

Fundamentals of Credit



Course Instructor



Kyle PeterdyVP, Commercial Banking& Credit

About Kyle...

Kyle's background is in commercial lending, where he was responsible for originating and underwriting middle market credit transactions. He has extensive experience conducting financial analysis and assessing business and industry risks.

Kyle has a BEd from McGill University (Montreal, QC) and an MBA from the Sauder School of Business at the University of British Columbia (Vancouver, BC).

Kyle is passionate about teaching and corporate training.



Learning Objectives



Define what credit is and how it's created.



Identify some of the different career opportunities available to credit professionals.



Compare different types of interest payments and loan characteristics to help inform an appropriate credit structure.



Explain what capital expenditure (or CAPEX) is and how debt financing can support it.



Explain the 5 Cs of credit framework and how it informs risk assessments.



Identify the important qualitative and quantitative techniques, including key financial ratios, used in the risk assessment process.





Introduction to Credit



Credit is created when one party receives resources from another party without immediate payment.







Lender
(Credit Provider/Creditor)

Credit Receiver (Borrower/Debtor)

Vendor of Product, Services, etc. (Credit Provider/Creditor)



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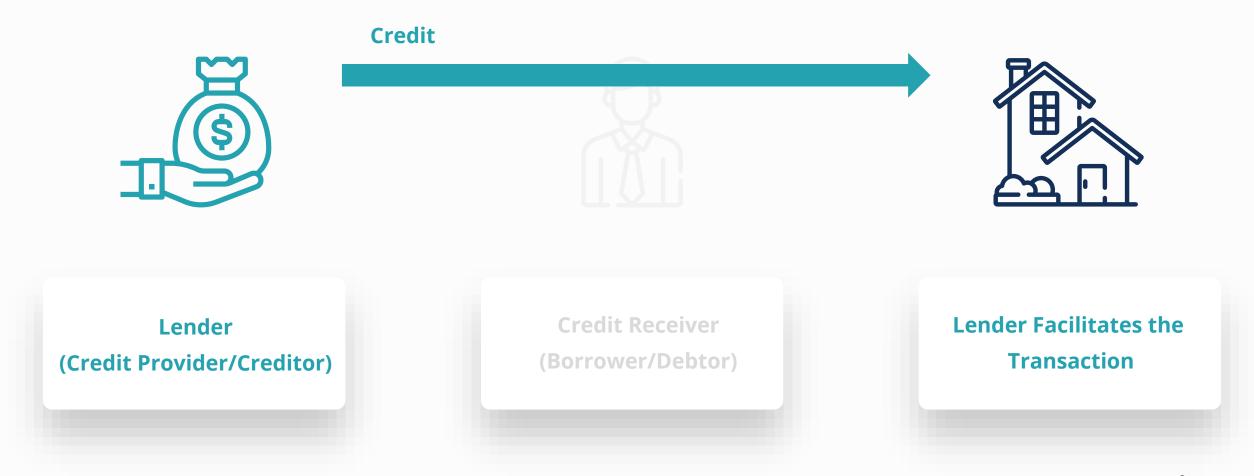


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Trade Credit



Account Payable (Amount Owing)

Account Receivable (Amount Owed)



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Companies vs. Individuals

Credit is a promise to pay for something of value later, typically with interest charged by the lender.



May use credit to help grow and operate their business. It may be shortterm or long-term.



May seek credit for things like credit cards or longerterm loans such as vehicles or mortgages.



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We often think of individuals borrowing money when they do not have enough cash on hand to make a purchase.

An individual may borrow a large sum of money for a mortgage and pay it back over 25 or 30 years.



When it comes to commercial credit, however, **there is a little more nuance.**

A commercial borrower has both strategic reasons to use debt in its capital structure and some practical reasons.

Practically speaking, companies borrow money to make investments that will generate future revenue and, presumably, future cash flow.

Investments in the business are **assets**.



Assets					
Cash	9,667	8,552	7,643	10,785	13,567
Trade and Other Receivables	16,220	17,193	18,225	19,318	20,477
Inventories	9,124	9,671	10,251	10,866	11,518
Current Assets	35,011	35,416	36,119	40,969	45,562
Property Plant and Equipment	23,217	24,610	26,086	27,651	29,311
Total Assets	58,227	60,026	62,206	68,621	74,873
Liabilities & Shareholders' Equity					
Operating Line of Credit	-	-	-	-	-
Trade and Other Payables	12,165	12,895	13,669	14,489	15,358
Income Taxes Payable	959	1,034	1,119	1,194	1,262
Current Liabilities	13,124	13,928	14,787	15,683	16,620
Long-Term Debt	19,647	17,382	15,176	16,931	18,268
Non-Current Liabilities	19,647	17,382	15,176	16,931	18,268
Total Liabilities	32,771	31,310	29,963	32,614	34,888
Common Stock and Additional Paid-In Capital	7,627	7,627	7,627	7,627	7,627
Retained Earnings	17,830	21,088	24,616	28,380	32,358
Total Shareholders' Equity	25,457	28,715	32,243	36,007	39,985
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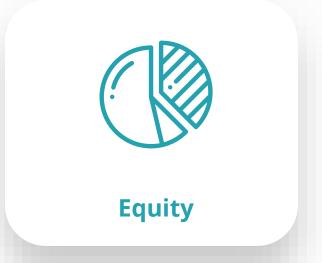
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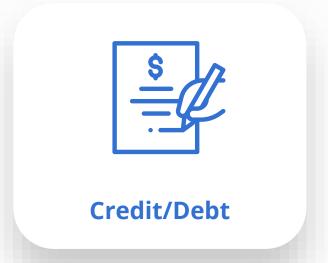


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Sources of Funding - Cash



Pros

- Always accepted
- Very liquid and can be used during emergencies
- No cost (other than opportunity cost)

Cons

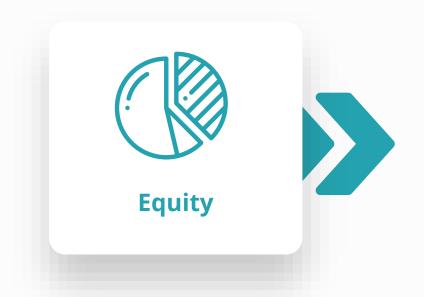
- Most companies don't keep a large cash balance; may not have enough cash to cover large scale or longer-term projects
- Balance between keeping cash on hand and funding new CAPEX

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Sources of Funding - Equity



Pros

- Companies can issue stock to raise cash
- Good for start-ups with no ability to borrow
- Good for higher risk, expensive, long-term projects
- No ongoing requirement to pay interest or principal

Cons

- Usually, more expensive than debt because it is higher risk
- Gives away ownership and control of the company and rights to some of the firm's future profits
- Accountable to stockholders provide ongoing financial information and decision making

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Sources of Funding - Credit/Debt



