



Less is Definitely More...Ways to Optimize Your Lending Earnings in the Future

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Securities Lending: The Basics

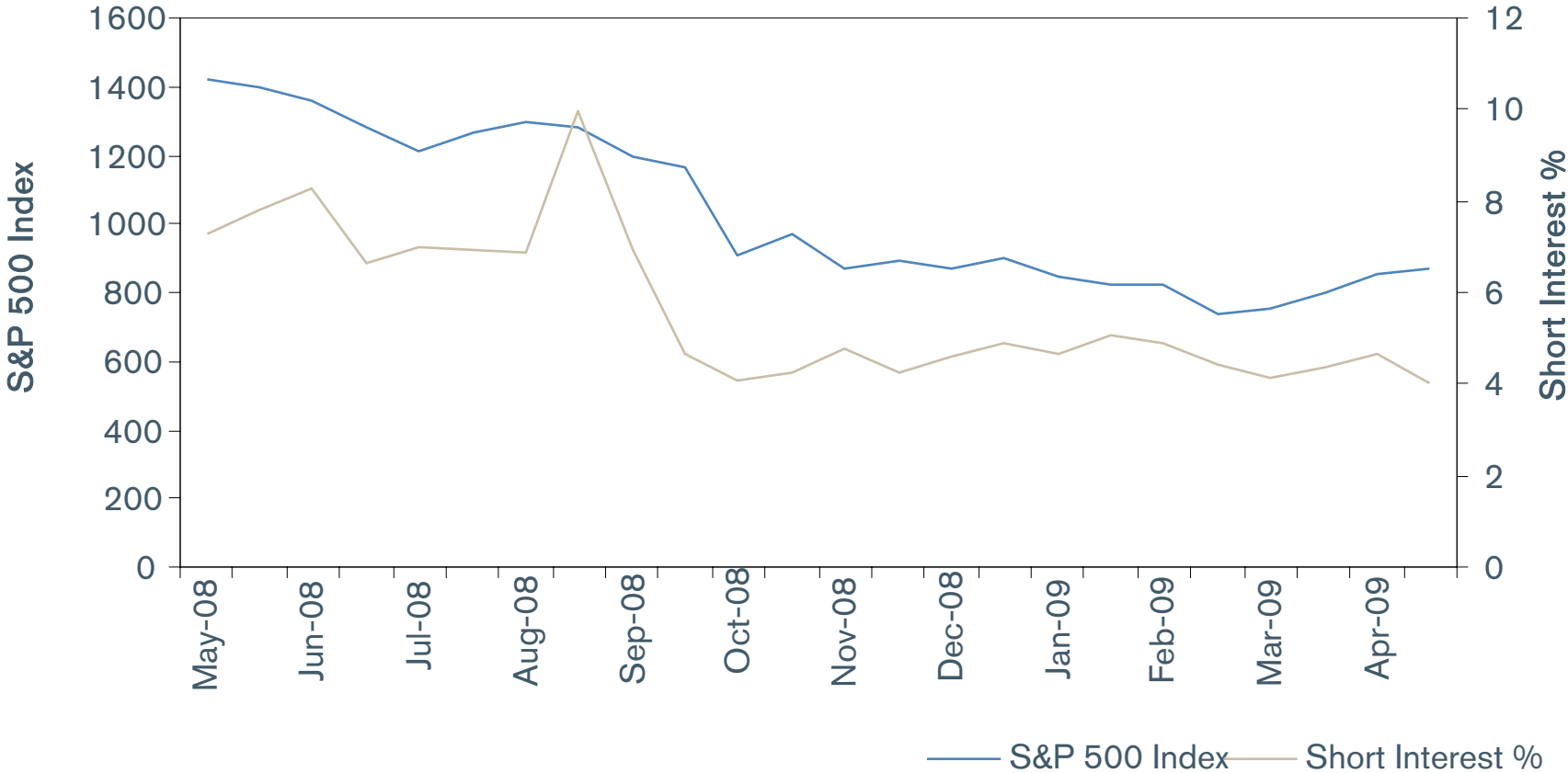
- Over-the-counter transaction between two parties – a lender and a borrower
- Lender temporarily transfers securities they own to the borrower
- Typically a collateralized transaction
- Borrower obliged to return securities to lender on demand / at agreed upon term
- Borrower pays lender a fee for the use of securities
- Generally facilitated by a third-party – agent, custodian bank, index fund manager

The term “lending” is in fact a misnomer...in reality, title to the security and associated rights and privileges passes to borrower

The Motivation to Borrow Securities

- Meet contractual settlement of securities
- Support short sales associated with trading strategies
 - Regulation SHO requirements on short sales
- Temporary transfer of ownership to take advantage of tax / dividend arbitrage
- To finance positions

