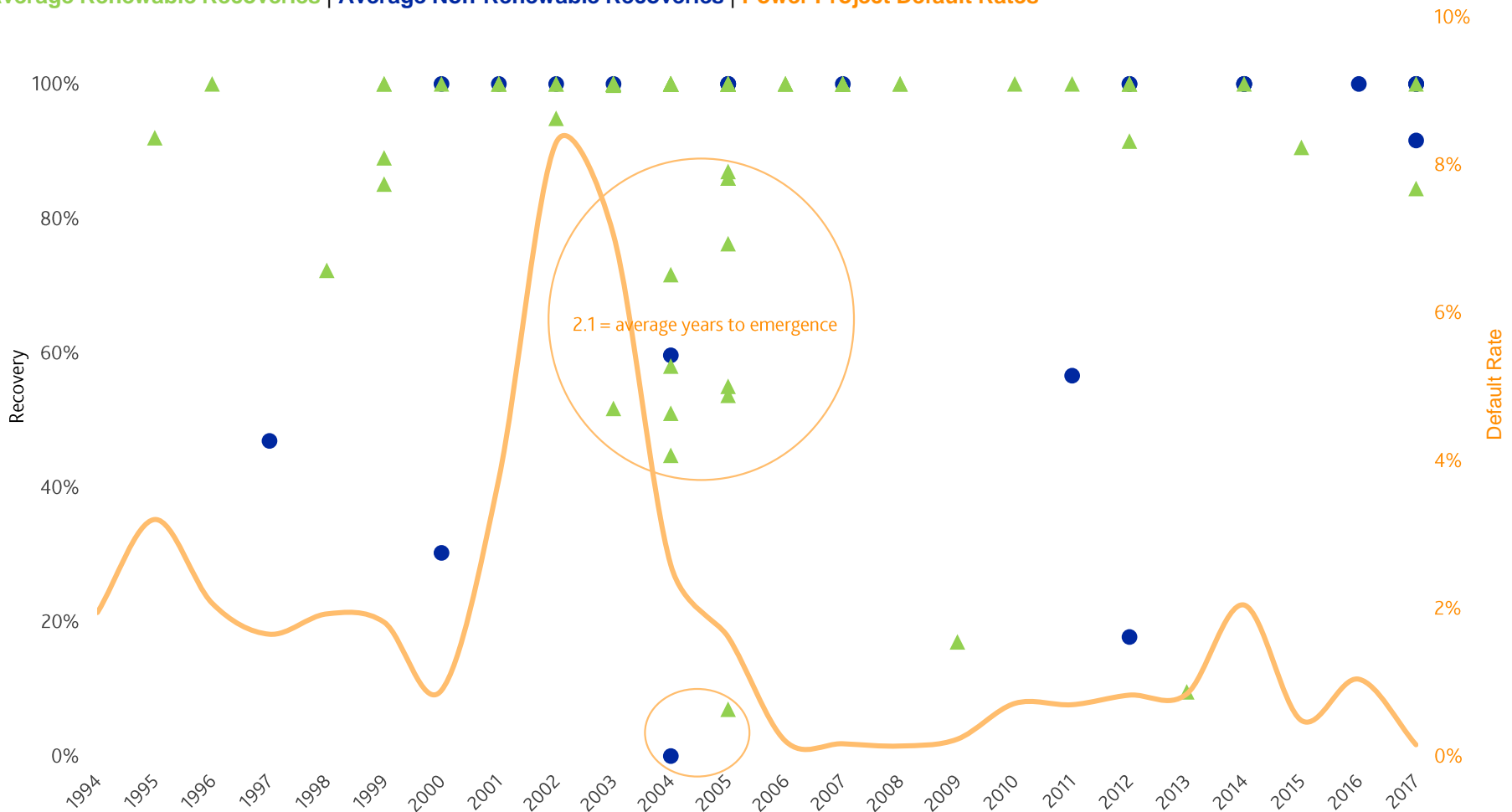
Power More Resilient Than Benchmark

Average Power Recoveries | Average Recoveries for All Projects