Pros

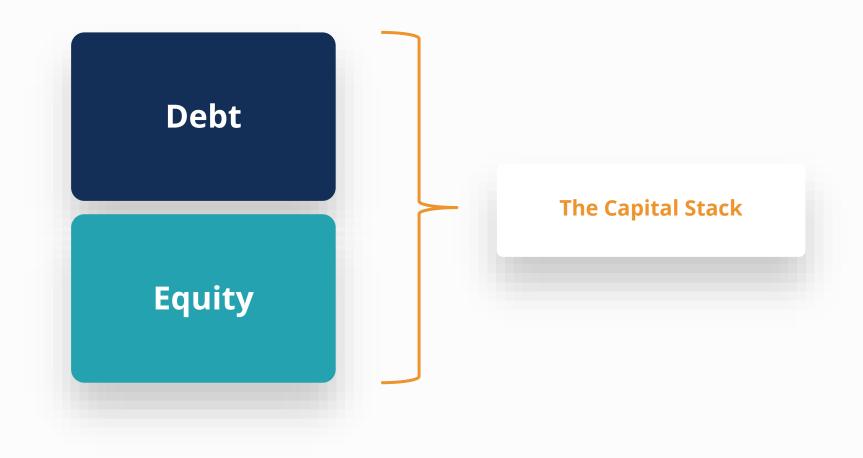
- Also good for funding longer-term projects
- Interest payments are taxdeductible
- Will not dilute existing shareholders or change ownership percentage
- Cheaper than equity; lower risk source of funding

Cons

- Requires greater attention around liquidity
- Higher risk may mean higher interest rates
- Excessive debt and/or insufficient liquidity can cause insolvency
- May have covenants which are "rules" – things that a borrower cannot do (or must do)

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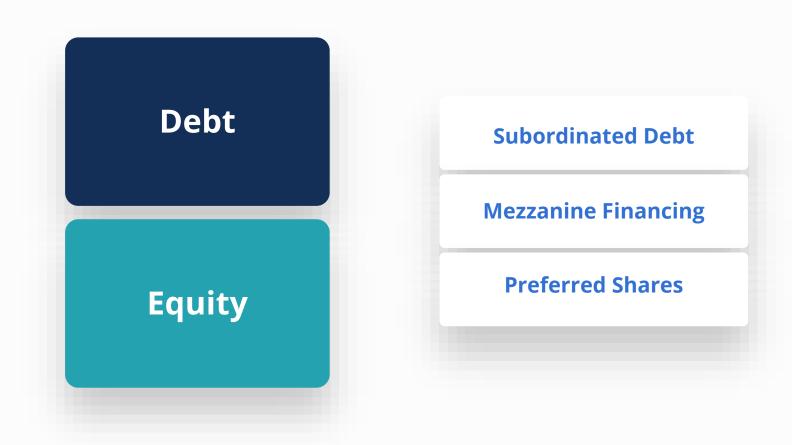




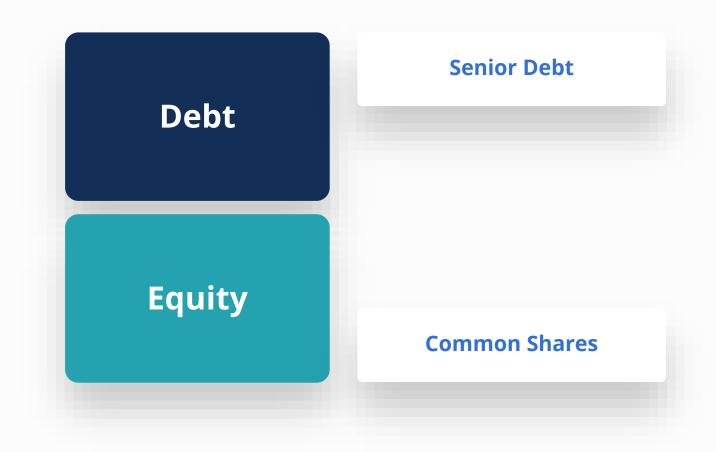










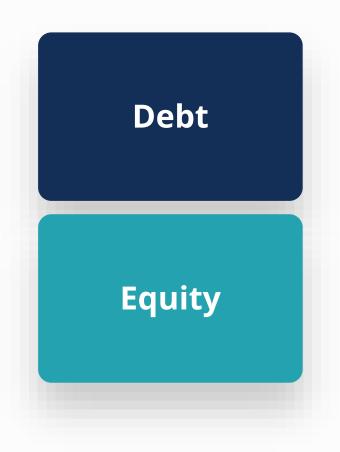




Earnings (and proceeds) are paid out to creditors ahead of stockholders – both in good times and in bad.

Revenue	98,671	104,591	110,867	117,519	124,570
Cost of Goods Sold	44,402	47,066	49,890	52,883	56,056
Gross Profit	54,269	57,525	60,977	64,635	68,513
Distribution Expenses	7,400	7,844	8,315	8,814	9,343
Marketing and Administration	31,575	33,469	35,477	37,606	39,862
Research and Development	2,269	2,406	2,550	2,703	2,865
Depreciation	3,157	3,347	3,548	3,761	3,986
EBIT (Operating Profit)	9,867	10,459	11,087	11,752	12,457
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Interest	1,229	1,148	1,009	995	1,091
Income Before Taxes	8,638	9,311	10,077	10,757	11,366
Taxes	2,591	2,793	3,023	3,227	3,410
Net Income	6,047	6,518	7,054	7,530	7,956
Common Dividends	3,023	3,259	3,527	3,765	3,978

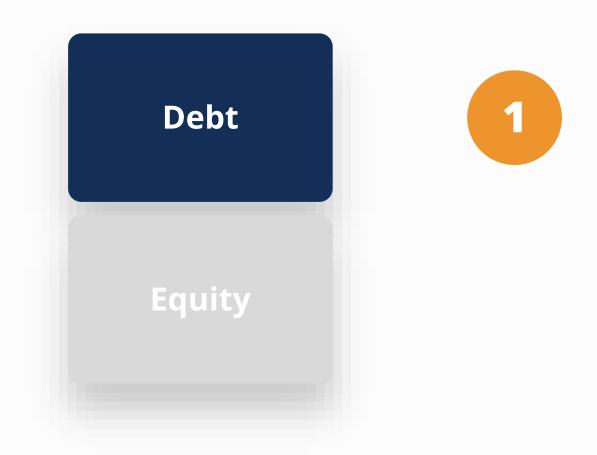




A creditor registers a charge (or a lien) against its borrowers' assets, making them collateral.

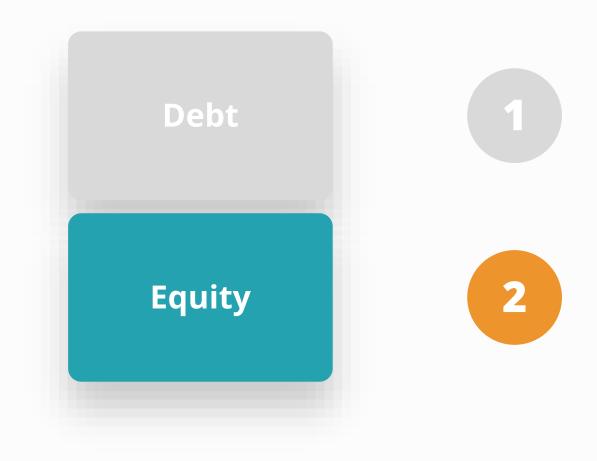
In the event of a default and liquidation, claims against company assets would be made **from top to bottom of the capital stack.**





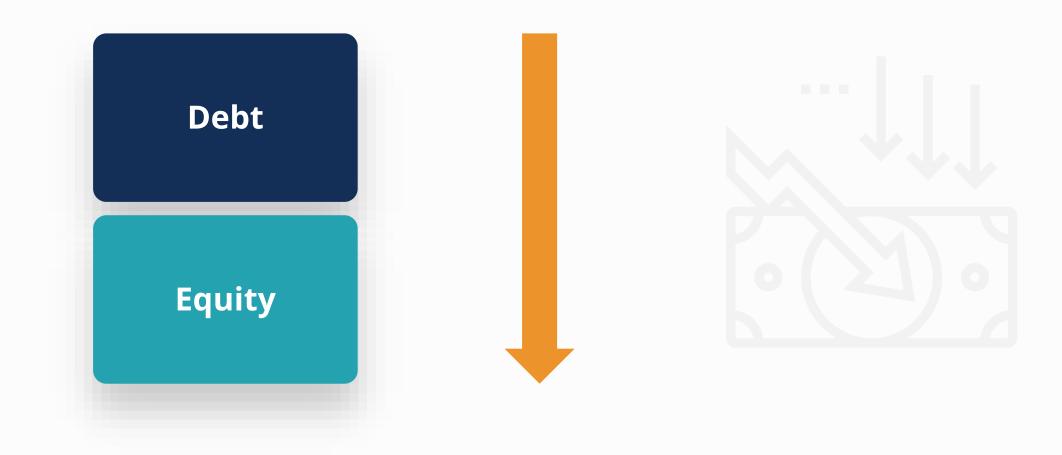


Why is Debt a Lower Risk Source of Funding Than Equity?