NYSE Short Interest Ratio



Characteristics of a Securities Lending Transaction

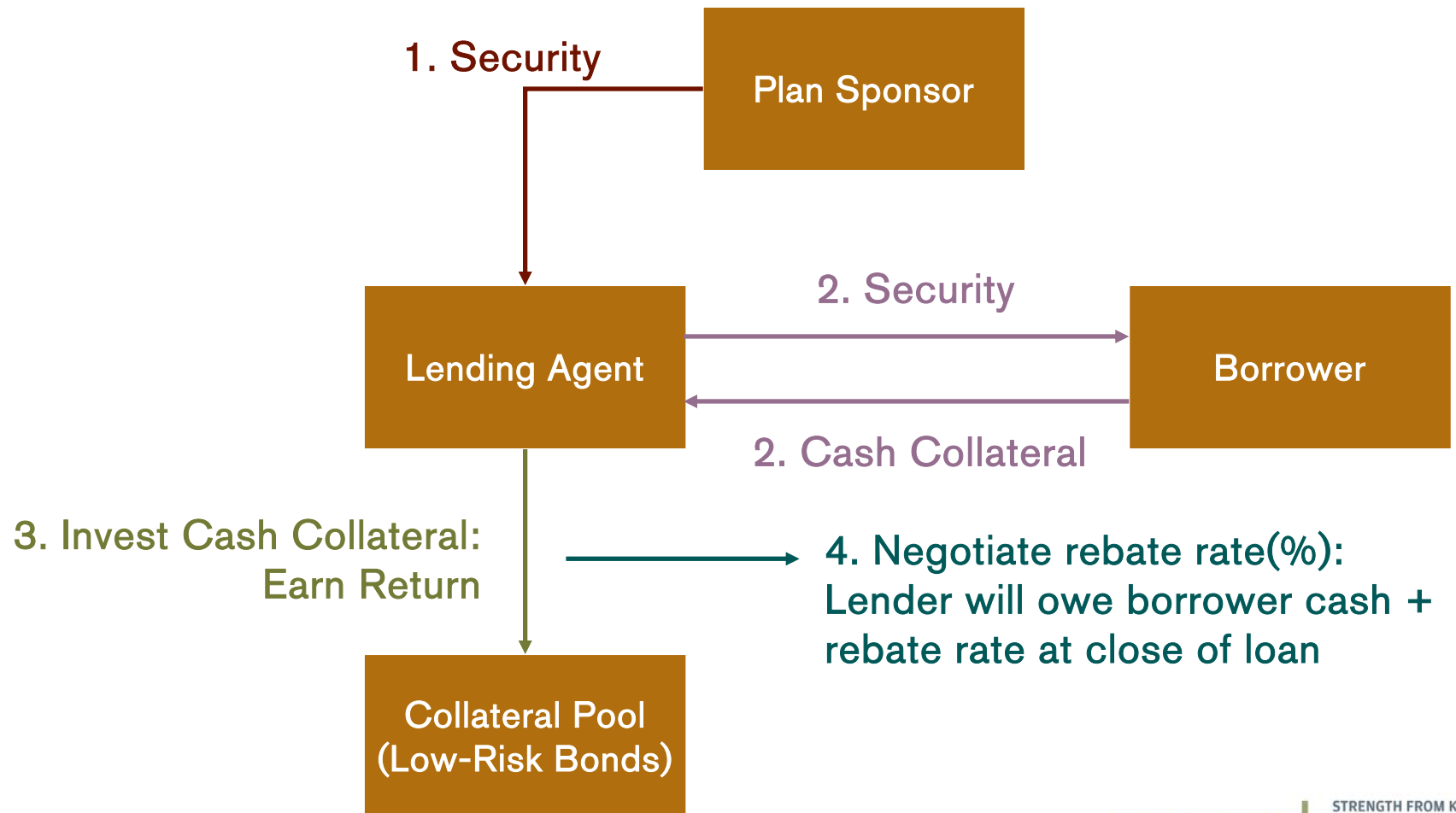
- Lending transaction results in transfer of securities from lender to borrower
- Lender gives up ability to vote shares...can recall securities to vote
- Borrower agrees to transfer income on securities (interest / dividend) to lender
- Lender maintains an economic interest in security and is exposed to price fluctuation

Proxies / Sec Lending – A Governance Challenge?

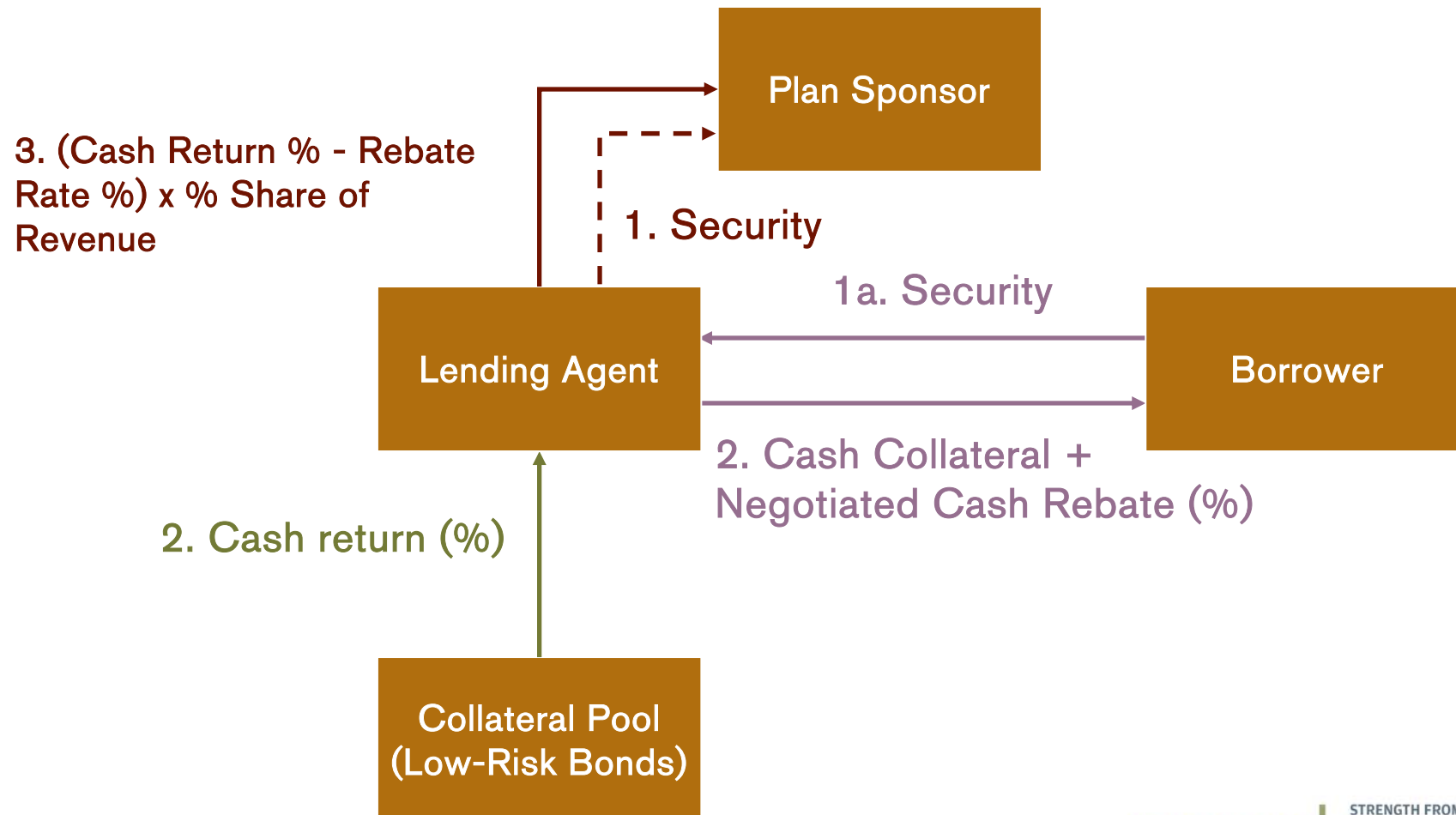
- Notion of “empty voting” brought up in 2006 research article*
- Alleged that hedge funds borrowed stocks to influence proxy votes
- Why this may be isolated
 - Regulation T and the “purpose test”
- How this can be mitigated
 - Engage specialist proxy services provider – for instance, Glass Lewis
 - Hold “small” allocation to security – don’t lend all shares out