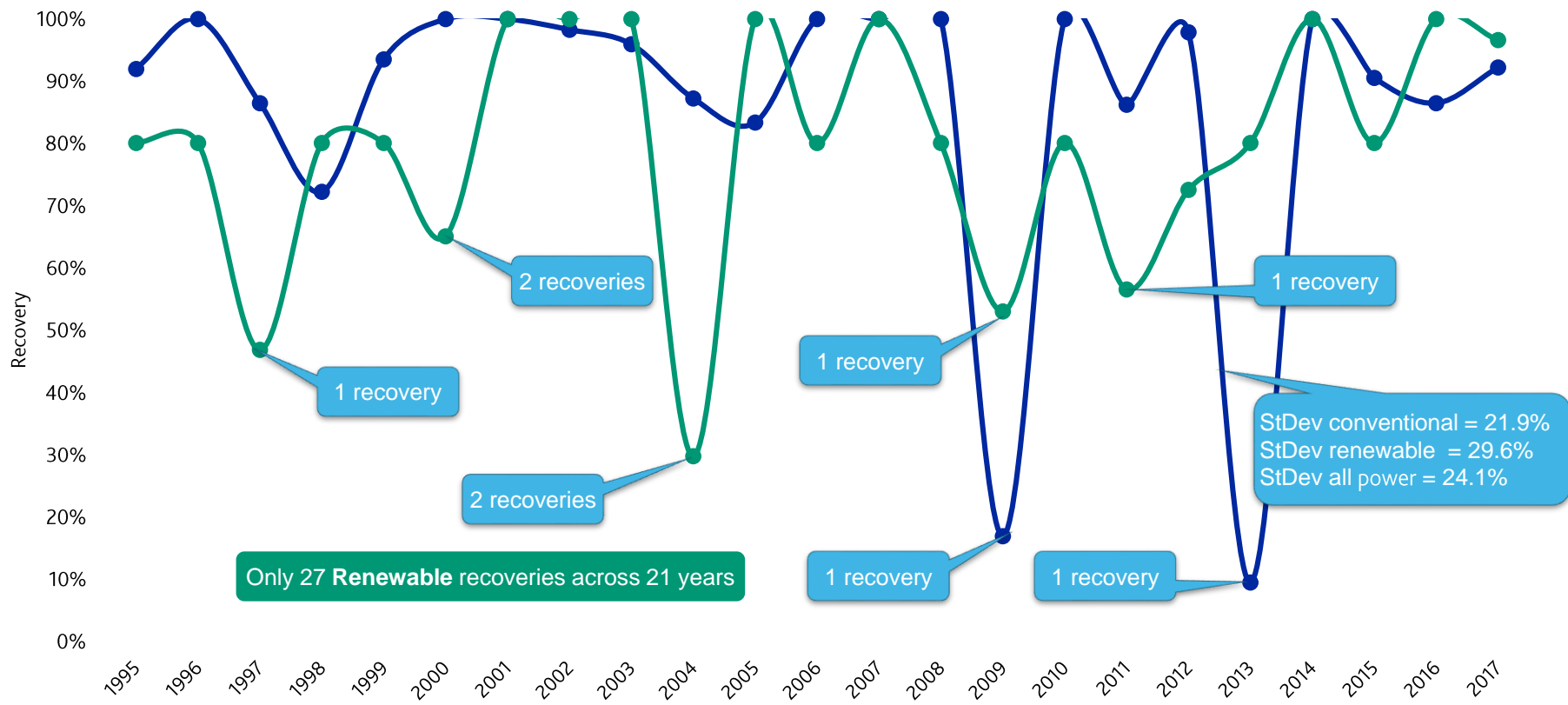
Power Recoveries Independent of Cycle

Average Renewable Recoveries | Average Non-Renewable Recoveries | Power Project Default Rates