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This is why debt is considered a **lower risk source of funding than equity!**





Types & Features of Credit



Types of Credit

1

Revolving

Often a line of credit or a credit card that has a capped credit limit.

May be drawn, paid back, and re-drawn (up to its limit).

2

Installment

A type of loan with predetermined payments.

Often called "reducing" (or amortizing) as the principal amount reduces with each payment made.

3

Open Credit

Amount is typically due in full at the end of some period.

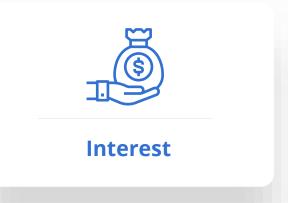
Examples include cell phone bills or utility services at month-end.



Principal & Interest



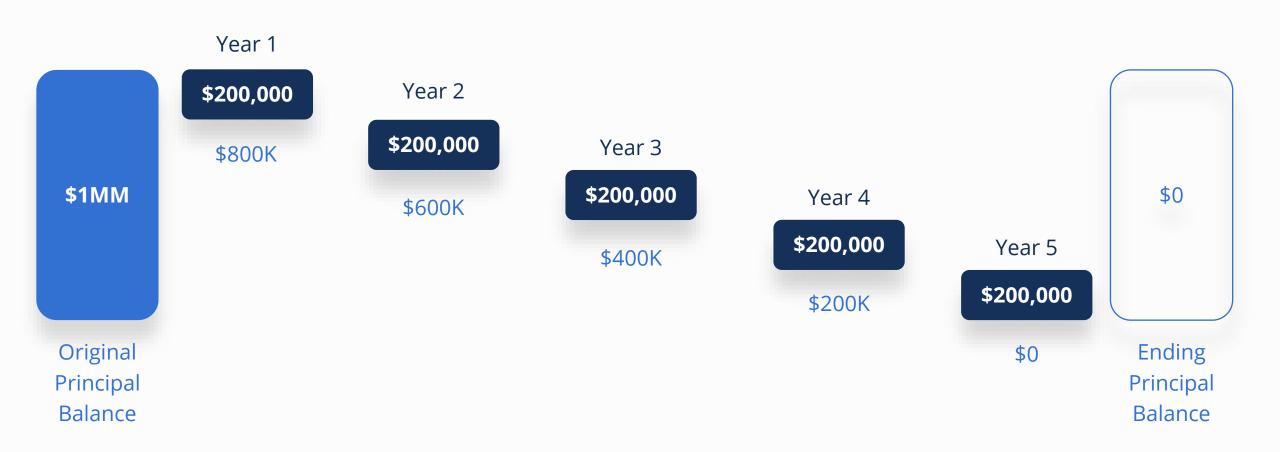
- Face value of the credit that is being extended.
- Must be repaid in full at some point in the future.



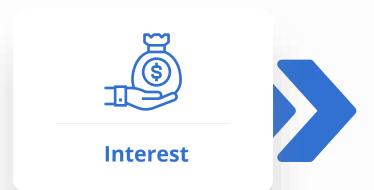
- Additional charge on top of the principal payment.
- Paid as compensation to the lender for providing capital.



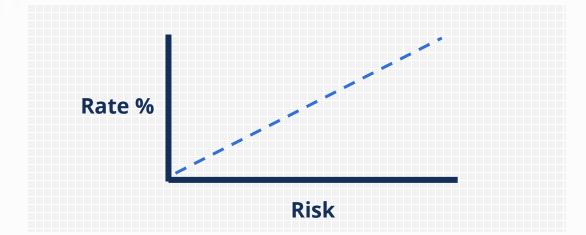
Principal



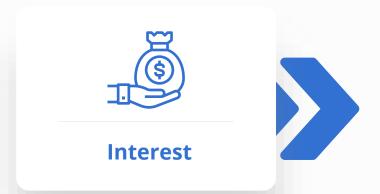




Cost of obtaining credit (for the borrower); compensation for the lender. Expressed as a percentage of the outstanding principal, like 2%, 5%, etc.







Cost of obtaining credit (for the borrower); compensation for the lender.

Expressed as a percentage of the outstanding principal, like 2%, 5%, etc.

Regular or Accrued

Simple or Compounding



Let's work with an example million-dollar loan, on a 3-year term, at 5% with interest charged annually.

This is also an example of simple interest. It is the interest calculated on the original principal amount of the loan.



Accrued interest is the opposite of regular interest; interest instead accumulates. It's often referred to as a pay-in-kind structure (or PIK).

P = Original principal amount

i = Nominal annual interest rate

n = Number of periods



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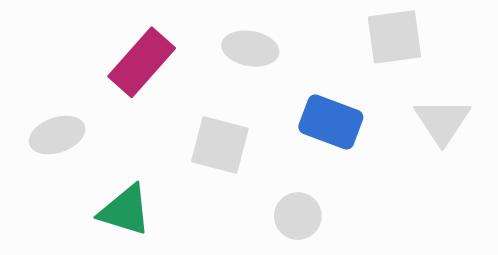


Accrued interest is the opposite of regular interest; interest instead accumulates. It's often referred to as a pay-in-kind structure (or PIK).



- Accrued interest structures are virtually always compound interest.
- Regular interest structures may have **simple** *or* **compound interest.**













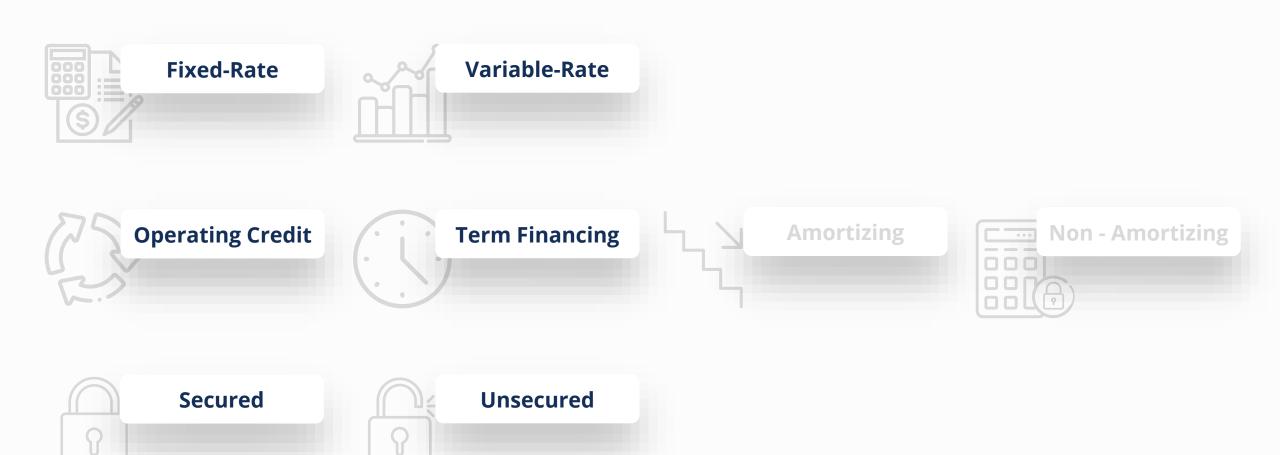






Loan Structure









The interest rate
 remains the same over
 the loan term.

