

**LIQUIDITY
INSIGHTS**

J.P. Morgan Global Liquidity

A practical guide to evaluating
counterparty and sovereign risk



Risk guides from J.P. Morgan Global Liquidity

Risk management is a vital activity for any organization. Every day, companies may contend with operational, market, financial or reputational risk. But whatever the type of risk, the principle of successful management is the same: You need to know and fully understand the nature of your exposure before you can take effective action to control it.

This series of guides aims to explain the main types of risk that can arise when executing an investment strategy for short-term cash. These are:

- Credit and counterparty risk
- Interest-rate and liquidity risk

In each guide we describe the potential impact that each risk can have on an investment portfolio. We look at methods to evaluate the level of risk posed by different investments and strategies. We also outline the issues that organizations need to address within their own policies and processes to help ensure that risks are known, appropriate and properly controlled at all times.

We hope you and your colleagues find this series of guides both interesting and of practical value in your own investment decision-making.

If you would like to discuss any of the issues raised in this guide, please contact your J.P. Morgan Global Liquidity Client Advisor.

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Part 1: Defining credit and counterparty risk

Credit or counterparty risk can arise when an investor enters into a transaction with some form of payment obligation from another party, be it with a bank, a corporate or a government institution.

The various implications of aiming for higher yield need to be assessed carefully. Organizations may need to reassess their investment policy, their view of acceptable investments, their risk tolerance and how all of this might impact their reporting and accounting. In this paper, we set out seven action points that organizations need to address when deciding if seeking additional investment income is an appropriate and feasible course of action.

1. What is credit risk

Credit risk refers to the possibility that the issuer of a debt security will fail to meet its payment obligations in a timely way – either failing to make payments of interest or to repay principal on the date agreed. Any of these events can be termed “default”. The greater the potential for default, the higher the level of credit risk.

Impact of credit risk on a portfolio

The day-to-day concern for investors is not simply that an issuer *will* default on its obligations, but whether there is a *perceived* risk that it might. A downgrade or just the possibility of downgrade in the creditworthiness of a debt security can have a material impact. Implications include:

- 1. Principal** – A change in a debt security’s creditworthiness is likely to impact its market value. Rising credit risk is associated with increased price volatility and a decrease in market value.
- 2. Liquidity** – Reduced creditworthiness may make it more difficult to sell an investment should an investor wish to liquidate before the security matures.
- 3. Execution** – A downgrade in credit quality may put a security beyond the acceptable credit quality accepted within an organization’s investment policy.

Credit risk therefore needs to be assessed and managed very carefully within an investment strategy.

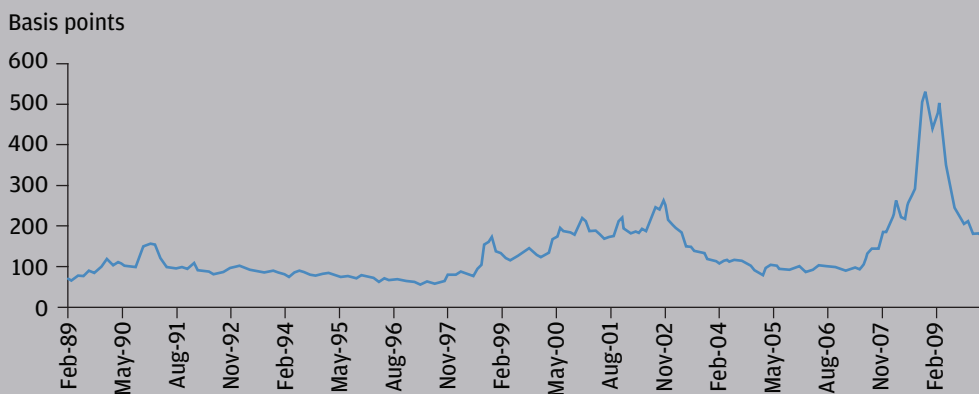
Credit spreads

Debt securities tend to offer different levels of yield depending on their perceived credit risk. As a rule, the higher the credit risk, the higher the yield offered.

The difference in yield on comparable investments with different perceived credit risks is known as the credit spread. Credit spreads can be used to track the risk “premium” on a riskier debt security over a lower-risk one – for example, the credit spread on U.S. corporate bonds over U.S. treasuries (see Exhibit 1), or the spread between government bonds of different credit quality.