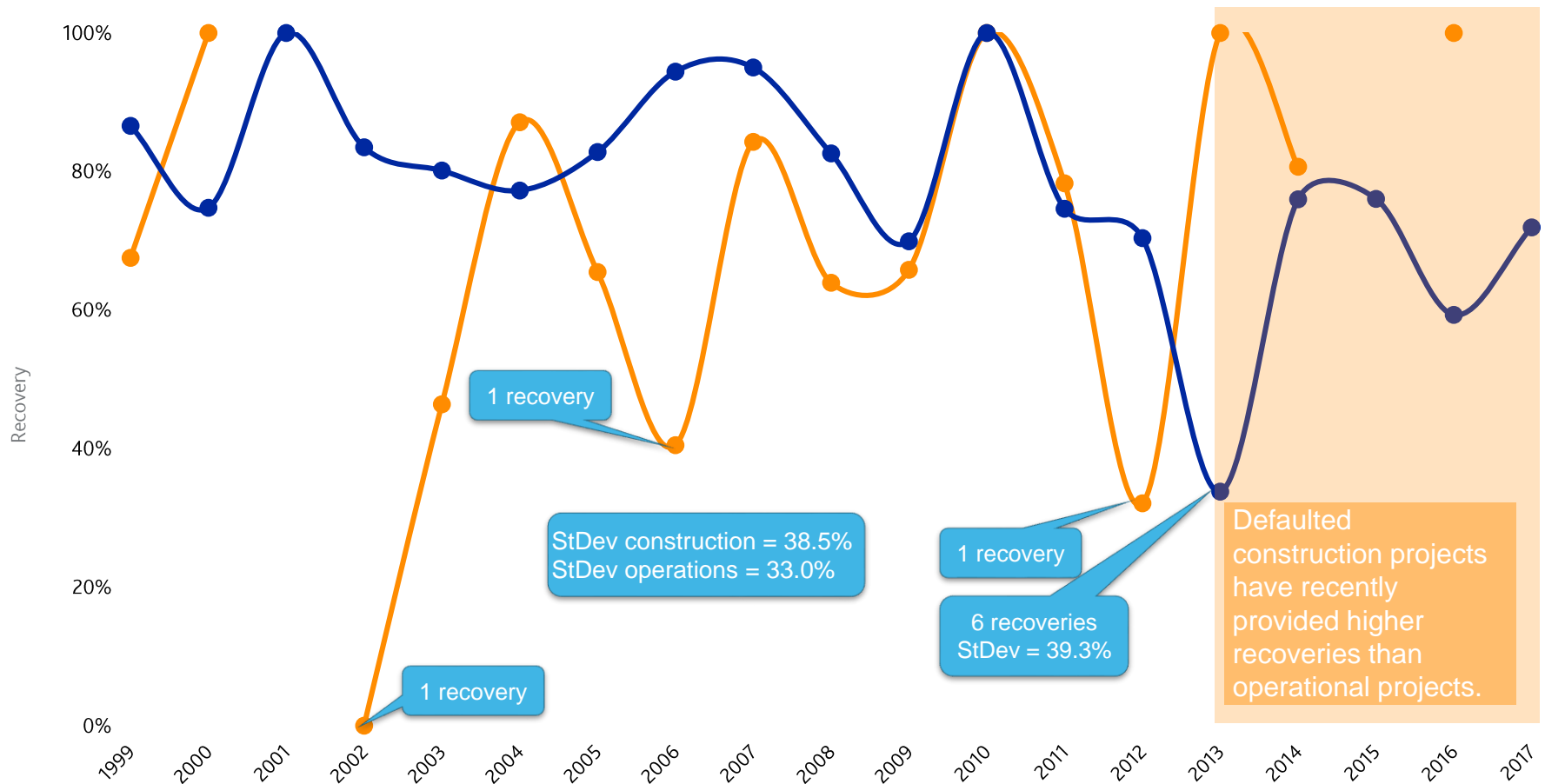
Conventional Recoveries > Renewables

Average Renewable Energy Production Recoveries | Average Conventional Energy Production Recoveries