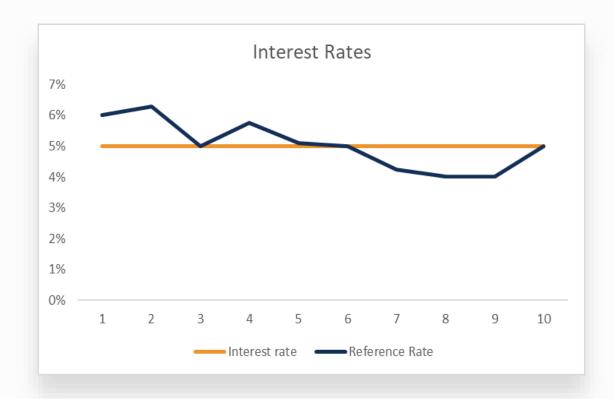


 The interest rates are set relative to a reference rate, often known as "Bank Prime," which changes over time.





Interest rate on loan does not follow changing rates in the market.



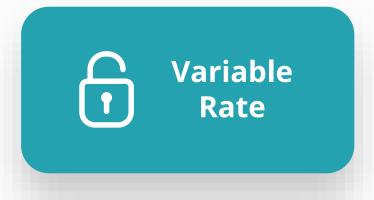




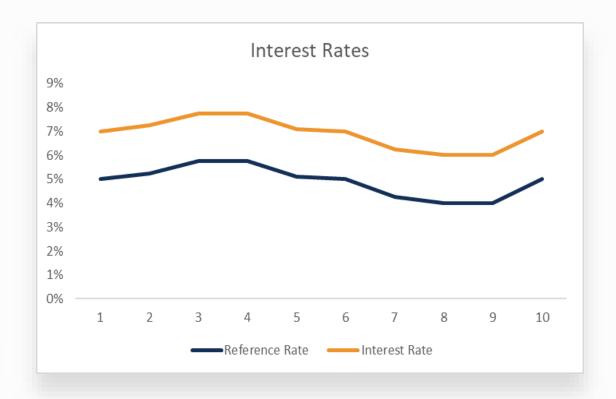
Interest rate remains the same for the full term of loan.

Year	Reference Rate	Interest rate
1	6.00%	5%
2	6.30%	5%
3	5.00%	5%
4	5.75%	5%
5	5.10%	5%
6	5.00%	5%
7	4.25%	5%
8	4.00%	5%
9	4.00%	5%
10	5.00%	5%





Interest rate on loans follows the reference rate.







The spread is set at 2%, and the interest rate on loan will always be 2% above reference rate.

Year	Reference Rate	Spread	Interest Rate
1	5.00%	2.0%	7.00%
2	5.25%	2.0%	7.25%
3	5.75%	2.0%	7.75%
4	5.75%	2.0%	7.75%
5	5.10%	2.0%	7.10%
6	5.00%	2.0%	7.00%
7	4.25%	2.0%	6.25%
8	4.00%	2.0%	6.00%
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Year	Reference Rate	Spread	Interest Rate
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Pros

- Protection from rising interest rates in the future.
- Financial forecasting/modeling is more predictable.

Cons

- If interest rates fall in the future, a fixed-rate loan is locked in at a specific rate.
- Breakage costs may be substantial.



Pros

- There is the ability to capitalize on a reference rate decrease over time.
- Early payouts are generally permitted for maximum flexibility.

Cons

 This type of loan is worse for a borrower if the reference rate rises over time.



Operating Credit vs. Term Financing

F	\sse	ts
F		ts

Total Assets	58,227	60,026	62,206	68,621
Property Plant and Equipment	23,217	24,610	26,086	27,651
Current Assets	35,011	35,416	36,119	40,969
Inventories	9,124	9,671	10,251	10,866
Trade and Other Receivables	16,220	17,193	18,225	19,318
Cash	9,667	8,552	7,643	10,785

LOC supports the day-to-day operations

Liabilities & Shareholders' Equity

Operating Line of Credit	-	-	-	-
Trade and Other Payables	12,165	12,895	13,669	14,489
Income Taxes Payable	959	1,034	1,119	1,194
Current Liabilities	13,124	13,928	14,787	15,683
Long-Term Debt	19,647	17,382	15,176	16,931
Non-Current Liabilities	19,647	17,382	15,176	16,931
Total Liabilities	32,771	31,310	29,963	32,614
Common Stock and Additional Paid-In Capital	7,627	7,627	7,627	7,627
Retained Earnings	17,830	21,088	24,616	28,380
Total Shareholders' Equity	25,457	28,715	32,243	36,007
Total Liabilities & Shareholders' Equity	58,227	60,026	62,206	68,621



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Assets

Amortizing

- The principal payments are spread out over the life of the loan; balance decreases over time.
- It is designed to be fully repaid upon maturity.
- Principal payments may be either equal amortizing or equal payment.



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Amortizing

- **Borrower:** the loan principal is reduced during the loan term, so there is less total interest to pay over the life of the loan.
- Lender: less risky, as a part of the principal is received with each payment, reducing the overall repayment risk as the loan term progresses.



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- Borrower: the payments made during the loan term are much smaller as no principal is being paid back.
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Secured vs. Unsecured

A lender (like a commercial bank or a credit union) will **register charges against the assets of its borrowers using public security registries. These are often called** *liens*.

These assets are called **collateral security**, **and the lender can use this collateral to sell and recover loan proceeds** if a borrower ever defaults.

It is common to use something like a "General Security Agreement," which is a floating charge over all the borrower's assets.



Secured vs. Unsecured

Secured

Some credit is backstopped by a specific charge over a specific asset.



Collateral mortgage agreement



A lender may register a charge over machinery



Secured vs. Unsecured

Personal credit card



Student line of credit



Unsecured

Not secured by a specific asset but by the borrower's creditworthiness and general asset base.

Tends to have a higher interest rate as there is no specific collateral securing the loan.



Secured vs. Unsecured

Secured

Some credit is backstopped by a specific charge over a specific asset.

Tends to have a lower interest rate as the collateral reduces the risk of loan loss.

Unsecured

Not secured by a specific asset but by the borrower's creditworthiness and general asset base.

Tends to have a higher interest rate as there is no specific collateral securing the loan.





The Credit Process & Analysis Fundamentals



Career Opportunities for Credit Professionals

Pursuing a Career as a Credit Professional?

Where do credit professionals work?

What are some specific roles that might be a good fit for me?



Career Opportunities for Credit Professionals



Financial Institutions

- Include relationship management, analyst, and adjudication roles.
- Usually classified as either business, commercial, or corporate banking.