Exhibit 1: Credit spreads for U.S. corporates over U.S. treasuries

Citi Broad Investment Grade Index 7-10 years



Source: Citi Broad Investment Grade Index (option adjusted spread).

Chart for illustrative and discussion purposes only.

The market value of debt securities can constantly fluctuate so that the credit spread approximately reflects the current perceived level of credit risk. If the perceived credit risk on a security increases then the market value will drop so the yield increases and the spread widens. If the credit risk of a security decreases, then its price will rise and the spread will narrow – see Exhibit 2.

Exhibit 2: Effect of credit risk on market value, yields and spreads

Credit risk increases ↑	Market value falls ↓	Yield rises ↑	Spread widens ↑
Credit risk decreases ↓	Market value rises ↑	Yield falls ↓	Spread narrows ↓

However, in some circumstances a narrowing credit spread can also indicate rising yields on government-issued securities as sovereign credit quality deteriorates. Also, not all credit risk is issuer specific: Slowing economic growth can affect all issuers and cause credit spreads to widen. Contagion risk can cause bad news about one company to affect other companies in the same sector.

Given all these different factors, the reasons behind any change in credit spreads need to be examined carefully.

What is counterparty risk (“default risk”)

Counterparty risk, or “default risk”, is a subset of credit risk. It refers to the likelihood that an opposite party in a transaction will not fulfill their contractual obligations, such as the payment of principal or the other side of a trade.

Key counterparty exposures in cash investment can include:

- **Banks** – a cash investor may have counterparty exposure to a bank across a wide range of investment activities including deposits, commercial paper, certificates of deposit and bonds - see Exhibit 4 below.
- **Brokers** – brokers may be used for securities trading, repurchase agreements (repo) and derivatives contracts such as swaps, futures, forwards and options.
- **Corporates** – Other corporates may be the counterparty for commercial paper, repo and corporate bonds.

As a broad rule, a transaction that involves some form of underlying collateral or security is seen as less risky than an unsecured transaction with a similar counterparty. A common rule is never to invest on a secured basis if the investment wouldn't be made on an unsecured basis. Generally, counterparties approved for unsecured investing should be acceptable for secured investing and trading, and those approved for secured investing should also be acceptable for trading.

Other sources of counterparty risk

Counterparty risk will also exist across an organization's other financial activities and this ideally should be monitored alongside investment counterparty risk.

For example, a company may have counterparty exposure to a particular bank through investments such as deposits, short-term securities and bonds. It may also use the same bank for lending, transactional services and managing foreign exchange and interest-rate risks.

All these activities need to be accounted for across all of an organization's businesses and subsidiaries to ascertain the full extent of counterparty exposure - see Exhibit 3.

Companies should also be mindful of all indirect counterparty risk they may carry, for example, through money market funds, with banks providing liquidity for asset-backed commercial paper or municipal securities, or with insurance companies providing credit enhancement for certain securities.

Exhibit 3: Potential counterparty exposures to a bank

Investment	Risk management	Financing	Operations
Deposits Sweep accounts Time deposits Commercial paper Certificates of deposit Corporate bonds Repurchase agreements (repos)	Foreign exchange hedging Interest rate hedging	Credit facilities Loans	Payment processing Custody

Part 2: Assessing and monitoring risk

Credit risk should be fully assessed prior to purchasing an investment or entering into a transaction. The level of risk then needs to be monitored throughout the life of an investment or contract so that timely action can be taken if there is any significant change in its risk profile.

1. Assessing credit risk

a. Credit rating agencies

Rating agencies such as Standard & Poor's, Moody's and Fitch provide a useful starting point when initially assessing the credit-worthiness of investments and issuers.

The rating agencies provide credit ratings for short- and long-term debt securities and their issuers – see Exhibit 4. Ratings are provided for banks, corporates and sovereign issuers including state and national governments. Different ratings may be assigned to different subsidiaries within the same parent company, securities with different positions on the capital structure, or in structured finance, to different tranches of the same debt issue. Potential investors need to determine exactly which entity or security a credit rating refers to – and the minimum rating carried by related entities or securities.

It is important to keep a close check on the agencies' credit ratings because of their powerful influence on fixed income markets. An issuer placed "on watch" for a ratings change or a change in credit outlook by one of the major credit rating agencies can have a swift and significant impact on the market value of its debt.

