



Glossary & Key Concepts

Commercial Real Estate Underwriting

Learning Path: Commercial Real Estate Underwriting**Topic:** Commercial real estate credit analysis and underwriting

Path Overview

Description: This reference supports the full eight-course Commercial Real Estate Underwriting path. It covers the regulator-endorsed analytical sequence (borrower, then guarantor, then property), the cash-flow techniques used to test each source of repayment, the valuation methods that produce property value and net operating income, the underwriting standards that size and stress-test a loan, and the risks, covenants, and write-up structure that frame the credit decision.

Learning Objectives:

- Apply the borrower-guarantor-property analytical sequence and the three sources of repayment to structure a commercial real estate credit analysis.
- Construct and read borrower cash flow, the UCA cash flow statement, personal cash flow, and global debt service analysis across related entities.
- Assess property value through the income, cost, and sales-comparison approaches, and derive net operating income from a rent roll and property operating statement.
- Size and stress-test a loan against maximum loan-to-value, minimum debt service coverage, debt yield, and breakeven vacancy.
- Identify repayment risks by source, design cash-flow-grounded covenants, and present a defensible recommendation in a comprehensive credit memorandum.

Glossary

Term	Definition
Actual value	A property value conclusion based on the property's in-place, as-is income and occupancy, as opposed to a stabilized value that assumes a future leased-up condition. The gap between actual and stabilized value signals lease-up or turnaround risk the lender bears today.
Affirmative covenant	A loan covenant requiring the borrower to take a specified action (for example, maintain insurance, pay taxes, deliver financial statements). Contrast with a negative covenant, which prohibits an action.

Term	Definition
Balloon maturity	A loan whose amortization schedule does not retire the principal by maturity, leaving a large lump-sum payment (the balloon) due at the end. In a projection, the balloon is treated as a single-year cash demand that usually requires refinancing or sale to satisfy.
Borrower-guarantor-property analytical sequence	The order in which a commercial real estate credit is analyzed: the borrower (the obligor whose cash flow is the primary source of repayment) first, then the guarantor (the secondary source of repayment), then the property and its collateral value (the tertiary source of repayment). The sequence follows the priority of repayment sources, not the order of convenience.
Breakeven vacancy	The vacancy rate at which a property's effective gross income covers operating expenses and debt service exactly, leaving zero cash flow. The cushion between expected vacancy and breakeven vacancy measures how much occupancy can deteriorate before the loan stops being serviced from the property.
Business cash flow	A cash-flow proxy that adjusts accrual operating results toward cash by accounting for changes in working-capital accounts, used to approximate the cash a business actually generates before financing. A proxy, not the precise figure the UCA cash flow statement produces.
Business-profit adjustment	An adjustment that normalizes owner compensation to a market rate so reported profit reflects the economics of the business rather than the owner's discretionary pay. Without it, an owner who underpays or overpays themselves distorts the profitability test.
Capitalization rate (cap rate)	The required annual return on a property's value, expressed as net operating income divided by value. It is the rate the market demands for the property's risk and is independent of any single buyer's financing; a higher cap rate implies higher perceived risk and a lower value for the same income.
Cash-flow proxy	Any shortcut estimate of cash flow (EBITDA, traditional cash flow, business cash flow) used in place of a full cash-flow statement. Proxies are quick but omit working-capital swings and non-operating items; the analyst reconciles the proxy against true cash flow before relying on it.
Cash-flow waterfall	The ordered claim on a period's cash: operating cash flow first covers operating needs and required debt service, then taxes and mandatory amortization, then discretionary uses such as distributions to owners. The waterfall shows which claims are satisfied and which go unmet when cash is short.

