AFIN8003 - Workshop 10

Banking and Financial Intermediation

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! Workshop 10 — Three risks in one bank

This week we cover the risks that hit a bank **from outside its home market**: foreign exchange, sovereign, and off-balance-sheet. They look like different problems — but a real banking crisis usually involves all three at once.

Plan for the hour:

1. **Part A — Concept check** (≈ 15 min). Thirteen MCQs. Self-mark.
2. **Part B — Numerical questions** (≈ 15 min). Loan-commitment economics and SLC vs loan-commitment trade-off.
3. **Part C — Acacia Bank: three risks, one bad week** (≈ 25 min). Three-round tabletop. *This is the bulk of the workshop.*
4. **Part D — The big question** (≈ 5 min). Open discussion.

Bring a pen. Mark up the handout.

1 Part A — Concept check

1.1 MCQ

1. The risk that a borrower may not be able to make payments on a contractual obligation because of interference by an outside governmental party is:
   - ☐ interest rate risk
   - ☐ operating risk
   - ☐ foreign exchange risk
   - ☐ sovereign risk
2. The outright cancellation of all current and future foreign debt and equity obligations is called:
   - ☐ a Brady bond
   - ☐ a MYRA
   - ☐ a debt moratorium
   - ☐ a debt repudiation
3. Which of the following internal evaluation models relies on the production of goods as well as the price of such goods?
   - ☐ the investment ratio
   - ☐ the domestic money supply growth
   - ☐ the import ratio
   - ☐ variance of export revenue
4. The following will lead to a higher probability of debt restructuring for a country:
   - ☐ a negative relationship with the debt servicing ratio.

- ☐ a negative relationship with the import ratio.
- ☐ a lower level of sovereign debt.
- ☐ a positive relationship with both the debt service ratio and the import ratio.

5. A lender (FI) may benefit from debt restructuring in the following way:
   - ☐ the FI cannot benefit.
   - ☐ the restructuring may mean the loan becomes similar to a long-term bond.
   - ☐ less regulatory attention.
   - ☐ a restructuring is better than a loan default.
6. The market in which foreign currency is traded for immediate delivery is the:
   - ☐ spot market
   - ☐ futures market
   - ☐ forward market
   - ☐ London market
7. An FI has $100 in FX assets and $80 in FX liabilities. The FI also has $60 of FX bought and $90 of FX sold. The net FX exposure is:
   - ☐ $20
   - ☐ −$30
   - ☐ $10
   - ☐ −$10
8. An unhedged position in a particular foreign currency is:
   - ☐ an open position
   - ☐ a short position
   - ☐ a long position
   - ☐ facing the risk of loss if the exchange rate moves in either direction
9. Off-balance-sheet activities have:
   - ☐ risk-reducing attributes
   - ☐ risk-increasing attributes
   - ☐ profit-enhancing characteristics
   - ☐ All of the listed options are correct.
10. Items that affect the future, rather than the current, shape of an FI's balance sheet are:
    - ☐ contingent assets
    - ☐ contingent liabilities
    - ☐ off-balance-sheet items
    - ☐ All of the listed options are correct.
11. Loan commitments are examples of:
    - ☐ contingent assets
    - ☐ contingent liabilities
    - ☐ off-balance-sheet liabilities
    - ☐ All of the listed options are correct.
12. A contingent contract that guarantees the trade performance of the buyer of the guaranty is a:
    - ☐ standby letter of credit
    - ☐ commercial (documentary) letter of credit
    - ☐ forward contract
    - ☐ loan commitment
13. A back-end fee or commitment fee is:
    - ☐ a fee charged upfront for a loan
    - ☐ a fee charged by the borrower to the FI

☐ a fee the FI charges the borrower for any unused balances in the commitment line
☐ a fee charged at the back end of a loan

2 Part B — Numerical questions

2.1 Q1 — Pricing a loan commitment

An FI has issued a one-year loan commitment of $2 million for an upfront fee of 25 basis points. The back-end fee on the unused portion of the commitment is 10 basis points. The FI requires a compensating balance of 5 per cent as demand deposits. The FI's cost of funds is 6 per cent, the interest rate on the loan is 10 per cent, and reserve requirements on demand deposits are 8 per cent. The customer is expected to draw down 80 per cent of the commitment at the beginning of the year.

(a) What is the expected return on the loan **without** taking future values into consideration?
(b) What is the expected return **using future values**? That is, the net fee and interest income are evaluated at the end of the year when the loan is due.
(c) How is the expected return in part (b) affected if the reserve requirements on demand deposits are zero?
(d) How is the expected return in part (b) affected if compensating balances are paid a nominal interest rate of 5 per cent?
(e) What is the expected return using future values but with the compensating balance placed in certificates of deposit that pay 5.5 per cent and have no reserve requirements, rather than in demand deposits?

2.2 Q2 — SLC vs loan commitment as CP collateral

A corporation is planning to issue $1 million of 270-day commercial paper for an effective yield of 5 per cent. The corporation expects to save 30 basis points on the interest rate by using either an SLC or a loan commitment as collateral for the issue.