But credit ratings should only be treated as one aspect of the credit analysis process. Investors need to be aware that they are "lagging indicators," primarily based on data already in the market.

Rather than being accepted wholly at face value, credit ratings should be augmented by further analysis so investors can be confident they fully understand the risks involved in a particular security, issuer or market.

Exhibit 4: Agency credit ratings

Credit ratings for short-term securities (<1 year)				
		Moody's	Standard & Poor's	Fitch
Investment grade				
Very strong	Tier I	Prime-1 (P-1)	A-1+	F1+
Strong	Tier I	P-1	A-1	F1
Good	Tier II	P-2	A-2	F2
Adequate	Tier III	P-3	A-3	F3
Speculative grade				
Vulnerable to adverse conditions		Not prime (NP)	B-1	B
			B-2	
			B-3	
High default risk		NP	C	C
Under supervision		NP	R	-
Defaulting		NP	D	D

Note: Tier I/II/III are definitions primarily used to define securities that may be held in money market funds governed under SEC Rule 2a-7 in the US.

Credit ratings for long-term securities (> 1 year)				
		Moody's	Standard & Poor's	Fitch
Investment grade				
Best quality		Aaa	AAA	AAA
High quality		Aa1	AA+	AA+
		Aa2	AA	AA
		Aa3	AA-	AA-
Upper-medium grade		A1	A+	A+
		A2	A	A
		A3	A-	A-
Medium grade		Baa1	BBB+	BBB+
		Baa2	BBB	BBB
		Baa3	BBB-	BBB-
Non-investment grade/high yield				
Lower-medium grade		Ba	BB	BB
Low grade		B	B	B
Currently vulnerable		Caa	CCC	CCC
Highly speculative		Ca	CC	CC
Extremely poor		C	C	C
In default		C	D	D

Source: J.P. Morgan Asset Management.

Chart for illustrative and discussion purposes only.

b. Conducting internal credit analysis

Some companies may be in a position to dedicate in-house resources to credit analysis, for example as part of the treasury function. However, an organization needs to be sure it has the capabilities and resources to match or exceed the quality of credit analysis available through third-party specialists.

Issues to consider include:

- Who will be responsible in the organization for conducting credit analysis both prior to investing in a security and on an ongoing basis?
- What quantitative and qualitative metrics will be used to assess credit quality? How will these be tailored for different issuers (e.g., corporates, banks and sovereigns)?
- How will a list of approved issuers and securities be developed and maintained?
- How will downgrades in credit quality be identified in a timely way?
- How accessible is the data that's required to make an informed decision?

Companies also need to consider whether credit analysis is the most efficient use of internal resources. If risks cannot be monitored, managed or hedged effectively internally, then organizations need to consider outsourcing or insuring them.

c. Outsourcing credit analysis

Many companies look to outsource credit analysis as part of an investment management mandate, enabling them to free up internal resources for other value-added activities.

Strong credit analysis capabilities should be a dominant factor in the due diligence process when selecting an investment manager.

Appraisal of an investment manager's credit analysis capabilities should consider:

- What is the average experience of credit team members?
- Does the credit team have sector-specific specialists (e.g., financials, asset-backed)?
- Are analysts dedicated to the short-term market or simply part of the general fixed-income team?
- Is the credit team separate from the portfolio management team – can portfolio managers ever override the credit team's recommendations?
- How are approved issuer lists compiled and how often are they reviewed? How has the list changed in the last 12 to 24 months?
- Is there a clear process for analysing different types of issuers including banks and sovereigns – how are different metrics weighted?
- Does the team conduct its own qualitative analysis of issuers as well as using quantitative data?
- How does the team stress-test for different interest-rate scenarios, contagion risks, sector-specific events or downgrade events?
- How is the credit team measured?
- How has the team's credit analysis been shown to add value to client portfolios?

The credit team's capabilities should then be reviewed at regular intervals, including any time there are changes to the team membership or process.

2. Assessing credit quality of issuers

Whether you intend to conduct credit risk analysis or outsource it as part of an asset management mandate, it is important to understand the factors that should be assessed to determine an issuer's credit worthiness – and how it compares against its peers.

Below we have outlined the factors that a professional credit analysis team will take into account generally, and specifically for banks and sovereigns.

a. General credit quality considerations

There are many metrics that can be used to assess credit risk but no single metric is exhaustive, so a combination of measures is advisable. A quantitative and qualitative assessment is likely to give the most complete assessment of current and potential risks.

