AFIN8003 - Workshop 11

Banking and Financial Intermediation

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! Workshop 11 — Off the balance sheet, into the system

This week we leave the bank's balance sheet behind. **Loan sales** transfer ownership of a loan to a buyer; **securitisation** repackages loans into tradable securities. Both reshape who actually carries the credit risk — and 2008 showed what happens when nobody is paying attention.

Plan for the hour:

1. **Part A — Concept check** (≈ 15 min). Fifteen MCQs. Self-mark, then compare with your neighbour on the two you got wrong.
2. **Part B — Numerical and short answer** (≈ 15 min). Duration mixing, the MBB deposit-insurance subsidy, and a structured discussion of securitisation across the three risks.
3. **Part C — Acacia Bank: clearing the deck** (≈ 25 min). Three-round tabletop. *This is the bulk of the workshop.*
4. **Part D — The big question** (≈ 5 min). Are CLOs the new subprime?

Bring a pen. Mark up the handout.

1 Part A — Concept check

1.1 MCQ

1. The **originate-to-distribute** model involves:

   ☐ Making loans and holding them until maturity, then re-issuing.
   ☐ Making loans, selling or securitising them, and using the proceeds to originate new loans.
   ☐ Making loans and securitising them without selling.
   ☐ Making loans and keeping all loans on the balance sheet without further distribution.

2. In a **loan sale without recourse**, the selling FI:

   ☐ Retains liability if the loan defaults.
   ☐ Has no liability if the loan defaults.
   ☐ Shares liability with the buyer.
   ☐ Must provide additional collateral.

3. Traditional short-term loan sales typically:

   ☐ Are secured by assets and issued for terms longer than three years.
   ☐ Are secured, short-term, and yields tied closely to the commercial paper rate.
   ☐ Are unsecured, long-term, and tied to LIBOR.
   ☐ Are distressed loans with significant covenant protection.

4. A distinguishing feature of **leveraged loans** is that they:

   ☐ Have short maturities and fixed interest rates.
   ☐ Are always issued at a premium to par.

- ☐ Have floating rates over a benchmark (historically LIBOR, now SOFR) and are made to sub-investment-grade borrowers.
- ☐ Are issued only to investment-grade borrowers.

5. A loan sale by **assignment** involves:

   - ☐ Transferring only part of the loan rights to the buyer.
   - ☐ Transferring all rights and claims on the borrower to the buyer.
   - ☐ Allowing the buyer to control the original credit agreement, but not own the loan.
   - ☐ Keeping ownership with the seller.

6. In a **participation** loan sale contract, the buyer:

   - ☐ Holds a direct claim on the borrower.
   - ☐ Gains full control over loan contract terms.
   - ☐ Assumes risk both from the borrower *and* from the selling FI.
   - ☐ Becomes the primary creditor.

7. FIs sell loans primarily to:

   - ☐ Shift credit risk only.
   - ☐ Earn fee income, reduce regulatory capital costs, and improve liquidity.
   - ☐ Expand lending portfolios without origination.
   - ☐ Avoid Basel III altogether.

8. Asset **securitisation** is primarily aimed at managing:

   - ☐ Credit and market risk.
   - ☐ Interest rate, credit, and liquidity risks (and capital cost).
   - ☐ Liquidity risk only.
   - ☐ Operational and liquidity risks.

9. In a securitisation via **SPV**, the SPV:

   - ☐ Holds loans until maturity and issues short-term debt.
   - ☐ Packages loans, creates new securities, sells them to investors, and ceases to exist when the loans mature.
   - ☐ Manages loans indefinitely on the originating bank's balance sheet.
   - ☐ Acts as a deposit-taking institution.

10. A key risk specific to **SIVs** (but not SPVs) is:

    - ☐ Prepayment risk.
    - ☐ Operational risk.
    - ☐ Run risk — short-term ABCP funding cannot be rolled over.
    - ☐ Liquidity risk does not apply, because SIVs hold deposits.

11. **Pass-through securities** are characterised by:

    - ☐ Fractional ownership of a mortgage pool, with all prepayments passed pro-rata to investors.
    - ☐ Multiple tranches with pre-specified prepayment waterfalls.
    - ☐ Excess collateral pledged against a fixed bond coupon.
    - ☐ Funding through short-term commercial paper.

12. **CMOs** differ from pass-throughs in that they:

    - ☐ Guarantee higher returns to all investors.
    - ☐ Allocate prepayments across tranches in a specified order, redistributing prepayment risk.
    - ☐ Remain on the originator's balance sheet.
    - ☐ Are issued only by commercial banks.