Private Lenders

- Firms include real estate lenders, equipment finance companies, and asset-based lenders.
- Service a similar market as banks but may also serve higher-risk borrowers.



Corporations

- Employ teams of analysts to assess trade credit risk in their own customer portfolios.
- These analysts use many of the same skills as those at a commercial bank.



Career Opportunities for Credit Professionals



Rating Agencies

- Assess the credit risk of publicly-traded companies in order to help price fixedincome securities.
- Analysts play a very important role in the smooth functioning of the Capital Markets.



Institutional Investors

- Hire experienced credit analysts to manage risks in investment portfolios.
- These analysts may analyze bonds and other debt instruments.



The Credit Process











Origination

 A bank representative will reach out to prospective new clients through cold-calling, a referral, or other strategies used to source deals.

Client Discovery/ Credit Structure

- The lender will work to understand the borrower's business, its financial results, and its borrowing need(s).
- Negotiations will begin at this stage around credit structure as well as pricing and fees.

Analysis/ Underwriting

- Secured client commitment to move forward
- This stage includes the credit application and formal approval from the lender's risk management group.

Documentation/ Perfecting Security

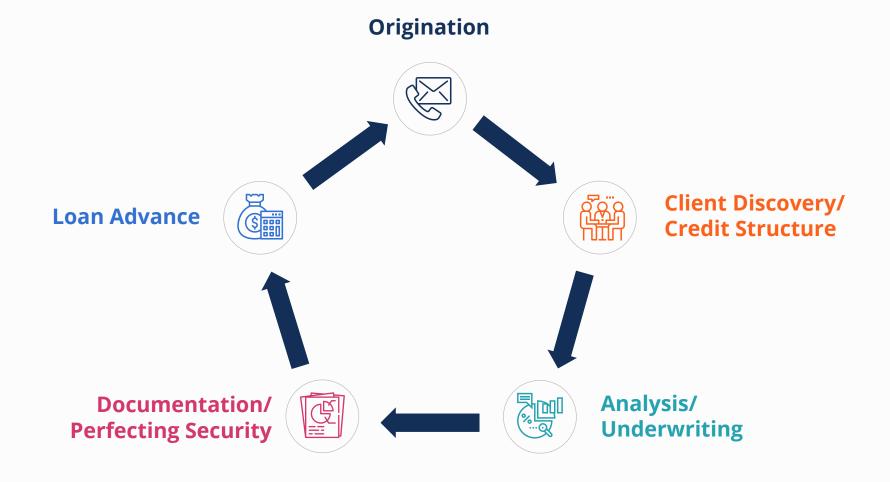
 Once approval is secured, the loan and collateral agreements are produced, reviewed, and executed by both parties' legal counsels.

Loan Advance

- Proceeds of the loan are advanced to the borrower.
- The loan hits the books of the financial institution.

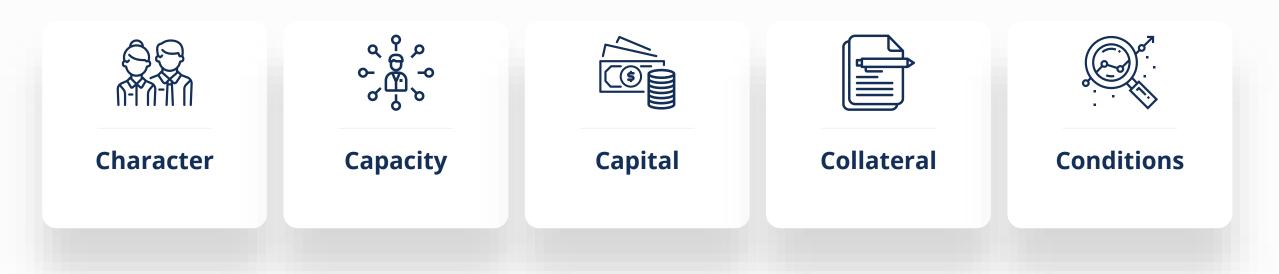


The Lending Process





The 5 Cs of credit is a framework used by lenders when **analyzing the creditworthiness of a prospective borrower**.

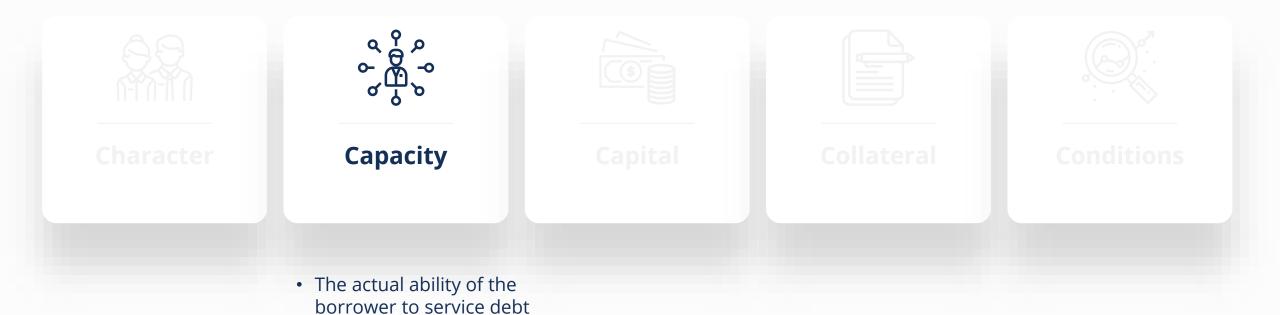






- What is the business all about?
- What is the character of the company?
- What is the business, its management team, and ownership's reputation?







obligations.

 Includes considerations around profit margins,

liquidity, and cash flows to support future payments.

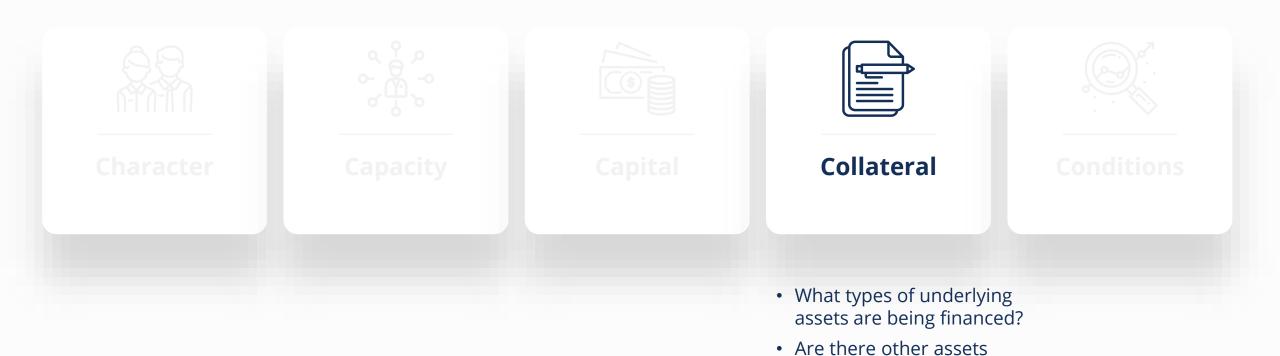


financing.

proportion of debt vs. equity

• Includes an analysis of access to other sources of capital.





available?

 Where are the assets physically located?

• How easily can these assets be converted to cash?

CFI.



- Evaluate the credit request within the context of the industry and the macroeconomic environment.
- Understand factors like inflation, consumer spending, interest rates, and foreign exchange rates.