*“Empty Voting and Hidden (Morphable) Ownership: Taxonomy, Implications, and Reforms”,
Bernard Black and Henry Hu

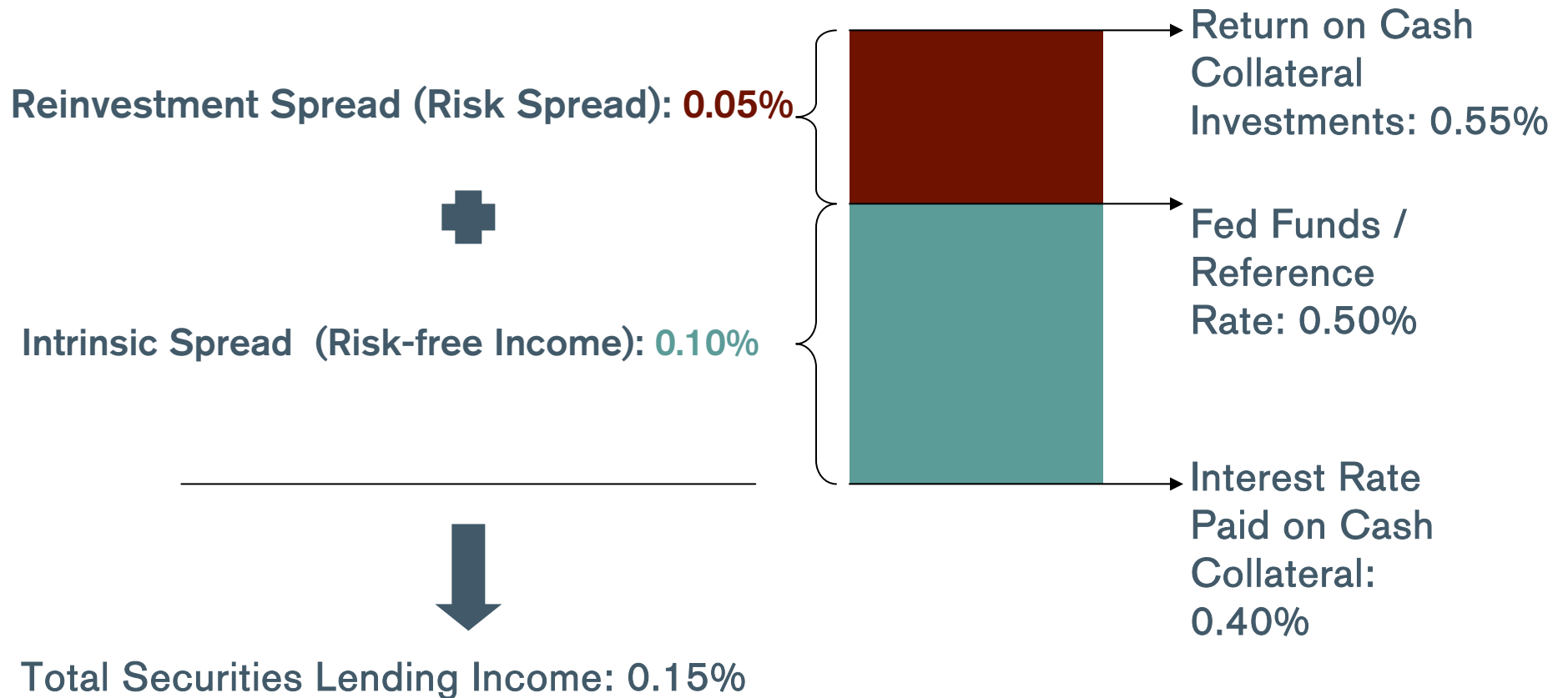
How it Works



How it Works



The Components of Sec Lending Income



Total Securities Lending Income Split Between Asset Owner and Lending Agent.