(a) What are the net savings to the corporation if a bank agrees to provide a 270-day SLC for an upfront fee of 20 basis points (of the face value of the loan commitment) to back the CP issue?
(b) What are the net savings if a bank instead provides a 270-day loan commitment? The bank charges 10 basis points upfront and 10 basis points back-end on any unused portion. Assume the loan is **not** drawn and that the fees are on the face value.
(c) Should the corporation be indifferent between the two collateral methods at the time the CP is issued?

2.3 Q3 — Credit risk vs sovereign risk

A foreign corporation is profitable, well-managed, and current on all its obligations. **Yet your Australian bank still loses money on a loan to it.** In one short paragraph, give two non-credit-risk channels that could produce this loss. Then describe the **two-step due diligence** an FI should perform before extending the loan.

3 Part C — Acacia Bank: three risks, one bad week

! The scenario

You are back at the desk of **Acacia Bank**'s Group Treasurer (the same bank you ran through a liquidity crisis in Workshop 9). This week, the shocks come from outside Australia. Three risks hit one after another.
This is a **decision-making exercise**. Discuss with your neighbour. Be ready to defend your numbers.

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

Selected exposures	Position
Net long EUR-denominated corporate bonds	A$500m equivalent
Argentine USD-denominated sovereign bonds (face value)	A$300m equivalent
Committed but undrawn corporate credit lines (loan commitments)	A$1,500m
Outstanding standby letters of credit backing client CP issues	A$200m

Pricing of the loan commitments: 25 bp upfront, 10 bp back-end fee on unused.

Acacia's net-FX-exposure policy: open position per currency must not exceed A$200m. Acacia's CET1 equity is A$4,000m.

Initial spot rates: AUD/EUR = 0.60 (i.e., 1 EUR = A$1.67). AUD/USD = 0.65.

3.2 Round 1 — Monday (the FX shock)

11:00 AM Monday

The RBA surprises markets with a 50 bp emergency cut, citing global growth fears. The AUD drops sharply against majors. By close, the new spot rate is AUD/EUR = 0.565 (i.e., 1 EUR = A$1.77) — an AUD depreciation of roughly 6 per cent against the euro.

(a) Is Acacia's EUR bond position **long** or **short** EUR? Why?

(b) What is the approximate AUD gain or loss on the EUR bond position?

Gain/loss = ____________________ (A$m)

(c) Is Acacia in breach of its open-position policy? Show your check.

(d) Identify two on-balance-sheet *and* two off-balance-sheet hedges the treasurer could have put on **last quarter** to neutralise the EUR exposure.

3.3 Round 2 — Tuesday (the sovereign shock)

9:00 AM Tuesday

Argentina, mid-FX-crisis of its own, announces a **35 per cent NPV haircut** on its USD-denominated sovereign bonds — its tenth sovereign default since 1816. International bondholders are invited to a "voluntary" exchange.

(a) Estimate Acacia's loss on the Argentine bond holding.

Loss ≈ ____________________ (A$m)

(b) Why is this **sovereign risk** rather than **credit risk**? What are Acacia's legal options? *Hint:* there is no global bankruptcy court for sovereigns.

(c) Which of the internal evaluation ratios (TDSR, IR, INVR, VAREX, MG) would have *most likely* flagged this risk in advance? Justify briefly.

(d) Acacia's risk committee asks: "Why did we hold Argentine sovereign debt at all?" Give one defensible reason and one indefensible one.

3.4 Round 3 — Wednesday (the OBS shock)

Three large corporate clients, spooked by the FX move and broader risk-off sentiment, **draw down their committed credit lines in full**. Total draw: **A$600m**, requested as same-day cash. None of the three is in default; they are pre-empting a possible market squeeze.

(a) Sketch what happens to Acacia's balance sheet and to the OBS book.

(b) What does this do to Acacia's liquidity (recall Workshop 9)? Which Week 9 facility do you call on?

(c) Compute the **total fee income** Acacia has earned on the full A$1,500m commitment book this year, given the 25 bp upfront and 10 bp back-end fees, **before** Wednesday's draw. Then compute it again **after** the draw.

Pre-draw fee income = ______________________ (A$m).

Post-draw fee income = ______________________ (A$m).

(d) Was the 25 bp + 10 bp pricing **adequate** compensation for the risk Acacia just absorbed? If not, what should the pricing have been? Discuss qualitatively.

4 Part D — The big question

AIG (2008). Off-balance-sheet credit default swaps notionally worth around US$440 billion. None of it appeared on the firm's balance sheet until the contingencies materialised — at which point AIG required a US$182 billion taxpayer bailout.
After 2008, regulators tried to drag OBS items onto the balance sheet via tougher disclosure and capital rules (Basel III, derivative netting, central clearing). And yet — **OBS books at major banks keep growing**.
Why? Are regulators failing? Are banks finding new ways around the rules? Or is OBS activity genuinely useful when properly priced and hedged? What would you do differently?

1. **FX risk** comes from a *net* position, not gross exposure. Match assets to liabilities, or hedge — but know which currency you are in.
2. **Sovereign risk** is what makes a creditworthy borrower default. There is no global bankruptcy court for sovereigns — only negotiation.
3. **OBS items hide in the footnotes** until they don't. When the contingency hits, an off-balance-sheet line becomes an on-balance-sheet liquidity problem in a single afternoon.