The 5 Cs & Credit Risk



Character



Capacity



Capital



Collateral



Conditions



Strong industry experience and reputation



Good margins and cash flow



Weak collateral position

Strengths in two categories may outweigh the weakness in collateral, making this business still a good loan candidate.



The 5 Cs & Credit Risk



Character



Capacity



Capital



Collateral



Conditions



Other business interests and cash available



Strong collateral security



Declining industry

In this example, strengths in collateral and capital might be sufficient to offset weakness in conditions.

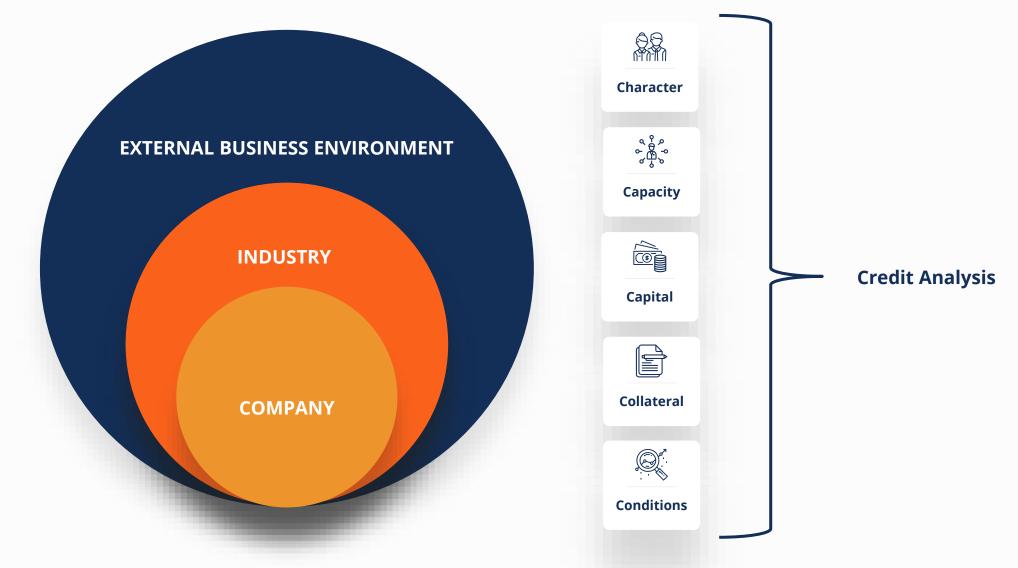


Big Picture Context





Big Picture Context





These categories would be classified as being the more qualitative parts of a credit assessment.



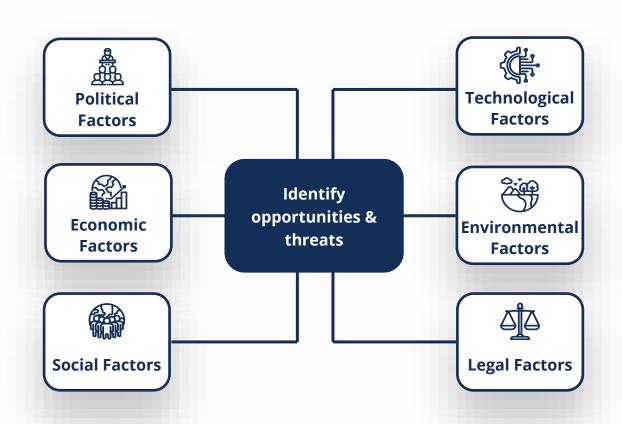






At the business environment and the industry levels, there are tools available to support our analysis.



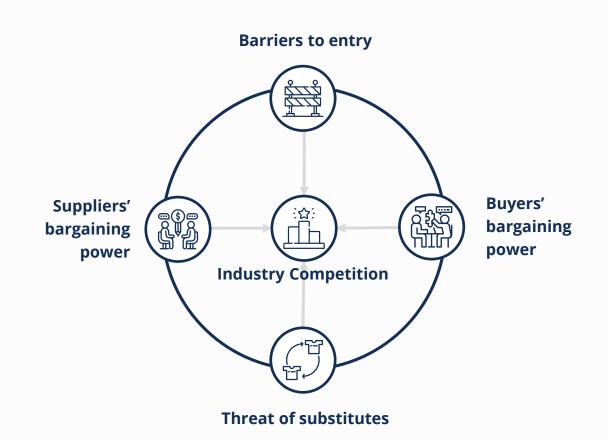


PESTEL highlights factors that may create both risks and opportunities for a borrower.



At the business environment and the industry levels, there are tools available to support our analysis.



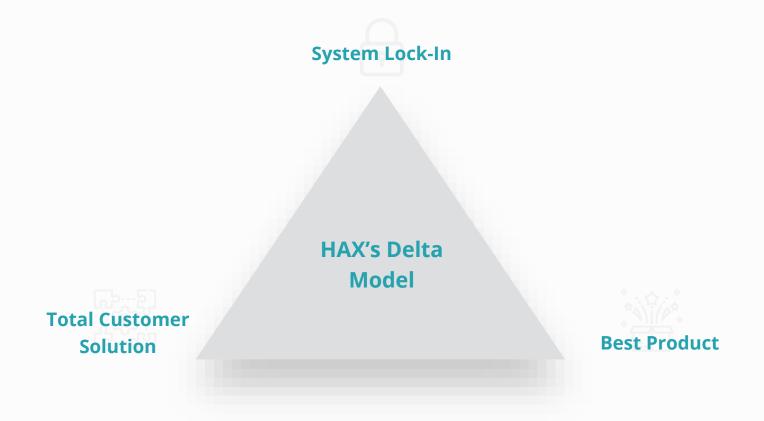


Porter's 5 Forces is used to understand how competitive forces in an industry might influence its participants.



Assessing the business itself involves analyzing its competitive position.







Assessing the business itself involves analyzing its competitive position.







Assessing the business itself involves **analyzing its competitive position**.





When it comes to management analysis, many lenders have proprietary questionnaires and evaluation scorecards to assess key management traits.



Business and financial acumen

Approach to risk

Planning

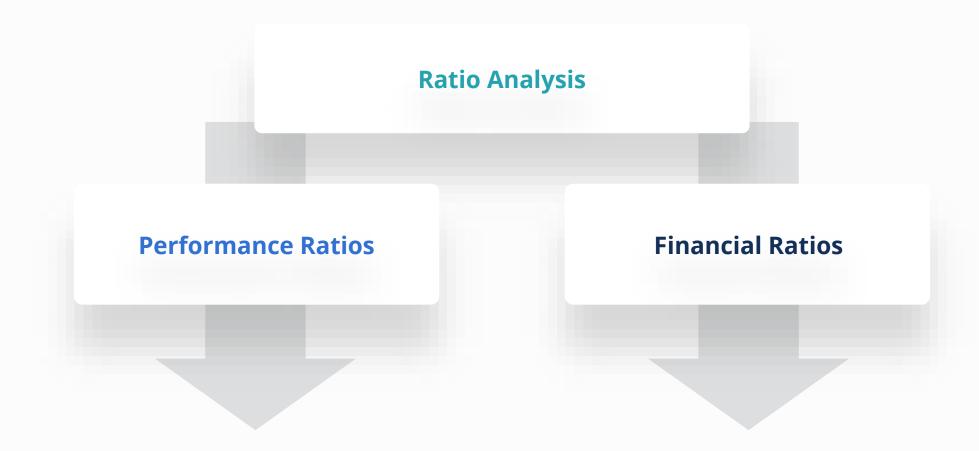




Assessing the business environment, the industry, the business itself, and the management team **helps to satisfy the Conditions and the Character Cs of the 5 Cs framework.**