Term	Definition
C-corporation (C-corp)	A corporation taxed as a separate entity, so its earnings are taxed at the corporate level and again as dividends to shareholders. Contrast with a pass-through entity, whose income is taxed only at the owner level.
Conditions precedent	The requirements a borrower must satisfy before the lender is obligated to fund (for example, completed appraisal, executed leases, equity injection). They convert underwriting assumptions into enforceable closing requirements.
Contingent liability	An obligation that becomes due only if a future event occurs, such as a guarantee the guarantor must honor if the primary borrower defaults. Global contingent obligations are not on the guarantor's balance sheet as current debt but can become real claims that consume guarantor financial capacity.
Cost approach	A method of estimating property value as the cost to replace the improvements, less depreciation, plus land value. Most relevant for special-purpose or new properties where comparable sales and income data are thin.
Covenant (loan covenant)	A contractual promise in the loan agreement that constrains or requires borrower behavior, tailored to mitigate a specific risk. Categories include affirmative, negative, financial, and reporting covenants.
Credit memorandum	The structured document that presents the credit analysis and recommendation, organized around the four essential issues. It is the analyst's primary work product and the basis on which a credit decision is made.
Debt constant	The annual debt service per dollar of loan, expressed as a decimal or percentage, for a loan at a given rate and amortization term. Dividing the income available for debt service by the debt constant gives the maximum loan that income can support.
Debt service coverage ratio (DSCR)	Net operating income (for a property) or cash flow available for debt service (for a business) divided by total required debt service. A DSCR above 1.0x means income exceeds debt payments; lenders set a minimum, often 1.20x to 1.25x, as the cash-flow test a credit must pass.
Debt yield	Net operating income divided by the loan amount, expressed as a percentage. It measures the lender's return on the loan independent of interest rate and amortization, and unlike DSCR or LTV it cannot be flattered by low rates or aggressive cap rates.

Term	Definition
Description versus analysis	The distinction between stating a fact (description) and explaining what the fact means for repayment (analysis). The "so-what" test forces every observation in a write-up to connect to a conclusion about risk.
Direct capitalization	A valuation method that converts a single year's stabilized net operating income to value by dividing it by a market cap rate. Contrast with yield capitalization, which discounts a multi-year stream of cash flows.
Distribution	A payment of cash or property from an entity to its owners (a dividend in a C-corp, a distribution in a pass-through). Distributions reduce the cash retained in the business and are constrained by covenants when the lender needs cash to stay in the entity.
Earnings before interest, taxes, depreciation, and amortization (EBITDA)	A cash-flow proxy computed by adding interest, taxes, depreciation, and amortization back to net income. It approximates operating cash generation but ignores working-capital changes, capital expenditure, and the cost of replacing assets.
Effective gross income (EGI)	Potential gross income minus vacancy and collection loss, plus other income such as parking or laundry. EGI is the income the property realistically collects and is the starting point for net operating income.
Financial covenant	A covenant requiring the borrower to maintain a financial metric within a defined limit (for example, a minimum DSCR or a maximum LTV). It gives the lender an early, measurable trigger before a payment default.
Four essential issues (of the credit memorandum)	The four questions every credit memorandum must answer: who the borrower is and what the loan is for, where repayment comes from (the sources of repayment), what the risks are, and how the structure and covenants mitigate those risks. They organize the analysis into a defensible recommendation.
Global debt service analysis	A combined view of cash flow across the borrower, the guarantor, and all related entities, netting the cash each generates and consumes. It reveals whether the whole related group can service its combined debt, exposing reliance hidden when entities are viewed in isolation.
Guaranty (guarantee)	A guarantor's promise to repay the loan if the borrower does not. Its value depends on the guarantor's financial capacity and net worth, and on whether it is full recourse, limited, or a payment versus collection guaranty.

Term	Definition
Income approach	A method of estimating property value from the income it produces, principally through the income capitalization approach. It is the approach most aligned with how a lender thinks, because it values the cash flow that repays the loan.
K-1 (Schedule K-1)	The tax schedule a pass-through entity issues to each owner reporting that owner's share of the entity's taxable income, deductions, and distributions. A K-1 reports taxable income, which can differ sharply from the cash the owner actually received.
Loan-to-value ratio (LTV)	The loan amount divided by the property's appraised value, expressed as a percentage. It measures collateral cushion but is silent on whether the property's cash flow can service the loan; lenders cap LTV (often 75% to 80%) as one of two governing standards alongside minimum DSCR.
Necessary conditions (the two)	The two tests a borrower's operations must pass: the profitability test (the business earns an economic profit after a market-rate owner adjustment) and the cash-flow test (cash flow covers debt service). Both are necessary; profit without cash, or cash without profit, fails the credit.
Negative covenant	A covenant prohibiting the borrower from taking a specified action without lender consent (for example, incurring additional debt, selling the property, making distributions). It protects the lender's position against value-eroding actions.
Net operating income (NOI)	Effective gross income minus operating expenses, before debt service, depreciation, and income tax. NOI is the property's core earnings stream: it drives the income capitalization value, the DSCR, and the debt yield.
Owner loan	A loan between an entity and its owner, in either direction. Loans to and from owners are never netted against each other in analysis, because a receivable from an owner and a payable to an owner carry different collectibility and different claims.
Pass-through entity	A business (S-corporation, partnership, or LLC taxed as one) whose income is not taxed at the entity level but passes through to owners' personal returns via K-1s. Owners owe tax on their share whether or not cash was distributed, which can create a cash demand the entity must fund.
Personal cash flow statement	A statement that converts a guarantor's tax-return package into the recurring personal cash inflows and outflows, isolating the cash surplus available to support obligations. It separates taxable income from cash actually received.

