Taxonomy of a Crisis
Disclosures

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Biographical Information

Marc Seidner

Mr. Seidner is the CIO of Non-traditional Strategies, a managing director and head of portfolio management in the New York office. He is also a generalist portfolio manager and a member of the Investment Committee. He rejoined PIMCO in November 2014 after serving as head of fixed income at GMO LLC, and previously he was a PIMCO managing director, generalist portfolio manager and member of the Investment Committee until January 2014. Prior to joining PIMCO in 2009, he was a managing director and domestic fixed income portfolio manager at Harvard Management Company. Previously, he was director of active core strategies at Standish Mellon Asset Management and a senior portfolio manager at Fidelity Management and Research. He has 32 years of investment experience and holds an undergraduate degree in economics from Boston College.
Cause and Effect

Very different causes, but similar effect

2020
- Healthcare Crisis
- Imposed Restrictions
- Sudden Economic Stop
- Financial Market Disruption

Policy Response

2008
- Excessive Lending
- Financial Sector Failure
- Financial Market Volatility
- Economic Impact

Financial Market Volatility

Economic Impact
The speed and depth of the equity drawdown was remarkable

By the Numbers

**Current** drawdown fastest decline since 1929

- **Depth:** COVID-19 drawdown ~60% of 2008’s drawdown

- **Speed:** COVID-19 drawdown occurred in 6% of time it took for 2008’s drawdown to unfold

As of 30 April 2020
SOURCE: PIMCO, Bloomberg
Fixed Income is a very heterogeneous market

Not all participants seek to maximize total return
• Discretionary investors vs. rules-based investors
• Unleveraged investors vs. leveraged investors
• Mutual funds vs. ETFs
• Regulated vs. Unregulated
• Total Return vs. Book Yield
PIMCO’s Concentric Circles: Framing relative risk across asset classes

- Investments closer to the core represent the least amount of risk, while those at the periphery have more cash flow uncertainty
- Liquidity moves from the center to the outer periphery
- In March, there was no differentiation

**PIMCO’s concentric circles**

- Fed funds O/N repo
- 3-month T-bills + commercial paper + 2-year T-notes
- Intermediate + long Treasuries
- GSE mortgages + swaps + government futures + TIPS + agencies
- Bank debt + bank capital + national champions + AAA asset-backed
- High quality EM + munis + investment grade
- High quality CMBS
- High yield + bank loans + subprime mortgages + low quality EM
- Equities + real estate

For illustrative purposes only.
As of 30 April 2020
SOURCE: PIMCO
Market Disruption – ETF NAVs (Price / NAV)

As of 15 May 2020
SOURCE: Bloomberg
Charts are provided for illustrative purposes and are not indicative of the past or future performance of any PIMCO product. Past performance is not a guarantee or a reliable indicator of future results.
Market Disruption – Deleveraging of REITS

Fannie Mae Low Loan Balance: Price Change since 12/31/2019

- Fannie Mae 3.5%
- Fannie Mae 4.0%
Market Disruption – Treasury market froze

- Market depth in duration markets were severely compromised during the March meltdown. Liquidity conditions deteriorated quickly with TYs trading ~450 contracts up and CT10s on ~$13MM Notional per lot at the height of the crisis.

As of 15 May 2020
SOURCE: JPMorgan
*Market depth: cash market depth is the average of the top 3 bids and offers on-the-run Treasuries, averaged between 8:30am and 10:30am daily. Futures market depth is measured similarly to cash, including both the front and back contract.
Market Disruption – Muni Market funding stresses

As of 30 April 2020

SOURCE: Bloomberg

Market Disruption – Muni Market historic cheapness

As of 30 April 2020

SOURCE: Bloomberg

The terms “cheap” and “rich” as used herein generally refer to a security or asset class that is deemed to be substantially under- or overpriced compared to both its historical average as well as to the investment manager’s future expectations. There is no guarantee of future results or that a security’s valuation will ensure a profit or protect against a loss.

The Muni/UST 1-Y Ratio measures the AAA ten-year muni yield to the ten-year U.S. Treasury yield, through Bloomberg ticker MUNSMT10.

Muni/Corp Index Ratio is measured using the Bloomberg Barclays Municipal Bond Index Total Return Index and Bloomberg Barclays US Corporate Total Return Index.
Observations

- Markets generally functioned/ system “worked”
- Derivatives helped risk transfer
- Direct access to Federal Reserve policy tools would help
- Opportunity for all-to-all trading platforms
Critical Importance of Liquidity Management

PIMCO manages liquidity at the individual portfolio level, based on stress-testing each portfolio and monitoring adherence to liquidity targets on a daily basis.