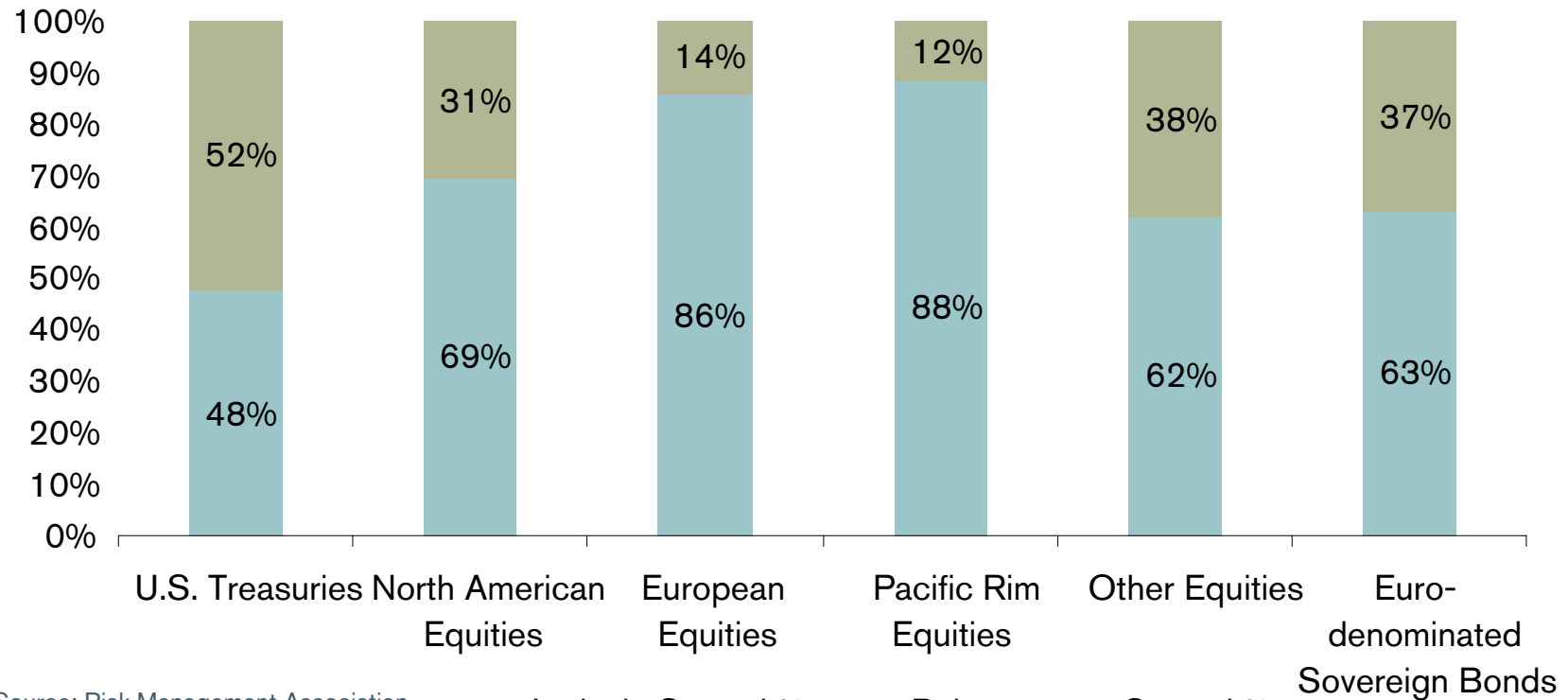


Drivers of Intrinsic Spread

- Demand / Supply for securities
- **General collateral** – securities for which supply is abundant (e.g. S&P 500 securities)
- **Specials** – securities for which demand far exceeds supply (e.g, emerging market equities)
- General collateral yields low intrinsic spread ($\sim 0.10\%$)
- Specials yield very attractive intrinsic spread: the greater the demand, the higher the spread
- Securities that normally trade as general collateral can trade special sometimes

Historical Averages: Components of Income

Decomposition of Lending Earnings: Industry Average



Source: Risk Management Association,
Average (2002/Q1 - 2008/Q2)

■ Intrinsic Spread %

■ Reinvestment Spread %



Risks: Operational Risks

- Several moving parts in a lending transaction
- Monitoring compliance with borrower limits
- Tracking corporate actions
- Recalling securities when sold
- Mitigating operational risk
 - Not as much of a concern today: Most processes are seamless
 - Advancement in security processing technology
 - Electronic integration of financial intermediaries

Risks: Counterparty Risk



LEHMAN BROTHERS



BEAR
STEARNS



- Risk that the counterparty to whom securities are lent defaults
- Counterparty risk can be greatly mitigated
 - Select and monitor high quality counterparties
 - Over-collateralize loans and mark-to-market on a daily basis
- Agents typically agree to indemnify losses resulting from counterparty default



Risks: Reinvestment Risk

- Cash collateral reinvesting – seek to add value by bearing:
 - Interest-rate risk: asset/liability mismatch
 - Credit risk: default/downgrade rise
- Lending agents do not generally indemnify against reinvestment losses
- If risks are excessive, they can result in material losses
- Reinvestment risk has been the primary cause of securities lending losses historically
- Mitigating reinvestment risk
 - Conservative collateral reinvestment guidelines

Reinvestment Risk – A Simple Case Study

Value of Securities Loaned	\$100,000
Cash Collateral Received	\$103,000
Fed Funds Rate	0.50%
Rebate Rate	0.40%
Intrinsic Spread	0.10% = \$103 for 1 year Or \$0.29 for 1 day
Annual Lending Yield on \$100,000 Loan of Securities	0.103%

- A simple overnight investment in a safe instrument would yield 0.10% of intrinsic spread or \$103 on \$103,000 of collateral over one year

Reinvestment Risk – A Simple Case Study

- Assume now that the collateral is invested in 2-year Treasury securities
- Interest rates spike 0.25% immediately after the investment is made
- Value of collateral declines from \$103,000 to approximately \$102,485
- But, the Investor still needs to return \$103,000 to the borrower

Value of Collateral to be Returned to Borrower	\$103,000
Value of Collateral After Interest Rate Hike	\$102,485
Loss in Value of Collateral Overnight	-\$515.00
Income from Lending (Intrinsic Spread)	+0.29
Aggregate Loss	-\$514.71
Loss on \$100,000 of Loaned Securities	-0.51%