High Recovery: Operational Projects

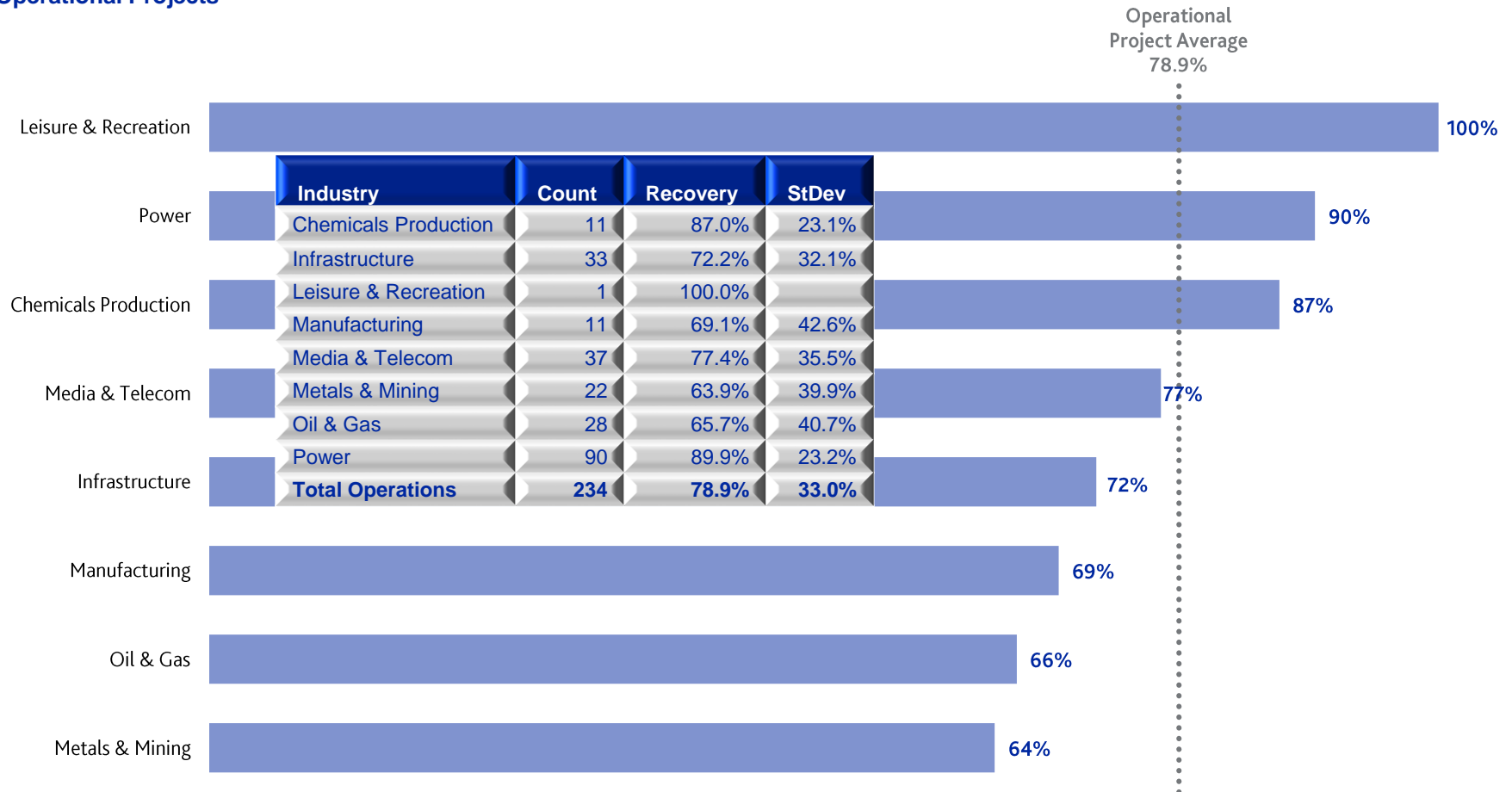
Average Recovery for Construction Projects | Average Recovery for Operational Projects



High Operations Recovery:

