WORKING CAPITAL MANAGEMENT (FIN3702) WINTER STUDY SCHOOL

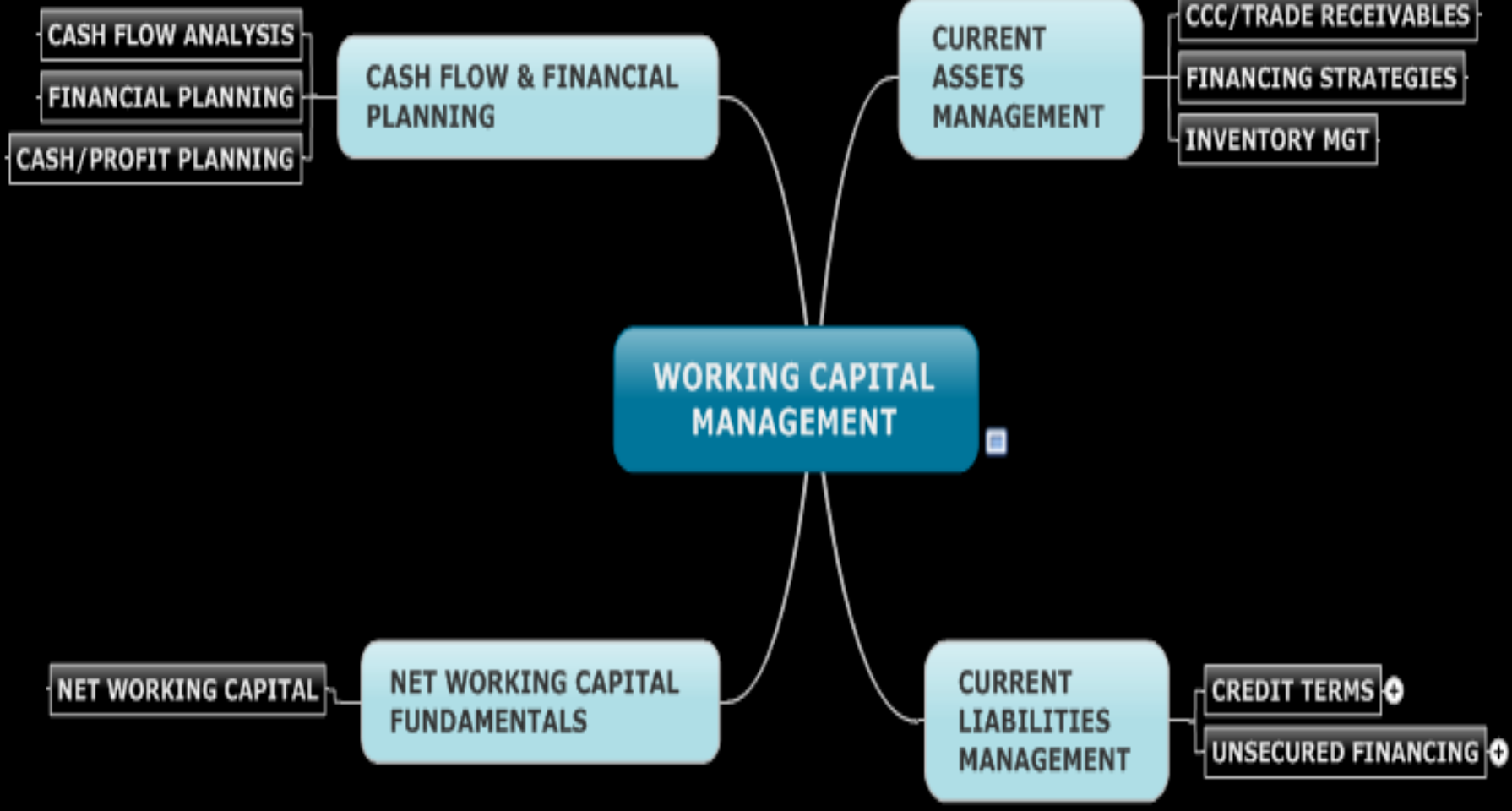
SJ KASOZI & AM PHENYA

DEPARTMENT OF FINANCE, RISK MANAGEMENT AND BANKING

GENERAL INFORMATION

- THE AVERAGE FROM BOTH ASSIGNMENTS CONTRIBUTES 20% TO THE YEAR MARK. THE EXAM CONTRIBUTES 80%.
- BOTH ASSIGNMENTS ARE COMPULSORY BUT ASSIGNMENT 1 GUARANTEES ADMISSION TO THE EXAM.
- ASSIGNMENT 01 IS ACTIVE ON myUNISA (OFFICIAL STUDY MATERIAL) ASSIGNMENT 02 ACTIVE FROM THE 21/04/2014. DO NOT WAIT FOR THE MAIL.
- EXAMINATION WILL HAVE TWO SECTIONS: (A) WITH 30 MULTIPLE CHOICE QUESTIONS (30 MARKS) AND (B) TWO ESSAY TYPE QUESTIONS (40 MARKS). EXAM DURATION IS 2 HOURS.
- NO SCOPE IS GIVEN FOR THE EXAM. ALL LEARNING OUTCOMES ARE IMPORTANT. STUDY SCHOOL WILL HIGHLIGHT SOME OF THE CRITICAL AREAS THOUGH.
- INTERACTIONS ON myUNISA ARE VERY IMPORTANT TO STUDENTS.
- NEXT YEAR THIS MODULE WILL BE EXCLUSIVELY ONLINE AND NO HARD COPIES WILL BE SENT TO STUDENTS.

COURSE SYNOPSIS/OUTLINE



CASH FLOW AND FINANCIAL PLANNING

1. Understand the effect of depreciation on the firm's cash flows.
2. Understand a firm's statement of cash flows, operating cash flow, and free cash flow.
3. Discuss the cash-planning process and the preparation, evaluation, and use of the cash budget.
4. Prepare and evaluate the pro forma income statement and the pro forma balance sheet.
5. Evaluate other approaches to pro forma financial statement preparation and the common uses of pro forma statements.

THE DEPRECIATION STORY!