**Stress test**

- Derivative positions (potential margin calls)
  - Traditional VaR
  - Historical scenarios
  - Forward-looking scenarios

- Fund outflows
  - Analyze historical inflows and outflows by strategy

**Monitor**

- Review adherence to liquidity targets daily for portfolios
- Consider PIMCO’s cash desk projections of any expected future cash requirements
- Escalate to desk head, Investment Committee or CIOs as required

Analysis combines forward-looking scenarios with historical market conditions and portfolio flows.
Credit derivatives enabled risk transfer…

As of 18 May 2020
SOURCE: Bloomberg
...in a very efficient manner

As of 15 May 2020
SOURCE: Bloomberg
## Impact of policy and asset managers in market healing

<table>
<thead>
<tr>
<th>Sector</th>
<th>Gross Supply</th>
<th>Maturities/Paydowns</th>
<th>Central Bank Purchases</th>
<th>Net Supply</th>
<th>Net Supply including Central Bank Purchases</th>
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</thead>
<tbody>
<tr>
<td><strong>Sovereign Sectors</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>US Treasuries</td>
<td>$462.0</td>
<td>$348.9</td>
<td>$1,504.1</td>
<td>$113.1</td>
<td>($1,391.0)</td>
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<tr>
<td>Agency MBS</td>
<td>$396.0</td>
<td>$290.0</td>
<td>$526.0</td>
<td>$106.0</td>
<td>($420.0)</td>
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<td>EUR and GBP Sovereigns</td>
<td>$537.6</td>
<td>$278.8</td>
<td>$400.9</td>
<td>$258.9</td>
<td>($142.0)</td>
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<tr>
<td>Asia Sovereigns</td>
<td>$6.7</td>
<td>$2.0</td>
<td>$0.0</td>
<td>$4.7</td>
<td>$4.7</td>
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<tr>
<td>Emerging Markets ex-Asia Sovereigns</td>
<td>$59.7</td>
<td>$28.3</td>
<td>$0.0</td>
<td>$31.4</td>
<td>$31.4</td>
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<td><strong>Total Sovereign Sectors</strong></td>
<td>$1,462.0</td>
<td>$948.1</td>
<td>$2,431.0</td>
<td>$514.0</td>
<td>($1,917.0)</td>
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<tr>
<td><strong>Credit Sectors</strong></td>
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<td></td>
<td></td>
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<tr>
<td>US Investment Grade</td>
<td>$588.0</td>
<td>$193.0</td>
<td>$0.0</td>
<td>$395.0</td>
<td>$395.0</td>
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<td>US High Yield</td>
<td>$49.0</td>
<td>$46.0</td>
<td>$0.0</td>
<td>$3.0</td>
<td>$3.0</td>
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<td>US Loans</td>
<td>$13.5</td>
<td>$0.0</td>
<td>$0.0</td>
<td>$13.5</td>
<td>$13.5</td>
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<tr>
<td>US Securitized (ex-Agency MBS)</td>
<td>$32.8</td>
<td>$26.4</td>
<td>$0.0</td>
<td>$6.4</td>
<td>$6.4</td>
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<tr>
<td>European Securitized</td>
<td>$6.1</td>
<td>$13.0</td>
<td>$6.5</td>
<td>($6.9)</td>
<td>($13.4)</td>
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<td>Covered Bonds</td>
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<td>$33.5</td>
<td>$26.0</td>
<td>($13.0)</td>
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<td>European Credit</td>
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<td>$37.1</td>
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<td>Asia Credit</td>
<td>$32.7</td>
<td>$51.6</td>
<td>$0.0</td>
<td>($18.8)</td>
<td>($18.8)</td>
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<td>Emerging Markets ex-Asia Credit</td>
<td>$17.3</td>
<td>$21.2</td>
<td>$0.0</td>
<td>($3.9)</td>
<td>($3.9)</td>
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<td><strong>Total Sovereign Sectors</strong></td>
<td>$900.2</td>
<td>$440.4</td>
<td>$69.5</td>
<td>$458.8</td>
<td>$389.6</td>
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<td><strong>TOTAL</strong></td>
<td>$2,362.2</td>
<td>$1,388.5</td>
<td>$2,500.5</td>
<td>$972.8</td>
<td>($1,527.5)</td>
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</table>

**SOURCE:** Intex, JPMorgan, eMBS, Federal Reserve, European Central Bank, Morgan Stanley, Bloomberg, PIMCO
Appendix

Past performance is not a guarantee or a reliable indicator of future results.

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Performance results for certain charts and graphs may be limited by date ranges specified on those charts and graphs; different time periods may produce different results. Charts are provided for illustrative purposes and are not indicative of the past or future performance of any PIMCO product.

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