Leisure, Chemicals

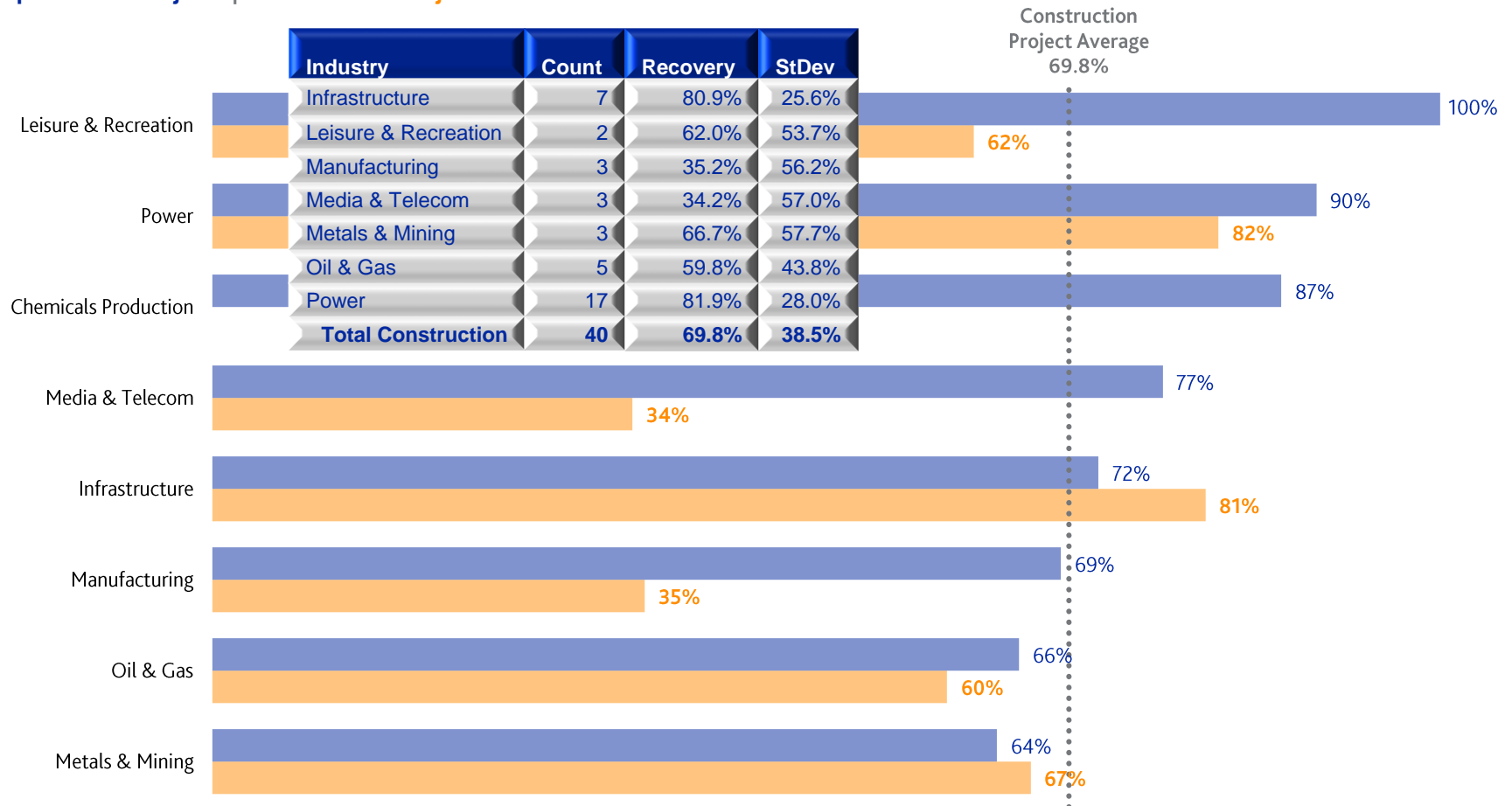
Operational Projects



High Construction Recovery