Depreciation is a non-cash expense, since it is a cost to the carrying amount of a fixed asset, and gradually reduces the cost of the asset over its useful life. When preparing statement of cash flows, depreciation is typically listed as a reduction from expenses. When a company prepares its income tax returns, depreciation is listed as an expense, and so reduces the amount of taxable income reported to SARS. If depreciation is an allowable expense for the purposes of calculating taxable income, then its presence reduces the amount of tax that a company pays.

DEPRECIATION

1. TOTAL COST OF ASSET = INSTALLED COSTS.
2. DEPRECIABLE VALUE = FULL COSTS = NO SALVAGE
3. DEPRECIABLE LIFE = SALVAGE VALUE CONSIDERED.
4. DEPRECIABLE AMOUNT = COST - SALVAGE VALUE
5. DEPRECIABLE AMOUNT PER PERIOD
6. USEFUL LIFE

For example, with a straight-line method, an asset that cost R500,000 and has a salvage value of R100 000 and a useful life of five years would be depreciated at R80 000 (R500 000 - R100,000)/5 years) each year/period.

CASH FLOWS CLASSIFICATION

The statement of cash flows essentially summarizes the inflows and outflows of cash during a given period.

TABLE 3.3

The Inflows and Outflows of Cash

Inflows (sources)	Outflows (uses)
Decrease in any asset	Increase in any asset
Increase in any liability	Decrease in any liability
Net profits after taxes	Net loss
Depreciation and other noncash charges	Dividends paid
Sale of stock	Repurchase or retirement of stock

STATEMENT OF CASH FLOWS

TABLE 3.6

Baker Corporation Statement of Cash Flows ($000)
for the Year Ended December 31, 2006