Incentive Structures: Lopsided Risks Vs. Rewards

- Collateral and the indemnification provided by lenders against borrower default mitigate counterparty risk to a very large extent
- In 2008, despite large bank failures, investors did not incur losses arising from counterparty defaults
- Agents, who also manage cash, benefit from taking on more reinvestment risk
- While lending agents share in gains, clients bear material losses arising from reinvestment risk
- The greater the income, the greater the dollar revenue they generate for themselves
- But, when losses occur, the client bears a substantial portion of the losses

Lending: Routes to Market

Agency Lending

- Agent lends securities on a best-efforts basis
- Splits earnings with clients
- Low risk – lend to high quality counterparty, over-collateralized, marked-to-market
- Primary route to market for most asset owners
- Facilitated by: custodian banks, asset managers, specialized third-party lending agents

Principal Lending

- Client provides exclusive access of securities to a borrower
- Borrowers in turn lend to hedge funds or may use securities for own inventory
- Exclusive access to securities commands a premium
- Risk is high if counterparty defaults and if lender has inadequate collateral
- Not a common route to market for most asset owners
- Borrowers include large banks and broker/dealers

Routes to Market: The Hybrid Approach

The Hybrid Approach: Agency Exclusives

- Agent seeks bids from borrowers for exclusive right to borrow securities from client
- All other aspects of the transaction similar to agency lending
 - Collateral is received securities are loaned, collateral is marked-to-market daily, etc.
- Gaining traction as an attractive route to market
- Risks are similar to agency model
- Exclusive right to borrow commands premium
- Can be facilitated by any agent
- May not be attractive for all portfolios

Problems in 2008: Cash Collateral Reinvestment

Credit Quality / Default Risk



The Acronym Soup

- Asset backed commercial paper (ABCP)
 - Structured investment vehicles (SIVs) backed by home equity loans
- Asset backed securities (ABS)
 - Credit card, student loan, and auto receivables
 - Collateralized loan and debt obligations (CDOs and CLOs)
 - Commercial mortgage-backed securities (CMBS)
- Commercial paper
- Corporate debt

Impact on Securities Lending Programs in 2008

- Cash collateral pools managed by several leading lending agents “broke the buck”
- Although not contractually obligated to do so, agents reimbursed client losses to varying degrees
- Some agents provided capital support to pools to support value in case of losses
- Severe illiquidity that plagued the short-duration fixed income markets impacted cash collateral pools
- Declining asset prices added further strain as lenders returned excess collateral to borrowers
- Agents restricted normal transaction activity
- Restrictions impeded investors’ ability to effectively manage their programs

Should You Continue to Lend?

- Yes!
- As long as programs are carefully structured to minimize risks
- 2008 losses attributable entirely to cash reinvestment activities, not lending activities
- Demand to borrow securities will always exist – short sellers
- We believe it is appropriate for clients to continue to engage in securities lending
- Focus on intrinsic income
- Minimize reinvestment risk

Short Selling – Is it Here to Stay?

- During 2008 crisis, regulators across the world imposed restricted short selling activities
- Short selling:
 - Aids price discovery
 - Improves liquidity
 - Ultimately reduces transaction costs
- SEC currently contemplating amendments to Regulation SHO

Regulatory Views on Short Selling

“...There should be some parity between going long and going short. We need the shorts in our market in order to balance so we don’t have bubbles...”

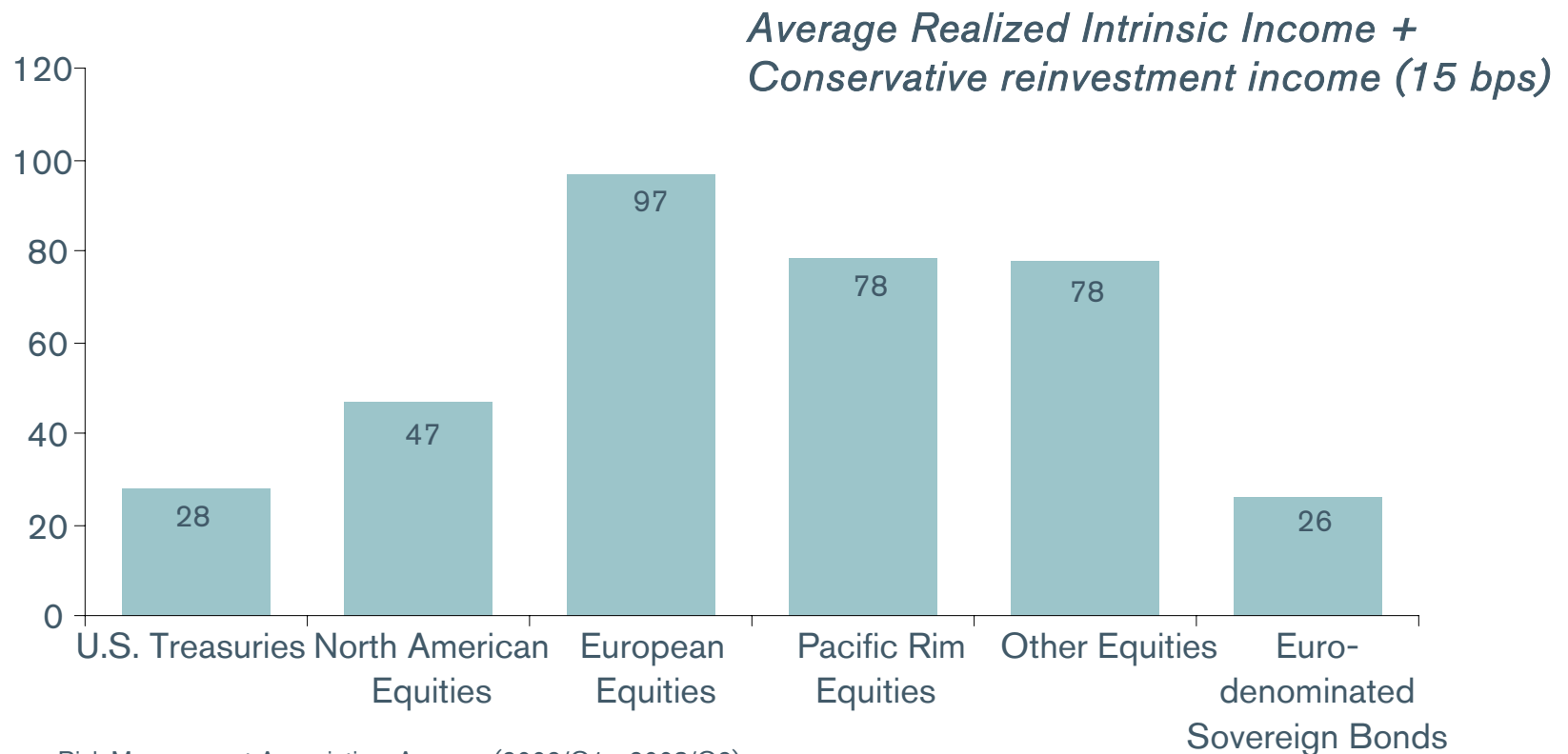
– Christopher Cox, Former SEC Chairman, July 16, 2008 (CNBC interview)