An issuer's capital strength, earnings and liquidity will be key factors in its ability to meet financial obligations. Levels of capital should be inversely proportionate to earnings volatility. In other words, low earnings volatility requires less capital and high earnings volatility requires more capital.

It is also important to assess what alternative sources of liquidity an issuer has to fall back on – what is the quality and liquidity of an issuer's assets, for example. If a debt is secured, will the underlying collateral find a buyer easily? Credit analysis should also take a wider view of an issuer's competitive position and the quality and integrity of its management. If the issuer is a corporate – as will be the case for a lot of commercial paper – the strength of the industry in which it operates should also be considered.

All these factors can be used as the basis for peer comparison. As a rule, well-managed companies and financial institutions with a strong market position and reliable cash flows will tend to command the highest credit ratings.

Exhibit 5: General credit quality considerations

Capital	Should be inversely proportionate to earnings volatility (low earnings volatility requires less capital and high earnings volatility requires more capital)
Asset quality	Assess underlying credit quality and inherent liquidity of underlying assets
Management	Should demonstrate integrity
Earnings	Review for consistency and quality over different time periods
Liquidity	Match funding, back-up credit lines or stable retail funding base
Industry and operating trends	Review operating trends, cash flows, industry or product dominance and relative performance, compared with a peer group
Alternative repayment options	Check that underlying collateral securing an investment can be sold in the event of default

b. Credit quality factors for banks

Financial institutions require their own credit analysis approach covering both business risk and financial risk.

The strength and quality of a bank's franchise will be a major factor in its credit quality. Franchises are valued on their overall size and the strength of their retail deposit base (generally seen as the most stable form of bank funding). A strong market share in profitable lines of business will also contribute to a higher credit rating.

Current financial measures, such as capital adequacy, asset quality, earnings and liquidity, will usually account for a significant proportion of the credit rating.

To guard against deteriorating credit, banks should be stress-tested for their resilience in the event of severe economic downturn or a sharp fall in the value of assets. This will typically involve assessing a bank's capital reserves and earnings power, then setting these against its asset quality. "Stressing" a bank's assets for projected charge-offs is instrumental in developing earnings/losses projections and assessing a bank's ability to generate capital.

Investors should also be aware of regulation or proposed legislation in different markets that may have an impact on banks, their capital, earnings potential or access to liquidity. Potential sovereign support and a sovereign's ability and willingness to step in when a bank is distressed have also grown in importance as a credit rating factor.

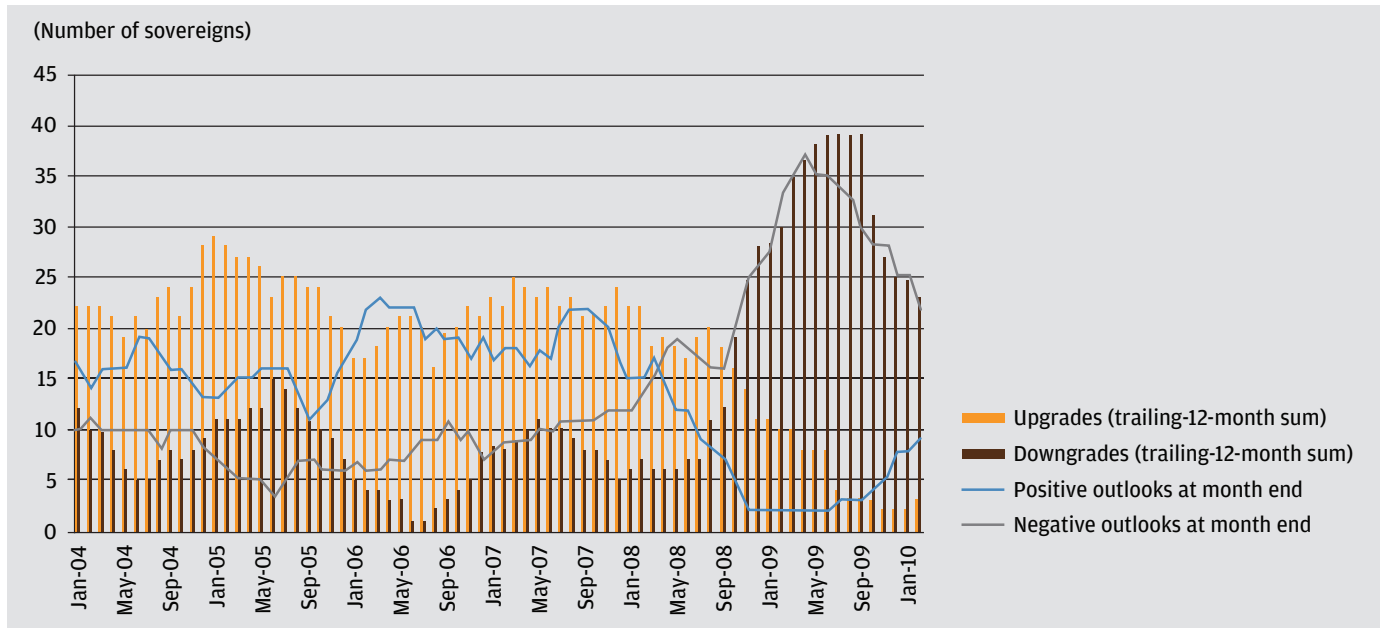
Exhibit 6: Credit quality factors for banks