Cash Flow from Operating Activities		
Net profits after taxes	$180	
Depreciation	100	
Decrease in accounts receivable	100	
Decrease in inventories	300	
Increase in accounts payable	200	
Decrease in accruals	(100)[a]	
Cash provided by operating activities		$780
Cash Flow from Investment Activities		
Increase in gross fixed assets	($300)	
Changes in business interests	0	
Cash provided by investment activities		(300)
Cash Flow from Financing Activities		
Decrease in notes payable	($100)	
Increase in long-term debts	200	
Changes in stockholders' equity[b]	0	
Dividends paid	(80)	
Cash provided by financing activities		20
Net increase in cash and marketable securities		$500

[a]As is customary, parentheses are used to denote a negative number, which in this case is a cash outflow.

[b]Retained earnings are excluded here, because their change is actually reflected in the combination of the "Net profits after taxes" and "Dividends paid" entries.

OPERATING CASH FLOW

- A firm's Operating Cash Flow (OCF) is the cash flow a firm generates from normal operations—from the production and sale of its goods and services.
- OCF may be calculated as follows:

$$NOPAT = EBIT \times (1 - T)$$

$$OCF = NOPAT + DEPRECIATION$$

$$OCF = EBIT \times (1 - T) + DEPRECIATION$$

FREE CASH FLOW

- **Free Cash Flow (FCF) is the amount of cash flow available to debt and equity holders after meeting all operating needs and paying for its net fixed asset investments (NFAI) and net current asset investments (NCAI)**

FCF = OCF – NFAI/NNCI - NCAI

Where:

NFAI = Change in net fixed asset + Depreciation

NCAI = Change in CA – change in AP and Accruals

EXAMPLES OCF & FCF

- NICO Corporation had EBIT of R100,000, a change in net fixed assets of R400,000, an increase in net current assets of R100,000, an increase in spontaneous current liabilities of R400,000, a depreciation expense of R50,000, and a tax rate of 30 percent. Based on this information, NICO's free cash flow is?

$$FCF = OCF - NFAI - NCAI$$

NFAI = (∆ in net fixed asset) 400 000 + (Depreciation) 50 000

NCAI = R100 000 – R400 000 = -R300 000

OCF = NOPAT (EBIT x (1 –T) + Depreciation (50 000)

OCF = R100 000 x (1 – 0.3) + R 50 000 = R120 000

FCF = R120 000 – R450 000 – (-R300 000) = -R30 000

CASH BUDGET

FORMAT OF A CASH BUDGET (Profit planning)

TABLE 3.7

The General Format of the Cash Budget

	Jan.	Feb.	. . .	Nov.	Dec.
Cash receipts	$XXX	$XXG		$XXM	$XXT
Less: Cash disbursements	XXA	XXH	. . .	XXN	XXU
Net cash flow	$XXB	$XXI		$XXO	$XXV
Add: Beginning cash	XXC	XXD	XXJ	XXP	XXQ
Ending cash	$XXD	$XXJ		$XXQ	$XXW
Less: Minimum cash balance	XXE	XXK	. . .	XXR	XXY
Required total financing		$XXL		$XXS	
Excess cash balance	$XXF				$XXZ

CASH BUDGET EXAMPLE

REQUIRED: A McDonald franchise in Hillbrow would like to prepare a cash budget for the months of September, October, November and December.

Sales were R50 000 in June and R60 000 in July. Sales have been forecasted to be R65 000, R72 000, R63 000, R59 000 and R56 000 for the months of August to December respectively. In the past, 10% of sales were on cash basis, and the debt collections were 50% in the first month after the sale, 30% in the second month after the sale and 10% in the third month after the sale.

Every four months (three times a year) R500 of dividends from investments are expected. The first dividend was received in January.

Purchases are 60% of sales, 15% of which are paid in cash, 65% are paid one month later, and the rest is paid two months after the purchase.

R8 000 in dividends is paid twice a year; in March and September.

The monthly rent is R2 000.

A new hamburger pressing machine will be purchased in October for R2 300.

R1 500 interest on a loan will be paid in November.

R1 000 loan payments are paid every month.