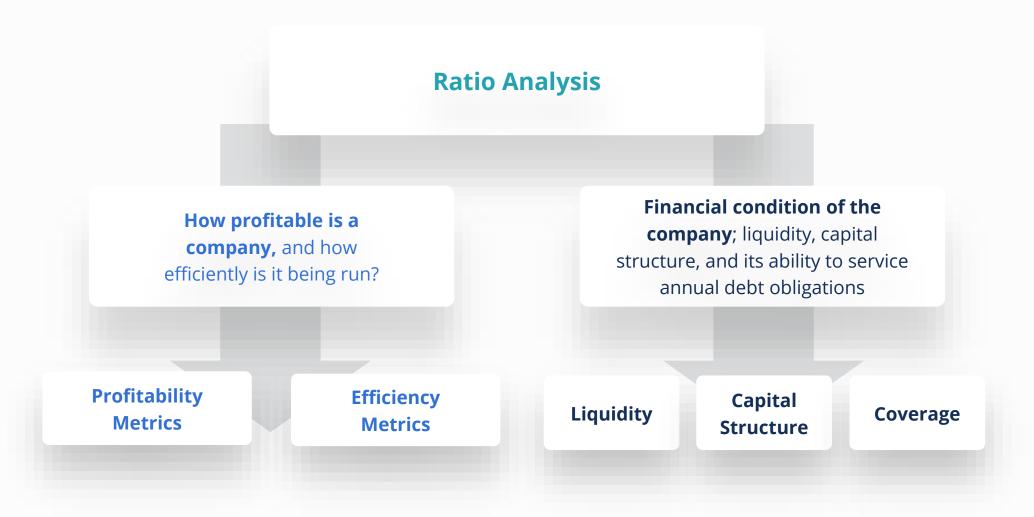


Financial Analysis



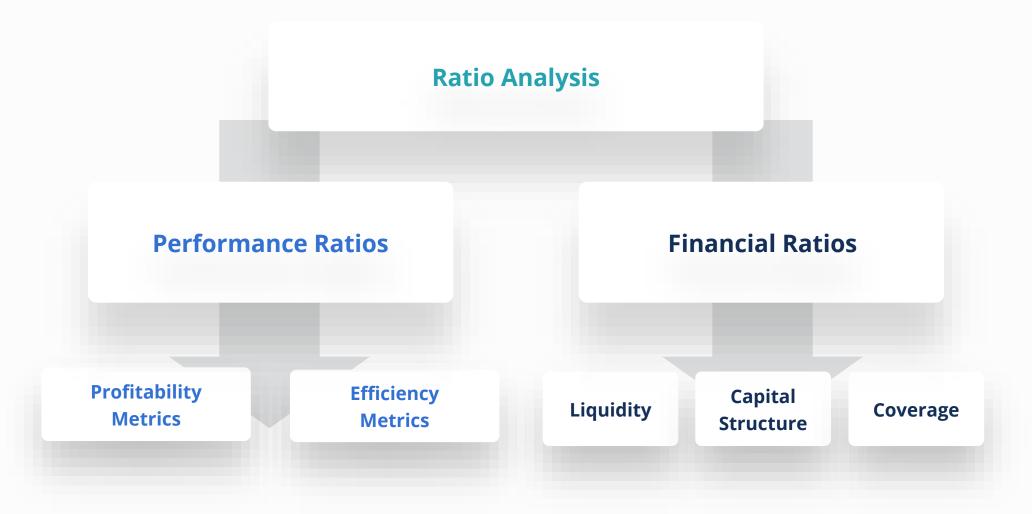


Financial Analysis





Financial Analysis



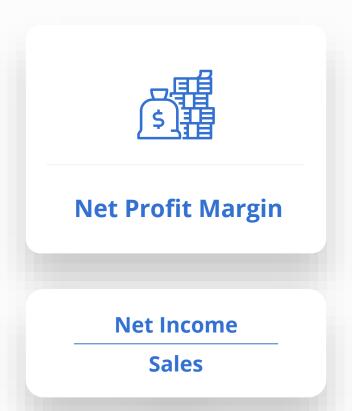


Performance Ratios – Profitability Metrics



Gross Profit

Revenue

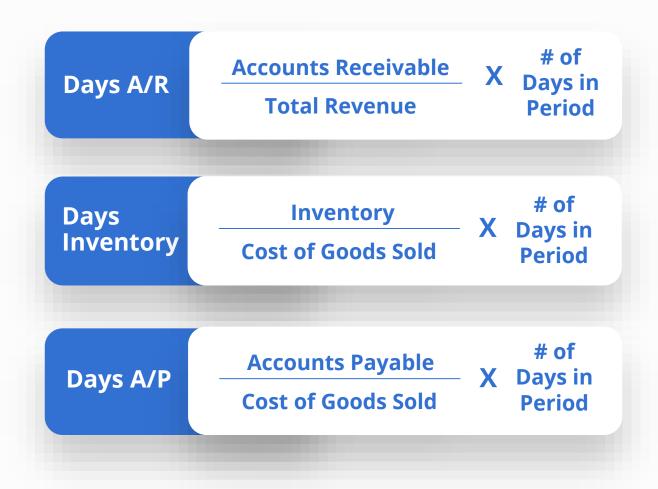




*Ratios are for illustration purposes. Many financial institutions adjust based on internal underwriting policies.



Performance Ratios – Efficiency Metrics



Cash conversion cycle

Working capital cycle



Performance Ratios - Trend Analysis

Profitability Metrics

Revenue

Gross Profit

Gross Profit Margin

EBITDA

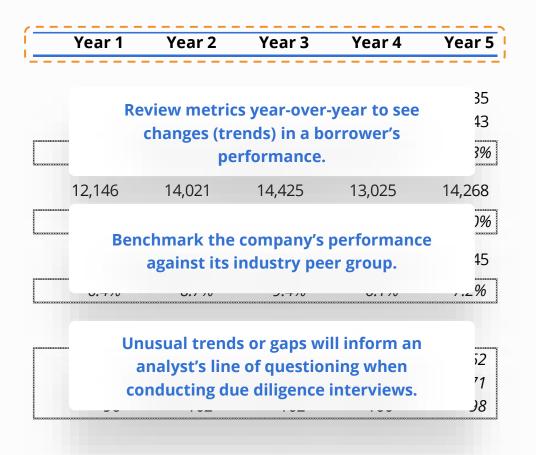
EBITDA Margin

Net Income

Net Income Margin

Efficiency Metrics

Receivable Days (Sales Basis) Inventory Days (COGS Basis) Payable Days (COGS Basis)





Performance Ratios – Industry Specific



Revenue per available seat mile



Same store sales growth (SSG)

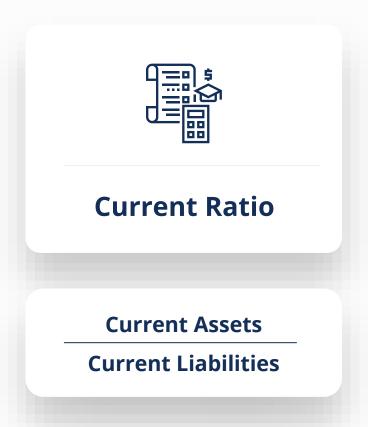


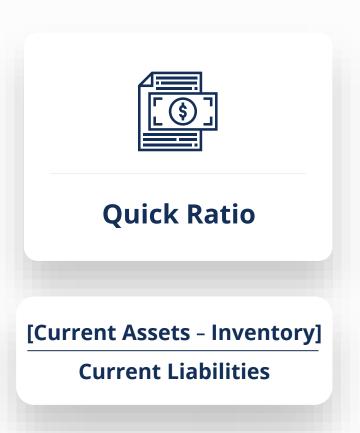
Sales per square foot



Financial Ratios – Liquidity

Liquidity measures a company's ability to cover its current liabilities using only its current assets.