Factor	Inputs
Franchise	<ul style="list-style-type: none">• Assets• Customer deposits• Market shares
Liquidity	<ul style="list-style-type: none">• Wholesale funding• Funding gaps
Profitability	<ul style="list-style-type: none">• Pre-provision operating profit (PPOP)
Capital adequacy	<ul style="list-style-type: none">• Tangible common equity• Tier 1 capital
Asset quality	<ul style="list-style-type: none">• Non-performing assets• Accumulated Other Comprehensive Income (AOCI)• Reserves
Stress test	<ul style="list-style-type: none">• Embedded losses• AOCI• Two-year PPOP• Reserves
External factors	<ul style="list-style-type: none">• Current and proposed banking regulation• Conditions for sovereign intervention

c. Credit quality analysis for sovereigns

Although government debt is generally considered very low risk, it cannot be assumed that all sovereign institutions can or will honor their debt obligations. Market concerns of a sovereign downgrade can have a significant impact on the value and liquidity of any investor portfolio holding a high proportion of that country's treasury securities. (Foreign investors also face the added risk that deteriorating sovereign credit quality will be accompanied by a weakening currency, further amplifying potential losses.)

Exhibit 7: Sovereign upgrades, downgrades and outlooks



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Credit analysis needs to assess both a sovereign's willingness and its ability to pay its debtors. Willingness can be assessed from the strength, transparency and accountability of a country's political system. Ability will depend on a country's economic strength, levels of debt and what scope it has to control that ratio of debt - for example, by boosting growth or reducing spending. As well as assessing ability, investors will want to take a view of government policy on managing debt. For example, is a country likely to increase inflation to reduce its debt burden and, if so, what is the likely economic- and sovereign-rating impact?

Exhibit 8: Credit quality factors for sovereigns

Factor	Inputs
Political structure	<ul style="list-style-type: none">• Stability of political institutions• Transparency of elections and economic policy• Public security
Economic growth prospects	<ul style="list-style-type: none">• Diversity of the economy• Labor flexibility• Availability of credit to facilitate economic growth• Effectiveness of financial sector• Level of employment and prosperity
Debt burden	<ul style="list-style-type: none">• General government debt level• Share of revenue devoted to interest payments• Depth and breadth of local capital markets• External liquidity/external debt burden
Fiscal and monetary control	<ul style="list-style-type: none">• Revenue, expenditure and surplus/deficit trends• Ability and effectiveness in raising revenue• Fiscal policy to manage debt

Credit default swap (CDS) spreads

Credit default swaps are now widely used to monitor levels of credit risk for a particular issuer, sector or market. The spread on a credit default swap is the premium that a buyer must pay to receive protection if a specified credit event occurs. So if the spread is 200 basis points, then the protection buyer will pay the seller 2% of the value of the trade over the period of the contract.

The greater the perceived risk of a “credit event”, the higher the premium the protection buyer must pay. Spreads will therefore rise as credit risk rises and fall if credit risk reduces (factors such as liquidity and estimated loss in the event of default will also influence spreads).

CDS spreads can be tracked for a particular corporate or financial institution or for a whole market using Dow Jones CDX indices, or iTraxx indices in Europe and Asia.