Term	Definition
Guarantor financial capacity	The recurring personal cash surplus a guarantor can contribute to the credit, plus readily available liquid assets. It measures how much real support a guarantee carries, as distinct from the guarantor's stated net worth.
Potential gross income (PGI)	The total income a property would produce at full occupancy with all space leased at market rent, before any vacancy or collection loss. It is the top line of the property operating statement and equals the annualized total of all rent due on the rent roll.
Pro forma projection	A forward-looking statement of expected operating cash flow, debt service, and balances, built on disclosed assumptions about rents, vacancy, expenses, and financing. The lender tests the projection's assumptions rather than accepting the borrower's optimism.
Property operating statement	A structured statement of a property's income and expenses in order (potential gross income, vacancy and collection loss, effective gross income, each operating expense, total operating expenses, net operating income). The NOI line is the figure carried into the income capitalization value and the DSCR test.
Recourse	The lender's ability to pursue a borrower's or guarantor's assets beyond the pledged collateral if the collateral does not cover the debt. A full-recourse loan reaches all assets; a non-recourse loan limits the lender to the property.
Rent roll	A schedule listing every leasable unit or space with its tenant, lease status, lease expiration, rent due, rent collected, and deposit. The annualized total rent due is potential gross income; the annualized rent collected is effective gross rental income before other income.
Reporting covenant	A covenant requiring the borrower to deliver specified information on a schedule (financial statements, rent rolls, tax returns, operating statements). It gives the lender the data to monitor the other covenants and the credit.
Sales-comparison approach	A method of estimating property value from recent sales of comparable properties, adjusted for differences in location, size, condition, and terms. The quality of the value indication depends on the quality and defensibility of the adjustments.
Single-action rule	A rule in some jurisdictions that limits a secured lender to one action to recover a debt, typically forcing the lender to foreclose on the collateral before (or instead of) suing on the note. It shapes whether and how a guaranty and the collateral can both be pursued.

Term	Definition
Single-asset entity (special-purpose entity)	An entity formed to hold one property and nothing else, isolating that property's assets and liabilities from other ventures. It simplifies the lender's collateral position but offers no other business to fall back on if the single asset underperforms.
Stabilized value	A property value conclusion that assumes the property has reached a normal, sustained occupancy and rent level, as opposed to its actual current condition. Lending against stabilized value before stabilization is achieved transfers lease-up risk to the lender.
Vacancy and collection loss	The income lost to unoccupied space (vacancy) and to amounts billed but not collected (collection loss). Subtracting it from potential gross income gives effective gross income; underwriting uses a normalized rate rather than a single year's actual.
Yield capitalization	A valuation method that discounts a multi-year projection of net cash flows (and a reversion at sale) to present value at a required yield rate. It captures changing income and timing that direct capitalization, using a single year, cannot.

Key Equations and Formulas

Debt Service Coverage Ratio

$$\text{DSCR} = \text{NOI} \div \text{Annual Debt Service}$$

Variable	Definition
NOI	Net operating income for the property (or cash flow available for debt service for a business)
Annual Debt Service	Total required principal and interest payments for the year

DSCR is the cash-flow test of a credit. A property lender computes it on net operating income; a business lender computes it on cash flow available for debt service. The lender's minimum (commonly 1.20x to 1.25x) is the cushion required before income shortfalls threaten repayment.

Foundations: A DSCR of 1.25x means the property generates 25% more income than it needs to make its debt payments. At 1.00x there is no cushion; any income dip or expense

spike causes a shortfall.