13. Class A of a CMO is most attractive to:

    - ☐ Insurance companies seeking long duration.
    - ☐ Depositary institutions (banks) because of its short average life.

☐ Pension funds seeking medium-term assets.
☐ Distressed-debt funds.

14. **Mortgage-backed bonds (MBBs)** differ from pass-throughs and CMOs because they:

☐ Pass mortgage cash flows directly to investors.
☐ Remain on the issuer's balance sheet and are backed by excess collateral that has *no direct cash-flow link* to the bond coupon.
☐ Provide investors a fractional ownership share in the mortgage pool.
☐ Require no excess collateral.

15. In September 2018, U.S. regulators flagged **leveraged loans** as a financial stability risk because:

☐ Demand from CLO investors had collapsed.
☐ Protections on loans to junk-rated borrowers were strengthening.
☐ Market size had doubled in six years, with ~90% of new loans now "covenant-lite" and CLOs absorbing the bulk of issuance.
☐ Credit ratings of leveraged loans had improved dramatically.

2 Part B — Numerical and short answer

2.1 Q1 — Mixing duration with a loan purchase

An FI has total assets of $20 million: $5 million in cash (duration 0) and $15 million in loans. Its current average asset duration is 3.5 years. It plans to use the $5 million cash to **buy** a new loan and lift average asset duration to 5 years.

(a) What is the implied duration of the *existing* $15 million loan book?
(b) If the FI purchases a loan with duration 7 years, what will the new average asset duration be? Is this acceptable?
(c) What duration should the *purchased* loan have to hit the 5-year target exactly?

2.2 Q2 — The MBB deposit-insurance subsidy

Re-read the MBB balance-sheet example from lecture. A bank holds $20m in long-term mortgages, financed by $10m insured deposits and $10m uninsured deposits. The insured-deposit rate is 2% (just above risk-free); uninsured deposits demand 4%. The bank now issues a $10m MBB backed by **$12m of pledged (segregated) mortgages**. The MBB is rated AAA because of the excess collateral and trades at 2.5%. The bank uses the proceeds to redeem the uninsured deposits.

(a) What is the **annual funding-cost saving** for the bank?
(b) After the swap, the deposit insurer's exposure is to $10m of *insured* deposits backed by what amount of *unpledged* assets? What is the implicit subsidy *from the deposit insurer* (and ultimately taxpayers) to the bank?
(c) **Mini-debate.** Why might APRA allow covered-bond issuance up to **8% of Australian assets** but no more?

2.3 Q3 — Securitisation across the three risks

How does an FI use **securitisation** to manage (i) interest-rate risk, (ii) credit risk, and (iii) liquidity risk? For each, give **one sentence** on the mechanism and **one example product** (pass-through, CMO, MBB, or CLO) most useful for that risk.

3 Part C — Acacia Bank: clearing the deck

! The scenario

You're back at **Acacia Bank**'s desk. Last week the Group Treasurer dealt with FX, sovereign, and OBS shocks (Workshop 10). This week, the **Head of Credit Portfolio Management** has handed you a different problem.
Acacia has originated A$5 billion of corporate loans over the past 12 months — far more than its capital plan envisaged. Risk-weighted assets are bumping against APRA's CET1 floor. The Board wants RWA down by **A$2 billion in this quarter**, without shrinking the customer franchise. You have three tools: **loan sales, securitisation, and CLO issuance**. Use them.
Discuss with your neighbour. Be ready to defend your numbers.

3.1 Acacia's loan book (Monday 9:00 AM)

Tranche	Size (A$m)	Avg rating	Avg coupon	RWA density
Investment-grade corporate term loans	2,000	BBB	SOFR + 180 bp	60%
Leveraged loans (sub-IG, covenant-lite)	1,500	B+	SOFR + 425 bp	100%
Residential mortgages (prime)	1,000	n/a	5.50% fixed	35%
Distressed leveraged loans (recently downgraded)	500	CCC	SOFR + 650 bp	150%

Funding cost: Acacia's marginal wholesale funding rate is **SOFR + 95 bp**. CET1 ratio target is **11.5%**.

3.2 Round 1 — Monday (the distressed CCC book)

⚠ 9:30 AM Monday

The A$500m CCC tranche is the obvious first cut. Bid lists arrive from two buyers: a **vulture fund** offering 78 cents per dollar of par, and a **regional bank** offering 84 cents on the condition that Acacia sells **with recourse**.

(a) Which bid maximises Acacia's *cash proceeds*? Which maximises Acacia's *risk transfer*?