“... any short selling restrictions must balance the goal of helping to prevent abusive short selling with the view that legitimate short selling can provide tangible market benefits such as improved liquidity and pricing efficiency...”

– Mary Schapiro, SEC Chairman, May 5, 2009

Historical Lending Earnings

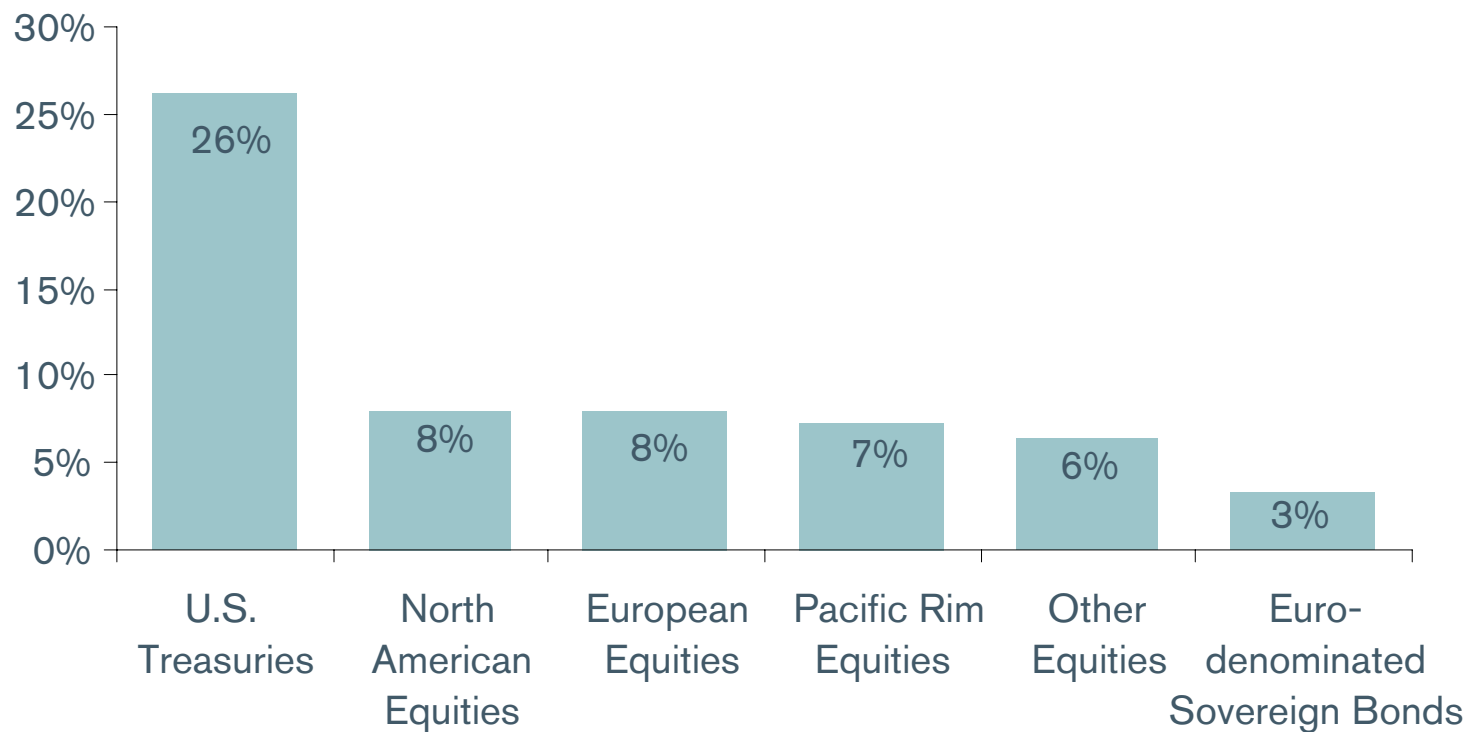
Average Securities Lending Income (in basis points)



Source: Risk Management Association, Average (2002/Q1 - 2008/Q2)