Going Deeper: For a property with significant lease rollover inside the analysis horizon, underwrite DSCR on a stressed NOI that haircuts rents on expiring leases rather than on in-place NOI, so the ratio reflects the cash flow the lender will actually see when those leases reprice or vacate.

Loan-to-Value Ratio

$LTV = \text{Loan Amount} \div \text{Property Value}$

Variable	Definition
Loan Amount	The principal balance of the loan
Property Value	The appraised value, usually the lesser of cost and appraised value at origination

LTV measures collateral cushion: how much the property value could fall before the loan exceeds it. It is one of the two governing underwriting standards but is silent on cash flow, which is why it is always paired with a minimum DSCR.

Debt Yield

$\text{Debt Yield} = \text{NOI} \div \text{Loan Amount}$

Variable	Definition
NOI	Net operating income for the property
Loan Amount	The principal balance of the loan

Debt yield is the lender's return on the loan based on current property income, independent of interest rate, amortization, and cap rate. Because it cannot be flattered by a low rate or an aggressive cap rate, it is a check on loan sizing that LTV and DSCR can both miss.

Debt Constant

$\text{Debt Constant} = \text{Annual Debt Service} \div \text{Loan Amount}$

Variable	Definition
Annual Debt Service	Annual principal and interest for a loan at a given rate and amortization term
Loan Amount	The principal balance of the loan

The debt constant is the annual debt service per dollar borrowed. To size the maximum supportable loan, divide the income available for debt service (NOI divided by the minimum DSCR) by the debt constant.

Maximum Supportable Loan (from cash flow)

Max Loan = $(\text{NOI} \div \text{Minimum DSCR}) \div \text{Debt Constant}$

Variable	Definition
NOI	Net operating income for the property
Minimum DSCR	The lender's required minimum debt service coverage
Debt Constant	Annual debt service per dollar of loan

This is how a cash-flow-based underwriting derives a loan amount from income rather than from value. The smaller of this cash-flow-based maximum and the value-based maximum (value times maximum LTV) governs the loan.

Direct Capitalization (value from income)

Value = $\text{NOI} \div \text{Cap Rate}$

Variable	Definition
NOI	Stabilized net operating income
Cap Rate	The market capitalization rate for the property's risk class

Direct capitalization converts one year of stabilized NOI to value. Because value moves inversely with the cap rate, a small change in the cap rate produces a large change in value for the same income, which is why the lender independently tests the cap rate used in an appraisal.

Capitalization Rate (rate from a comparable sale)

$$\text{Cap Rate} = \text{NOI} \div \text{Property Value}$$

Variable	Definition
NOI	Net operating income of a comparable property
Property Value	The sale price of that comparable property

The cap rate is extracted from market sales by dividing each comparable's NOI by its sale price, then applied to the subject property's NOI to indicate value. It expresses the return the market requires and rises with perceived risk.

Effective Gross Income

$$\text{EGI} = \text{PGI} - \text{Vacancy and Collection Loss} + \text{Other Income}$$

Variable	Definition
PGI	Potential gross income at full occupancy and market rent
Vacancy and Collection Loss	Income lost to unoccupied space and uncollected amounts
Other Income	Non-rent income such as parking, laundry, or fees

EGI is the income the property realistically collects. It bridges the optimistic top line (PGI) to the income that actually funds expenses and debt service.

Net Operating Income

$$\text{NOI} = \text{EGI} - \text{Operating Expenses}$$

Variable	Definition
EGI	Effective gross income
Operating Expenses	Recurring costs to operate the property, before debt service, depreciation, and income tax

NOI is the property's core earnings and the single most important figure in CRE underwriting: it feeds the income capitalization value, the DSCR, and the debt yield. Operating expenses exclude debt service, depreciation, and income tax by definition.

Operating Expense Ratio

Operating Expense Ratio = Operating Expenses ÷ EGI

Variable	Definition
Operating Expenses	Total recurring operating costs
EGI	Effective gross income

The operating expense ratio benchmarks a property's cost structure against its peers and against its own history. A ratio far below market norms is a flag that expenses have been understated to inflate NOI and value.

Breakeven Vacancy

Breakeven Vacancy = $1 - (\text{Operating Expenses} + \text{Annual Debt Service}) \div \text{PGI}$

Variable	Definition
Operating Expenses	Total recurring operating costs
Annual Debt Service	Total required principal and interest
PGI	Potential gross income at full occupancy

Breakeven vacancy is the occupancy loss at which the property's collected income exactly covers operating expenses and debt service. Comparing it to expected vacancy shows how much occupancy can fall before the loan can no longer be serviced from the property.