(b) A junior banker suggests selling **80% of the tranche to the vulture fund as a participation**, keeping 20% on-book. Identify *two distinct problems* with this idea.

(c) Estimate the **RWA reduction** from selling 100% of the CCC tranche, without recourse, to the vulture fund. By how much does this move Acacia toward the A$2bn quarterly target?

RWA reduction = _____ (A$m)

3.3 Round 2 — Tuesday (securitising the mortgages)

⚠ 10:00 AM Tuesday

Next on the list: the A$1,000m residential mortgage book. The Treasury team proposes pooling these into an **RMBS** (residential mortgage-backed security) issued through a bankruptcy-remote **SPV**. Capital markets desk pre-sounded investors and indicates the SPV would issue:

- **Class A (60%)** — AAA, expected coupon SOFR + 70 bp
- **Class B (25%)** — AA, expected coupon SOFR + 110 bp
- **Class M (10%)** — BBB, expected coupon SOFR + 240 bp
- **Class E (5%)** — unrated **equity tranche, retained by Acacia** (regulatory requirement under APS 120)

(a) Sketch the **waterfall logic**. Which class absorbs the *first* mortgage default? Which class absorbs *prepayments* first?

(b) Why is Acacia *required* to retain the 5% equity tranche? (Hint: the term is "skin in the game".) Which post-2008 reform is this?

(c) Compute the **RWA reduction** from this securitisation, assuming the equity tranche carries a **1,250% risk weight** (the standard punitive weight for retained securitisation equity under Basel III). Compare to a naive "sold everything" expectation.

Mortgage RWA *today* = _____ (A$m).

Retained equity RWA *after securitisation* = _____ (A$m).

Net RWA reduction = _____ (A$m).

(d) Is Acacia exposed to **run risk** in this structure? Would your answer change if Acacia had used an **SIV** instead of an SPV?

3.4 Round 3 — Wednesday (the CLO trade)

⚠ 11:00 AM Wednesday

After Rounds 1 and 2, Acacia has reduced RWA by A$750m (CCC sale) but added A$275m (RMBS retention). **Net: down A$475m of A$2,000m target.** The remaining lever is the **leveraged loan book** (A$1,500m at 100% RWA).
The capital markets desk proposes packaging it into a **CLO** managed by a third-party manager. The structure is similar to Round 2, but Acacia retains a **5% vertical strip** rather than the equity tranche — i.e., 5% of *every* tranche from AAA down to equity. Capital treatment is more favourable.

(a) Compute the **RWA effect** of the CLO, assuming the retained vertical strip is treated under Basel's **SEC-IRBA approach** at an average risk weight of **100%** on the retained 5%.

Leveraged loan RWA today = _____ (A$m).

Retained strip RWA after = _____ (A$m).

Net reduction = _____ (A$m).

(b) Does Acacia hit the A$2,000m quarterly target with the three trades combined?

Cumulative RWA reduction across Rounds 1–3 = _____ (A$m).

(c) Risk migration check. Acacia has now *sold* most of its leveraged loan exposure. Where did the credit risk *go*? Identify the typical buyers of (i) the AAA tranche, (ii) the BBB tranche, and (iii) the equity tranche of the CLO.

(d) A regulator at next month's review says: *"You've reduced your RWA, but you haven't reduced systemic risk."* Defend or rebut.

4 Part D — The big question

Wrap-up — discuss for the last 5 minutes

The CLO market is now around US$1 trillion outstanding — comparable in scale to the 2007 subprime mortgage market.
Yet during the COVID-19 shock of 2020, CLOs *did not implode*. Defaults peaked far below the doomsday scenarios painted by the Fed, IMF, and BIS in 2018–2019. Some argue this proves CLOs are structurally sounder than subprime ever was: better diversified, with corporate borrowers rather than households, and held by long-dated institutional investors rather than money-market funds.
Others argue CLOs were saved by **Fed intervention** (the Primary and Secondary Market Corporate Credit Facilities of April 2020) and that we shouldn't conclude anything about their resilience absent a rescue.
So — are CLOs the new subprime, a fundamentally safer product, or just one rescue away from being the next subprime? What would you tell the Acacia Board?

Take home — three lines to remember

1. **Loan sales** are a duration-and-credit tool: assignment is clean, participation is double-exposure, and most sales today are without recourse.
2. **Securitisation moves risk around the balance sheet — it does not always release capital.** Retention rules (the 5% rule, 1,250% risk weights on equity) deliberately keep "skin in the game".
3. **Risk doesn't disappear — it migrates.** CLOs took the credit risk that banks once held; whether that makes the system safer or just less visible is the open question of post-2008 banking.