CDS spreads can be a useful tool to assess how credit risks are trending for a particular company or market. However, it is important to remember CDS spreads are tracking credit risk perceptions already in the market. They are not necessarily accurate indicators of future risks and can be heavily influenced by speculative activity. CDS spreads are, therefore, best used as just one element of a broad credit analysis.

Part 3: Issues to consider when selecting investments

Different investments may involve a range of credit and counterparty risk considerations. In addition to the credit quality analysis factors outlined in Part 2 of this guide, Exhibit 9 below outlines other issues to take into account when assessing different short-term cash investments.

Exhibit 9: Credit/counterparty issues by investment type

Investment	Includes	Considerations
Unsecured debt	<ul style="list-style-type: none"> • Commercial paper • Medium-term notes • Bonds • Floating rate notes 	<ul style="list-style-type: none"> • How many parties have prior claim on the counterparty's assets? • What is the capital structure of the issue? • What percentage of par is an investor likely to receive in the event of default? • How long would any recovery value take to be paid? In what form would this take? • Does the credit rating of the security differ from that of the issuer (indicating a senior or subordinate claim on assets)? • Has any form of credit enhancement (e.g., credit backup lines) been used to improve the security's credit rating? Who ultimately guarantee this? • For commercial paper, under what circumstances would credit backup facilities be used to repay investors? • Is there any legal flexibility for the issuer not to pay either coupons or principal on the expected dates (e.g., embedded options, perpetual securities)?
Bank deposits	<ul style="list-style-type: none"> • DDAs • Time deposits • Savings accounts • Sweep accounts • Certificates of deposit 	<ul style="list-style-type: none"> • What is the supervisory regime within each jurisdiction in which deposits are held? • On fixed-term deposits, will penalty fees for early withdrawal still apply in the event that the deposit taker receives a credit downgrade? • Does the credit rating of the deposit-taking entity differ from its parent group (e.g., national rating vs. global rating)? • Does the minimum investment required comply with investment policy counterparty/credit risk limits? • Can the deposit be traded in the secondary market ("secondary liquidity")?
Secured debt	<ul style="list-style-type: none"> • Asset-backed commercial paper 	<ul style="list-style-type: none"> • What is the quality, liquidity and risk profile of the underlying receivables? • Is the credit quality of the underlying such that we can afford to use a weaker counterparty? • Is the paper issued by a special-purpose vehicle or conduit – who sponsors the program? How does the conduit manage counterparty risks? • Is any credit enhancement in place to ensure investors will be paid if the conduit's assets experience any loss in value? • Are there any credit backup lines to support liquidity for maturing investors?
	<ul style="list-style-type: none"> • Repurchase agreements 	<ul style="list-style-type: none"> • What is the quality and liquidity of the underlying collateral? • Under what terms can the investor take possession of the collateral? • Who is the collateral manager and what are their obligations?
	<ul style="list-style-type: none"> • Collateralized debt obligations 	<ul style="list-style-type: none"> • What is the credit profile of the issuing special purpose vehicle? • What is the credit quality of the underlying assets? • Does the CDO have different tranches – what is the credit profile of assets in each of these?

Part 4: Managing risk in an investment portfolio

Implementing and monitoring strict investment parameters can help to ensure that credit and counterparty risks are known and properly controlled.

Robust credit analysis is the first line of defence in managing potential credit or counterparty risk. Thereafter, diversification and strict concentration limits can help to ensure that a portfolio is not overly exposed to a particular instrument, credit rating, counterparty, sector or market.

Processes should be in place so that:

- Credit and counterparty exposure can be properly monitored and reported on an ongoing basis.
- Exposures can be known at any time across all parts of the business including overseas subsidiaries and entities.
- The global structure of each issuer and counterparty is fully understood, given that the same organization may trade under different legal entities in different jurisdictions.

1. Monitoring counterparty exposure across an organization

Banking relationships can carry a high risk of excess counterparty exposure. This exposure can be monitored by conducting the analysis shown in Exhibit 10. For each banking relationship, an organization aggregates its investment exposure including all types of deposits, short-term securities, bonds and repurchase agreements. All entities for each counterparty bank should be included across all jurisdictions.

The percentage of investment exposure to each counterparty bank can then be calculated. If a company has sufficient resources, it may want to extend this exercise to assess counterparty exposure through its other activities such as FX and rates hedging, as well as its day-to-day banking and financing activities (shown in the grey-shaded boxes in Exhibit 10).