Going Deeper: Breakeven vacancy is most informative when combined with other stresses (a rate rise on a floating-rate loan, an expense spike) rather than read in isolation; a single-variable breakeven can look comfortable while a realistic combination of disturbances does not.

Key Concepts and Frameworks

The Three Sources of Repayment

Every loan is analyzed against three ordered sources of repayment. The primary source of repayment is the borrower's operating cash flow. The secondary source of repayment is the guarantor's financial capacity and the guarantee. The tertiary source of repayment is the collateral: liquidation of the property. The order is deliberate: cash flow, not collateral, is expected to repay the loan, and reliance on a later source of repayment signals a weaker credit. The framework drives the borrower-guarantor-property analytical sequence and the structure of the credit memorandum.

The Borrower-Guarantor-Property Analytical Sequence

The federal banking regulators' policy statement endorses analyzing the borrower first, then the guarantor, then the property. This matches the priority of the three sources of repayment and keeps the analyst from anchoring on collateral value before testing whether the property's cash flow can service the loan. A cash-flow-based underwriting follows this sequence; an asset/collateral-based lending inverts it and lends against value while underweighting cash flow.

The Two Necessary Conditions

A borrower's operations must pass two tests, and both are necessary. The profitability test asks whether the business earns an economic profit after a business-profit adjustment that normalizes owner compensation to market. The cash-flow test asks whether cash flow covers debt service (the DSCR). Profit without cash, or cash without profit, fails the credit: a profitable business can still run out of cash, and a cash-positive period can mask structural unprofitability.

Global Debt Service Analysis

Global debt service analysis combines the cash flows of the borrower, the guarantor, and all related entities into one view, netting what each generates and consumes. It exposes reliance that disappears when entities are examined separately, for instance a borrower whose distributions depend on a sister company, or a guarantor whose surplus is already committed to another obligation. Projected global debt service analysis extends this forward and constrains owner cash extraction so the lender's debt service is funded first.

The UCA Cash Flow Statement

The Uniform Credit Analysis (UCA) cash flow statement converts accrual operating results into the actual cash a business generated, by adjusting for changes in the balance-sheet counterpart accounts (receivables, payables, inventory) and separating operating, investing, and financing

flows. Unlike EBITDA or other proxies, it does not omit working-capital swings, so it reveals the true cash a business produced and the borrowing causes that consumed it.

Cash-Flow Proxies versus True Cash Flow

EBITDA, traditional cash flow, and business cash flow are proxies: quick estimates that approximate cash generation without building a full statement. Each omits something (working-capital changes, capital expenditure, non-operating items), so the analyst reconciles the proxy against the UCA statement before relying on it. The proxy is a screen; the UCA statement is the answer.

The Three Approaches to Value

An appraisal estimates value through three approaches. The income approach (principally income capitalization) values the property from the cash flow it produces. The cost approach values it as replacement cost less depreciation plus land. The sales-comparison approach values it from adjusted comparable sales. The appraiser reconciles the indications into a single conclusion; for income-producing CRE the income approach usually carries the most weight, because it values the same cash flow that repays the loan.

Direct versus Yield Capitalization

Both convert income to value, but differently. Direct capitalization divides a single year of stabilized NOI by a market cap rate. Yield capitalization discounts a multi-year projection of net cash flows plus a reversion at sale to present value at a required yield. Direct capitalization suits stable, stabilized properties; yield capitalization suits properties with changing income, lease-up, or a known sale horizon.

Stabilized versus Actual Value

A stabilized value assumes the property has reached normal sustained occupancy and rent; an actual value reflects its current as-is condition. The gap between them is lease-up or turnaround risk. Lending against stabilized value before stabilization transfers that risk to the lender, so the underwriting NOI is normally the lender's own figure, validated against history, rather than the borrower's stabilized projection.

Underwriting Standards: Maximum LTV and Minimum DSCR

A lender governs a loan with two standards applied together: a maximum LTV (collateral cushion) and a minimum DSCR (cash-flow cushion). LTV is silent on cash flow and DSCR is silent on collateral, so each covers the other's blind spot. The loan is sized to the more binding of the value-based maximum and the cash-flow-based maximum, with debt yield as an additional check that neither standard has been gamed.