Historical Utilization Rates

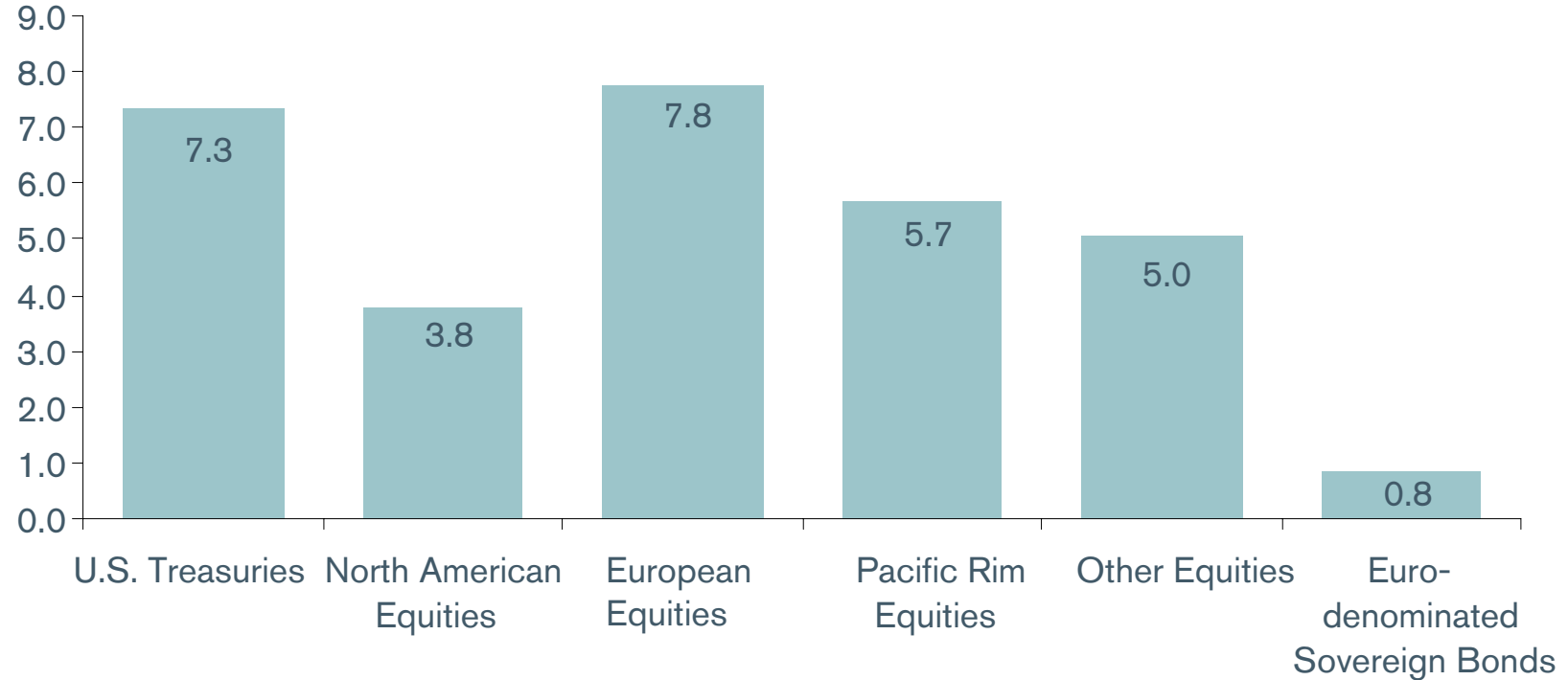
Average Utilization Rates / % of Lendable Securities Out on Loan



Source: Risk Management Association, Average (2002/Q1 - 2008/Q2)

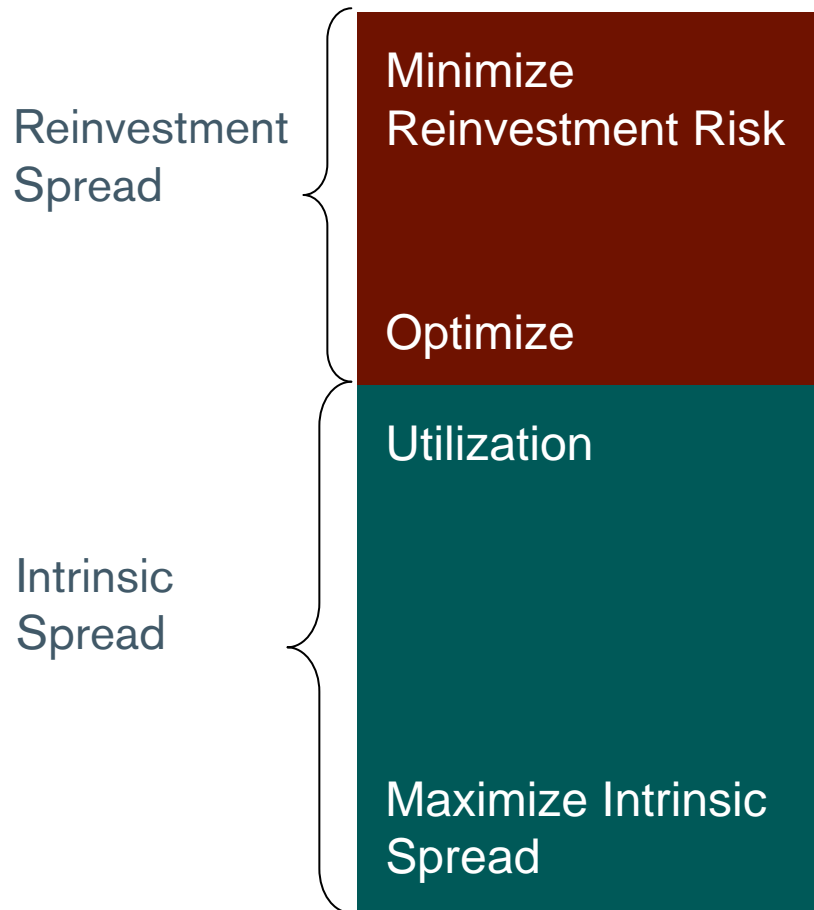
Estimated Securities Lending Earnings

Average Annual Yield on \$100mm Portfolio (in basis points)



Source: EnnisKnupp Calculations (based on industry data obtained from RMA)

Optimizing Securities Lending Income



- Maximizing Reinvestment Spread: *Not preferred*
 - Bearing credit risk and interest rate risk
 - Risk of principal loss
- Maximizing Utilization: *Use Caution*
 - Don't seek to aggressively increase *general collateral* balances
 - Be mindful of cost of capital and trade offs between income and risk
- Maximizing Intrinsic Spread: *Preferred*
 - Maximize utilization of *specials*