A company can use this data within their treasury management system to:

- Enforce limits on the maximum percentage and/or dollar exposure allowed per individual counterparty.
- Provide a full breakdown report of counterparty exposure – e.g., percentage/dollar concentration in top five/top 10 banking relationships vs. aggregate exposure.
- Report on counterparty exposure by jurisdiction/legal entity/activity.

In this way, all counterparty exposures can be known and properly reported, and overexposure to any single counterparty is less likely to develop.

Exhibit 10: Assessing counterparty exposure across banking relationships

Total counterparty exposure (\$ millions)											
	Investments			Total investment exposure		Risk management		Operating & financing		Total exposure	
	• DDAs • Sweep accounts • Time deposits • Structured deposits	• Commercial paper • Certificates of deposit • Floating-rate notes • Medium-term notes	• Bonds • Repos	(\$)	(%)	FX hedging	IR hedging	Operating exposure*	Loans	(\$)	(%)
Bank A											
Bank B											
Bank C											
Bank D											
Total											

*e.g., processing of payments and receipts

Determining appropriate levels of counterparty exposure

There is no hard and fast rule as to the correct level of exposure per counterparty, but organizations may want to impose limits appropriate to their activities. Issues to consider when setting counterparty limits include:

- The credit profile of the overall bank and the local entities with which the organization is dealing.
- Banking compensation regimes within each relevant market.
- Whether preferential terms have been agreed for certain levels of business/transaction activity.
- How a bank has performed on key performance indicators/servicing requirements.
- How many banking relationships the organization can realistically manage and monitor.

2. Specifying credit limits in an investment policy

Companies can help to control their credit and counterparty risk by establishing and maintaining strict limits on the maximum investment exposure allowed to an individual issuer or security depending on its credit quality.

These limits should be specified as part of a company's formal investment policy and agreed at board level. The investment policy specifications should be known and accepted by everyone involved in the investment of corporate cash, including third-party asset managers. In many cases, companies will look to their asset manager to help draft the investment policy.

A company’s investment policy should specify:

- **Credit quality limits for different cash segments.** For example, a company may be willing to take some credit risk with its long-term cash reserves but none for its operating cash, which may be required by the business immediately.
- **The minimum acceptable credit rating for different security types.** For example, companies need to consider whether greater credit risk may be taken with investments that are secured against some form of collateral.
- **The maximum portfolio exposure to securities/issuers depending on their credit rating.** Typically, a company may look to assign each issuer or security a concentration limit corresponding to its agreed credit rating – see Exhibit 11 below.
- **The maximum tenor allowed for issuers/securities depending on their credit rating.** If a company chooses to hold investments with a higher credit risk, then it may look to counter that risk by limiting the maturity of those investments – see Exhibit 11.
- **The average credit quality for the overall portfolio.** By weighting investments according to credit quality, a company can maintain an agreed average credit quality for the portfolio. The average credit quality for the portfolio can be calculated by a third party as part of standard investment reporting.
- **The weighted average life (WAL) for the portfolio.** Weighted average life measures the average time until principal will be repaid on securities in a portfolio. A higher WAL is linked to greater sensitivity to deteriorating credit conditions. Again, WAL can be monitored as part of standard investment reporting.

Different investment policy parameters may be drawn up for internal and external managers. Typically an external manager may be given more leeway in terms of permissible investments, credit quality and maturity, so that the value of their expertise can be maximized.

Alongside the points above, the investment policy should also specify what will be the agreed course of action if an investment or issuer is faced with downgrade or default (see below).

Exhibit 11: Managing credit risk in a portfolio

<p>Higher credit rating</p> <p>↑</p> <p>Rating</p> <p>↓</p> <p>Lower credit rating</p>	<p>Increase concentration</p> <p>↑</p> <p>Concentration</p> <p>↓</p> <p>Reduce concentration</p>	<p>Lengthen tenor</p> <p>↑</p> <p>Tenor</p> <p>↓</p> <p>Shorten tenor</p>
<ul style="list-style-type: none"> • Higher credit quality ratings bring reduced risk 	<ul style="list-style-type: none"> • Lower concentrations bring reduced risk • Assign an issuer a concentration limit corresponding to its agreed credit rating 	<ul style="list-style-type: none"> • Short maturities bring reduced risk • Assign each issuer a maturity limit that cannot exceed tenor limits corresponding to its internal rating

Credit risk is primarily a function of rating, concentration and tenor. So for example, if a security or issuer has a lower credit rating or experiences a downgrade, an investor may look to mitigate that risk by reducing concentration and shortening tenor (given that longer maturity can also increase volatility).