The Cash-Flow Waterfall

The waterfall is the ordered claim on each period's cash: operating needs and required debt service first, then taxes and mandatory amortization, then discretionary uses such as distributions to owners. It shows which claims are satisfied when cash is short and frames why distribution-limiting covenants protect the lender: they keep cash in the waterfall above the owner's claim.

Pro Forma Projection and Conditions Precedent

A pro forma projection states expected forward operating cash flow, debt service, and balances on disclosed assumptions. The lender tests the assumptions (rent growth, vacancy, expense inflation, refinancing terms) rather than accepting them, and converts the assumptions it relies on into conditions precedent: requirements the borrower must satisfy before funding, such as executed leases or an equity injection. A balloon maturity inside the projection horizon is treated as a single-year cash demand the projection must show a source for.

Covenant Categories and Design

Covenants are tailored risk-mitigation tools in four categories: affirmative (do this), negative (do not do this), financial (maintain this metric), and reporting (deliver this information). Conventional coverage and working-capital covenants are often weak because they can be satisfied without the underlying cash being available; a cash-flow-grounded covenant pair (a minimum DSCR plus a distribution limit tied to cash) protects the primary source of repayment more directly. Less is more: a few well-targeted covenants the lender will actually monitor and enforce beat a long list of boilerplate.

Guaranties, Recourse, and the Single-Action Rule

A guaranty's value depends on the guarantor's financial capacity, not just stated net worth, and on whether the loan is full recourse, limited, or non-recourse. The single-action rule in some jurisdictions can force a secured lender to foreclose on the collateral before pursuing the borrower or guarantor on the note, which shapes whether the secondary and tertiary sources of repayment can both be reached. Entity structure (especially the single-asset entity) sets the boundaries of what the lender can pursue.

The Single-Asset (Special-Purpose) Entity

A single-asset entity holds one property and nothing else. It isolates that property's assets and liabilities, simplifying the lender's collateral position, but it offers no other operating business to fall back on if the single asset underperforms. Its limits matter in a workout: there is no diversified cash flow behind the entity, so the secondary source of repayment (the guarantor) and the tertiary source of repayment (the property itself) carry more weight.

The Four Essential Issues of the Credit Memorandum

Every credit memorandum answers four questions: who the borrower is and what the loan is for; where repayment comes from (the three sources of repayment); what the risks to each source are; and how the loan structure and covenants mitigate those risks. The four issues turn analysis into a defensible recommendation and give a reviewer a consistent frame to evaluate the credit.

Description versus Analysis (the So-What Test)

A write-up must move past stating facts to explaining what they mean for repayment. Description records an observation ("occupancy fell to 88%"); analysis draws the conclusion ("the decline puts DSCR at 1.05x, below the 1.20x minimum, so the loan no longer covers from in-place cash flow"). The so-what test forces every observation to connect to a risk conclusion, and is the difference between a data dump and a credit judgment.

Suggested Prerequisites

- Accrual financial statements: the learner should read an income statement and a balance sheet for a commercial real estate operation and understand the difference between accrual revenue and cash collected.
- Basic financial ratios: familiarity with leverage, liquidity, and coverage ratios and how to read a ratio as a trend rather than a single point.
- Time value of money: enough to follow why yield capitalization discounts a multi-year cash-flow stream to present value.
- US business entity types: a working sense of how C-corporations and pass-through entities (S-corporations, partnerships, LLCs) differ in how income is taxed.
- Loan amortization basics: how principal and interest combine in a periodic payment, and what amortization term and maturity mean.

Further Reading

- Interagency policy statements on commercial real estate lending and appraisal standards published by the US federal banking regulators (the Federal Reserve, the OCC, and the FDIC): the regulatory framing for the analytical sequence and appraisal independence used throughout this path.
- Uniform Standards of Professional Appraisal Practice (USPAP), The Appraisal Foundation: the professional standard governing the appraisal report, the three approaches to value, and the appraiser's reconciliation.
- The Appraisal of Real Estate, Appraisal Institute: a standard reference on the income, cost, and sales-comparison approaches and on direct versus yield capitalization.

- Uniform Credit Analysis (UCA) cash flow statement references in commercial lending texts: the construction of the UCA statement and the reconciliation of cash-flow proxies against true cash flow.