Infra, Power

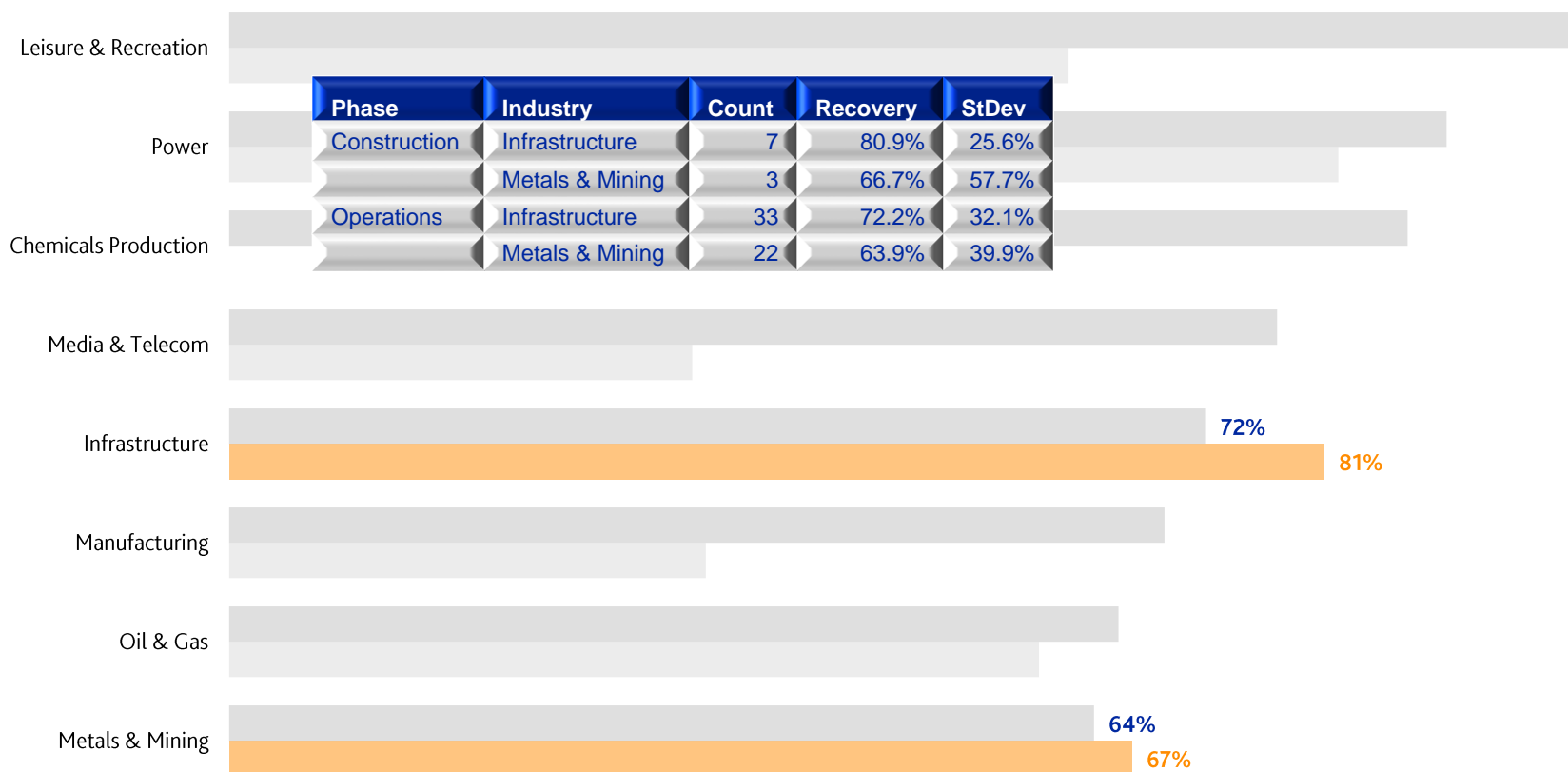
Operational Projects | Construction Projects