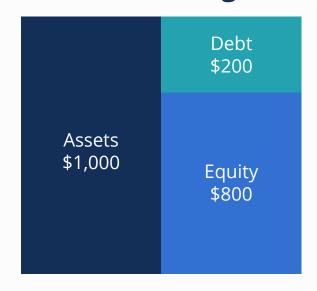
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Financial Ratios - Leverage (Gearing)

Capital structure refers to the **makeup of a company's funding sources.**

Low Leverage



High Leverage





Financial Ratios - Leverage (Gearing)

Capital structure refers to the makeup of a company's funding sources.



<u>Liabilities (or Funded Debt)</u> Shareholder's Equity



<u>Liabilities (or Funded Debt)</u> [Equity – Intangible Assets]

^{*}Ratios are for illustration purposes. Many financial institutions adjust based on internal underwriting policies.



Financial Ratios - Coverage

Coverage metrics assess how easily a business can **cover its annual interest obligations using its annual operating cash flow.**



Times Interest Earned

EBIT

Interest



Debt Service Coverage



[Annual Principal + Interest Payments]



Fixed Charge Coverage

[EBITDA + Fixed Charges]

[Fixed Charges + Principal + Interest Payments]

*Ratios are for illustration purposes. Many financial institutions adjust based on internal underwriting policies.



Financial Ratios





Financial Ratios – Trend Analysis

Financial Ratios

EBITDA

CPLTD

Total Interest

Total Obligations

Debt Service Coverage Ratio

Current Assets

Current Liabilities

Current Ratio

Total Debt

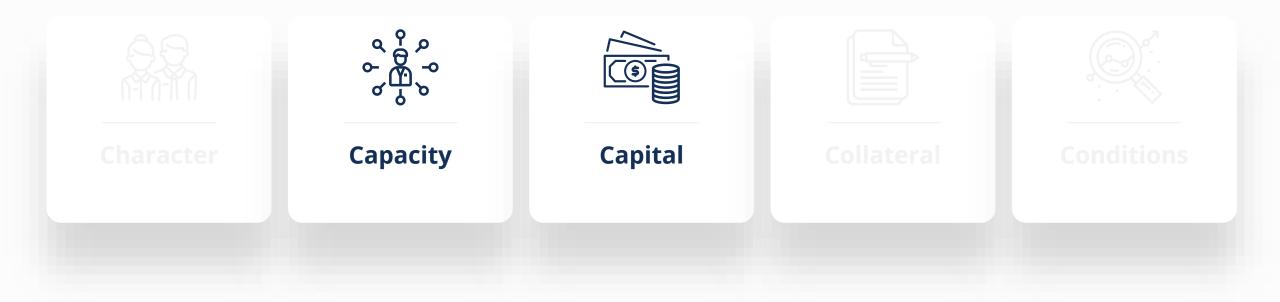
Total Equity

Debt to Equity

<u> </u>	Year 1	Year 2	Year 3	Year 4	Year 5
					/
	Review metrics year-over-year to see changes (trends) in a borrower's performance.				268
					217
					554
	4,986	4,762	4,717	3,581	4,871
	010010010000000000000000000000000000000				2.9
	Benchmark the company's performance				
	against its industry peer group.				116
)28
	2.3	2.4	2.8	2.7	2.5
	Paint a more complete picture of a				\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
	borrower's financial health.				981 597
	1.7	1.3	1.3	1.1	1.1

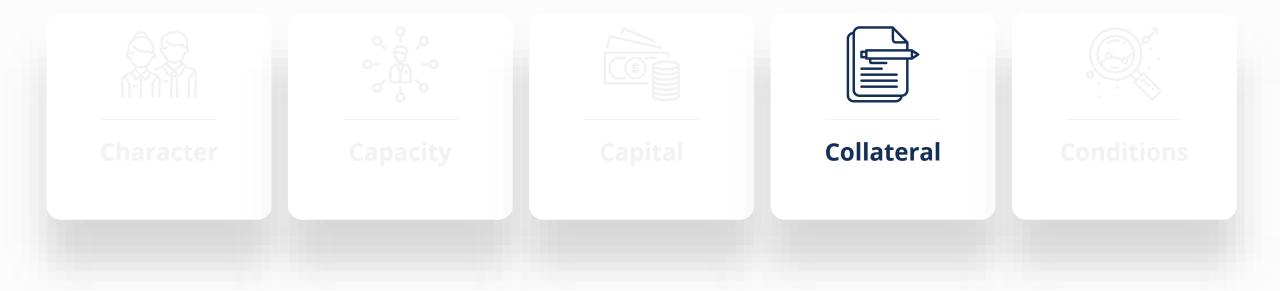


Financial Ratios



Understanding a borrower's performance and financial ratios **helps to satisfy the Capacity and the Capital Cs of our 5 Cs framework.**







Generally, any collateral is usually better than no collateral; however, not all security is created equally.



If a borrower pledges cash as collateral, they may get 100% LTV.

В

If a borrower pledges **used equipment**, they might only get 50% LTV.



Marketable

Ascertainable

Stable

Transferrable

Implies that there is an active secondary market.

Many parties can agree upon an asset's value – often by using a 3rd party appraisal.

The asset's value is unlikely to experience volatility.

How easy is it to transfer title of the asset?

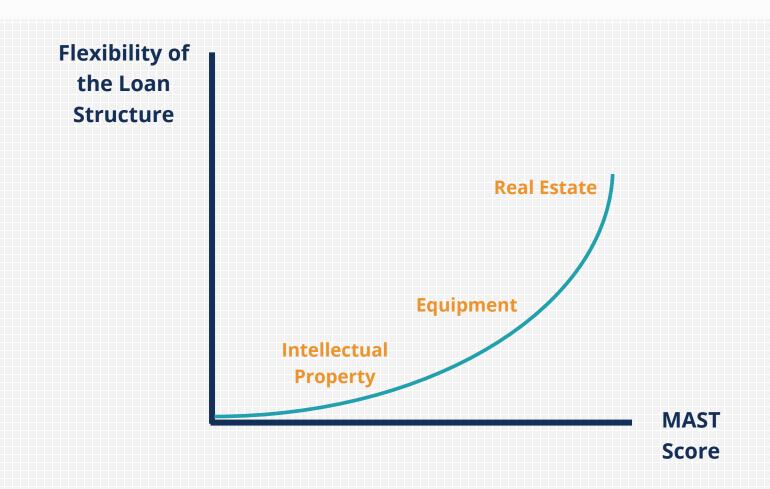


Marketable

Ascertainable

Stable

Transferrable







Fundamentals of Credit Course Summary



Learning Objectives



Define what credit is and how it's created.



Identify some of the different career opportunities available to credit professionals.



Compare different types of interest payments and loan characteristics to help inform an appropriate credit structure.



Explain what capital expenditure (or CAPEX) is and how debt financing can support it.



Explain the 5 Cs of credit framework and how it informs risk assessments.



Identify the important qualitative and quantitative techniques, including key financial ratios, used in the risk assessment process.