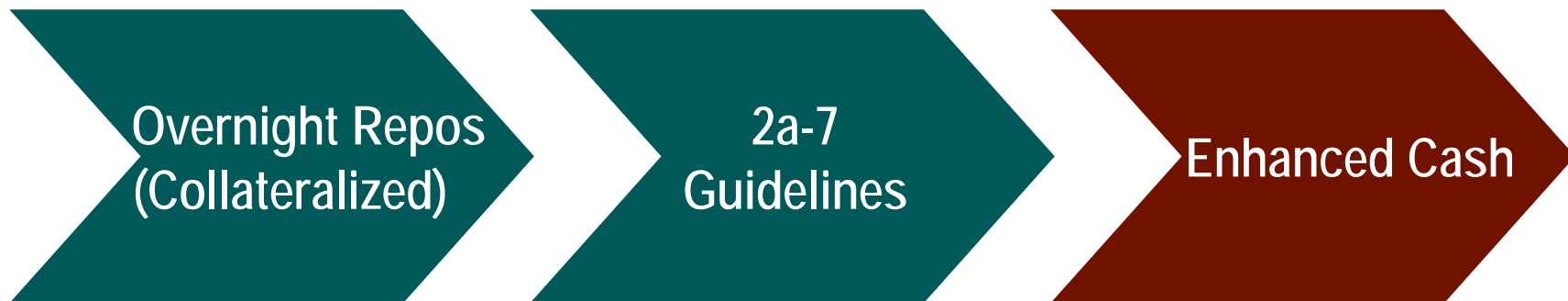
Securities Lending: The New Paradigm

- Historically, custodian banks maintained monopoly over securities lending
- Advancement in technology has led to increased competition in the marketplace
- Securities lending is not a back office function...it is an investment function
- Cash reinvestment associated with securities lending is in fact leverage
- Cash reinvestment portfolios can be the largest exposure within your portfolio
- Focus on developing best-in-class solution

Managing Cash Reinvestment Going Forward

- Cash reinvestment: risk that is uncompensated
- Limit enhancement of cash collateral reinvestment income
- Maintain simplicity
- Expect to see lending agents offer a variety of cash reinvestment options

Cash Collateral Reinvestments: The Risk Spectrum



Lending Within Index Funds

- Index funds are an attractive source of securities for borrowers
 - Large, stable availability of securities
- Securities lending can help offset some of the costs / fees of managing the fund
- But, cash collateral reinvestments can adversely impact index funds
 - Losses = negative tracking error
 - Illiquidity = inability to manage investments (rebalance, benefit payments, etc.)
- **Recommended Approach**
 - Focus on intrinsic lending
 - Dial reinvestment risk down to absolute minimum
 - Focus on cash collateral investment guidelines

Routes to Market: Should you Unbundle Custody and Lending?

- Appropriate for consideration
- Rapid advances in technology
- Custodians don't have an operational advantage anymore
- Growth in non-custodial / third-party lending agent model
- Lines are blurring – custodian's compete for third-party business
- Seek best-in-class providers
 - One or more third-party lenders
 - Custodian may have continued role
- May not be feasible for all clients

Third-Party Agent Lender: Advantages

- **Size**
 - Smaller programs
 - Higher level of individual client service
- **Specialization**
 - Lend specific asset classes
 - Recognized by borrowers as having inventory in specific areas – receive the first calls
 - Unique and first-to-market with creative solutions (for instance, proxy voting systems)
- **Customization**
 - Custom cash collateral investment pools
 - Customized lending solutions in sync with cash collateral investment strategies

Routes to Market: Principal / Agency Exclusives

- Do not favor principal lending
 - Significant counterparty risk
 - Additional monitoring costs will not outweigh potential benefit for most clients
- Favor agency exclusives
 - Program can be managed by agent lender
 - Focus on extracting maximum value out of specials

Non-Cash Collateral

- Increasing interest in using non-cash collateral recently
- Use of non-cash collateral has been more common in Europe than the U.S.
- Borrower pays a fee for use of securities (intrinsic income)
- In some instances, borrowers may be willing to pay a premium if non-cash collateral is accepted instead of cash collateral
- Typically, collateral provided has very similar characteristics to loaned securities – high correlations
- Collateralization levels remain the same (102% - 105%)

Should You Accept Non-Cash Collateral?

- **Advantage:**

- Collateral provided has similar characteristics to loaned securities – high correlation
- Collateral moves in line with changes in value of security loaned

- **Concerns**

- Illiquidity
- Price volatility of collateral
- Quality of counterparty

- **Use Caution**

- Matching characteristics of securities on loan with collateral perfectly is hard
- Favor higher quality government securities

The Future: Address Flawed Incentives

- Address the issue of flawed incentives!
- Disincentivize cash managers from excess risk taking
- Cash manager should be paid an asset based fee...and not a split in income

Solutions

- Align compensation structure for agent lender who is also cash manager with your interest
- Separate cash reinvestment function from lending function

The Future: Separating Reinvestment from Lending Function

Hire a cash manager that is separate and distinct from lender

Merits

- Focus on best-in-class providers in each category
- Align incentive structure
- Compensate cash manager with asset-based fee
- Lender compensated for generating value on loans

Challenges

- Not feasible for smaller asset owner
- Operationally more challenging
- Additional monitoring

Securities Lending: The Way Forward

- Securities lending is an investment function...not a back office function
- Engage in securities lending as long as it is done in a risk-controlled manner
- Focus on intrinsic spread...seek conservative cash collateral reinvestment guidelines
- Consider non-custodial / third-party lender if there is potential for value-added intrinsic income
- Principal lending not appropriate for most clients
- Pursue exclusives on an agency basis if there is potential for value-added intrinsic income
- Non-cash collateral: proceed with caution
- Address flawed incentive structures