Construction > Operational Recoveries:

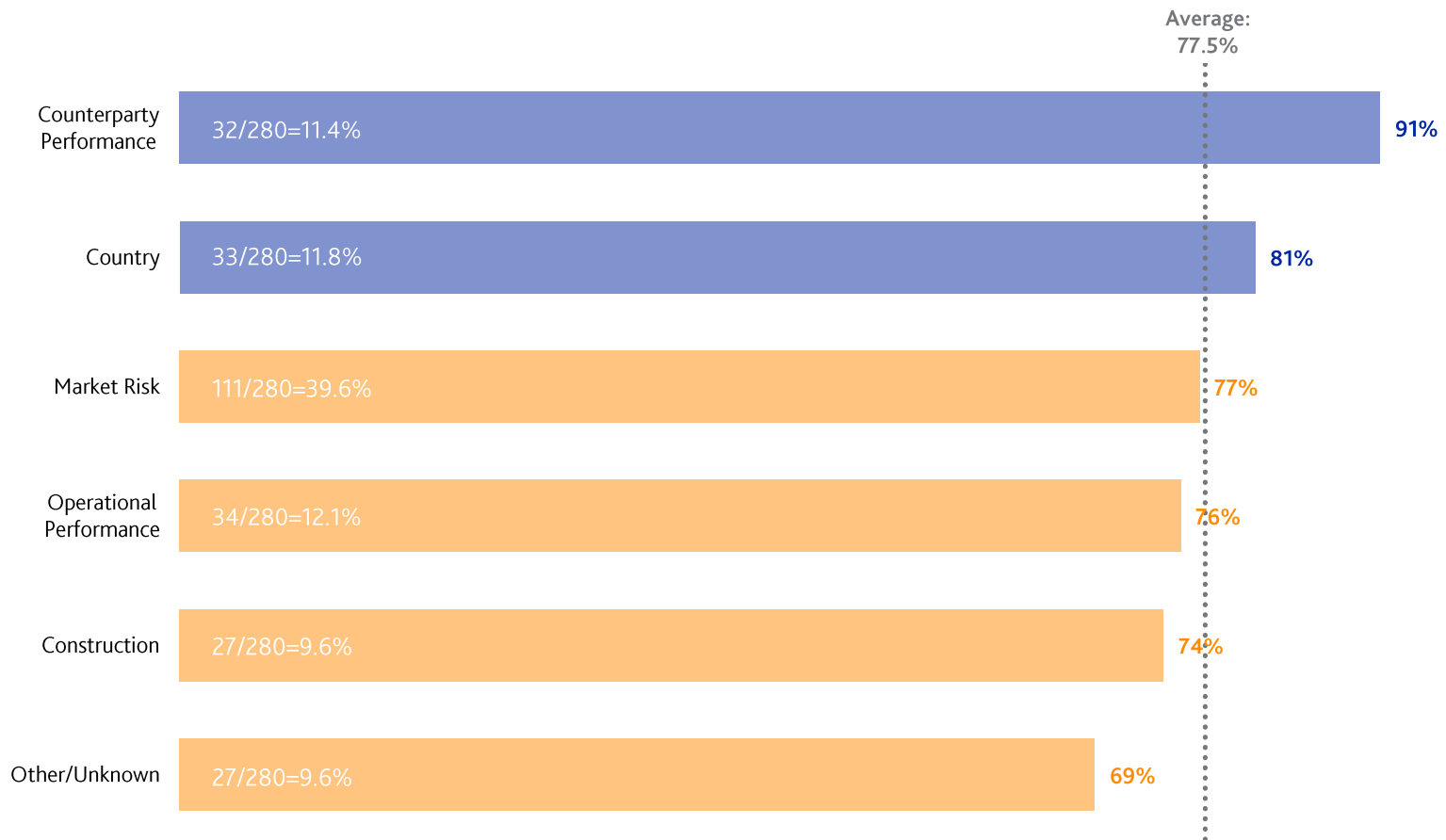
Infra, Mining

Operational Projects | Construction Projects



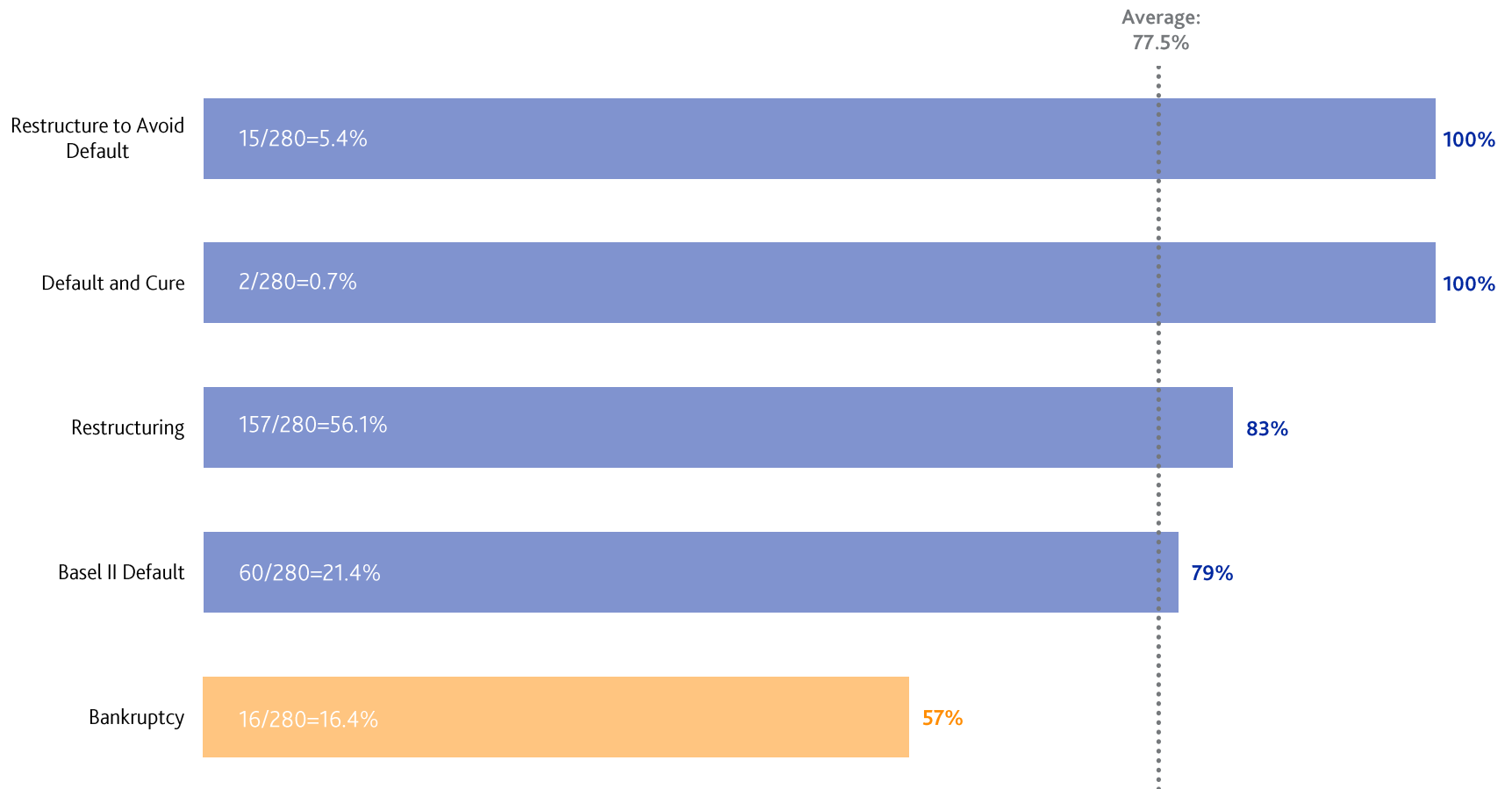
Restructuring based on Cause Of Default

Above Average Recovery | Below Average Recovery