Conversely, the lower credit risk associated with higher-rated investments may allow an investor to increase concentration and extend tenor.

3. Managing downgrades and defaults

As well as setting investment limits according to credit quality, a company should agree upon a course of action if a portfolio holding's credit quality deteriorates.

First, the investment policy should specify who in the company (e.g., treasurer, investment committee, the board) should be notified for each of the following credit events:

- A security is downgraded but remains compliant with the investment policy.
- A security is downgraded and becomes non-compliant with the investment policy.
- An issuer is placed on negative outlook.

Downgrades generally should be assessed on a case-by-case basis rather than imposing a blanket policy to remove a security from a portfolio if it becomes non-compliant. A formal review process needs to be put in place so that the decision to hold or sell can be made and approved in a timely way. This should address:

- Who will be on the review panel and who will have ultimate approval on the decision taken.
- Whether a security should be formally reviewed after any downgrade event or only once it becomes non-compliant with the investment policy.
- How the agreed course of action will be documented.

The decision to take action should be aligned with a company's "impairment policy" specifying how far a security can fall in value before it will be written down/its position reviewed.

If a non-compliant investment is retained, a regular review needs to be established to ensure that it remains the best course of action. Alongside assessing recovery expectations, a company needs to consider the balance-sheet impact of holding onto an impaired security, and the differing accounting treatment that applies depending on whether an impairment in value is considered permanent or temporary.

Part 5: Discussion points for organizations

We hope this guide proves helpful in understanding, identifying and managing credit and counterparty risk in an investment portfolio.

To conclude, here are ten key questions that can help organizations determine if their risk management processes are clear and robust and fully aligned with business requirements.

- 1.** Do we have an accurate and comprehensive picture of credit and counterparty risk across our organization? If not, what steps do we need to take to address this?
- 2.** Do we have the resources to conduct our own counterparty and credit risk analysis - or do we need to use an external asset manager?
- 3.** Do we know if our banking counterparty relationships are sufficiently diversified? How should we decide the maximum level of exposure appropriate to each counterparty bank?
- 4.** What should be our minimum acceptable credit quality in our portfolio - and its overall average credit quality?
- 5.** Are we willing to take on more credit risk to increase potential yield in any segment of our cash portfolio?
- 6.** What should be our maximum exposure per counterparty/security/market by level of credit quality?
- 7.** What action will we take in the event of a credit downgrade in the portfolio?
- 8.** Do we fully understand any credit enhancements or collateral attached to any investments we hold?
- 9.** Do we know our maximum potential losses relating to downgrade/default in our portfolio?
- 10.** Are our counterparty and credit quality limits and downgrade procedures accurately detailed in our investment policy?

Glossary

Collateral

An asset used as security for a debt, which can be claimed by investors in the event of default.

Counterparty

The opposite party in a transaction.

Credit default swap

A derivative contract that allows the transfer of credit risk to another party.

Credit enhancement

A means of improving the creditworthiness of a security – e.g., by insurance or collateralization.

Credit rating

An assessment of a security's or issuer's creditworthiness.

Credit spread

The difference in yield between two debt securities of the same maturity but different risk profiles. Most commonly refers to the extra yield on a debt security vs. the “risk-free” rate of return on government bonds.

Default

Failure to meet the terms of a loan agreement – e.g., late or non-payment of interest or principal.

High-yield bond

Bonds with a higher credit risk profile that have to pay investors a higher yield as a result. See also junk bond.

Investment grade bond

A debt security with a high credit rating.

Junk bond

A bond whose credit profile is considered speculative as there is a high risk of default.

Rating agency

An independent organization that assesses the credit quality of debt issuers including corporates and governments.

Recovery value

The value of a debt obligation returned in the event of default.

Risk-free rate

The rate of return received on investments where the risk of default is considered to be zero - e.g., U.S. treasuries.

Risk premium

The extra return that riskier investments must offer to compensate investors.

Special purpose vehicle

An entity created to isolate financial risk - e.g., bankruptcy risk.

Weighted average life

The average time until principal will be repaid on securities in a portfolio.





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