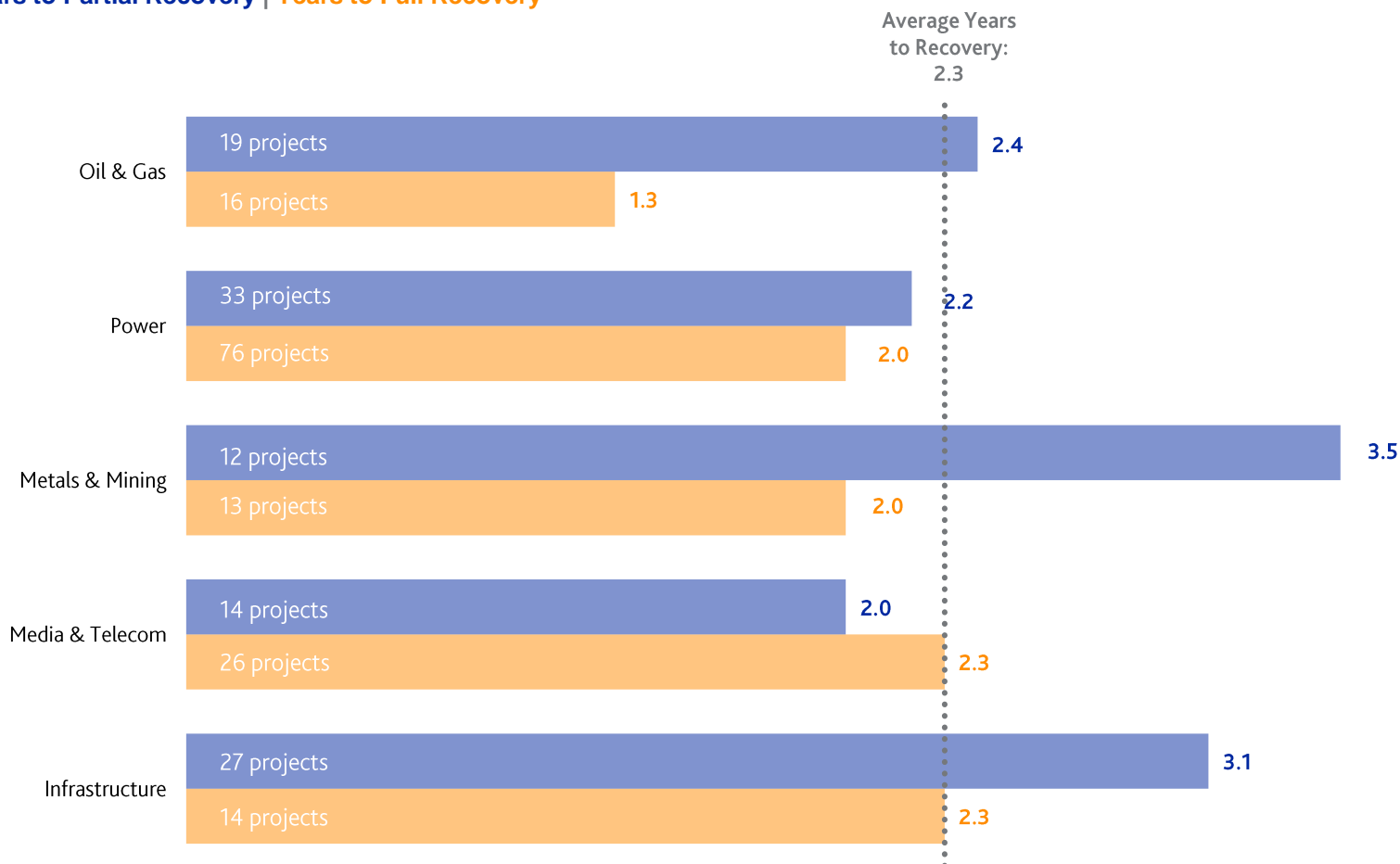
Default Type Impacts Recovery

Above Average Recovery | Below Average Recovery



Partial Recoveries Take Longer to Workout

Years to Partial Recovery | Years to Full Recovery





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