Wages and salaries are R1 000 plus 5% of sales in each month.

The company's equipment depreciates at R500 per month.

In October, the company wrote off R1 000 as bad debts unrecoverable.

The ending cash balance for August was R3 000.

The franchise would like to maintain a minimum cash balance of R10 000 per month.

Month	July	Aug	Sept	Oct	Nov	Dec
	R	R	R	R	R	R
Forecasted sales	60 000	65 000	72 000	63 000	59 000	56 000
Cash sales (10%)	6 000	6 500	7 200	6 300	5 900	5 600
Cr sales (50%)		30 000	32 500	36 000	31 500	29 500
Cr sales (30%)		15 000	18 000	19 500	21 600	18 900
Cr sales (10%)			5 000	6 000	6 500	7 200
Dividend income			500*			
Total receipts (a)	-	-	63 200	67 800	65 500	61 200
Forecasted purchases (60% of sales)	36 000	39 000	43 200	37 800	35 400	33 600
Cash purchases (15%)	5 400	5 850	6 480	5 670	5 310	5 040
Cr purchases (65%)	-	-	25 350	28 080	24 570	23 010
Cr purchases (20%)	-	-	7 200	7 800	8 640	7 560
Dividends paid			8 000			
Monthly rental	2 000	2 000	2 000	2 000	2 000	2 000
Hamburger machine				2 300		
Loan interest payment					1 500	
Loan repayments	1 000	1 000	1 000	1 000	1 000	1 000
Salaries and wages (R 1000 + 5% of sales)			4 600	4 150	3 950	3 800
Total purchases (b)			54 630	51 000	46 970	42 410
Net cash (a – b)			8 570	16 800	18 530	18 790
Beginning cash balance			3 000	11 570	28 370	46 900
Ending cash balance			11 570	28 370	46 900	65 690
Minimum cash requirement	(10 000)	(10 000)	(10 000)	(10 000)	(10 000)	(10 000)
Monthly cash excess			1 570	18 370	36 900	55 690

PROFIT PLANNING PRO FORMA STATEMENTS

- Pro forma financial statements are projected, or forecast, financial statements – income statements and balance sheets.
- The inputs required to develop pro forma statements using the most common approaches include:
  - Financial statements from the preceding year
  - The sales forecast for the coming year
  - Key assumptions about a number of factors
  - A simple method for developing a pro forma income statement is the "percent-of-sales" method.
  - This method starts with the sales forecast and then expresses the cost of goods sold, operating expenses, and other accounts as a percentage of projected sales.
- Disadvantage: Assumes all costs are variable to sales hence is inaccurate.

PROFIT PLANNING PRO FORMA STATEMENTS

- The best way to generate a more realistic pro forma income statement is to segment the firm's expenses into fixed and variable components.
  - Probably the best approach to use in developing the pro forma balance sheet is the judgmental approach.
  - Under this simple method, the values of some balance sheet accounts are estimated and the company's external financing requirement is used as the balancing account.
  - Please look at tutorial letter 202/1/2014 to see how this judgmental approach and a balancing figure are obtained.

WORKING CAPITAL & CURRENT ASSET MGT

1. Understand net working capital, and the related trade-off between profitability and risk.
2. Describe the operating cycle, (OC) cash conversion cycle (CCC), its funding requirements, and the key strategies for managing it.
3. Discuss inventory management.
4. Credit selection process and the quantitative procedure for evaluating changes in credit standards.
5. Review the procedures for considering cash discount changes, other aspects of credit terms, and credit monitoring.
6. Understand the management of receipts and disbursements, including float, speeding up collections, slowing down payments, cash concentration, zero balance accounts, and investing in marketable securities.

Working capital

- Cash
- Inventory
- Accounts receivable

Cash management

- Operating cycle
- Cash conversion cycle
- Strategies for managing cash conversion cycle (page 574)
- Funding cash conversions cycle

MANAGING THE CCC

The *Operating Cycle (OC)* is the time between ordering materials and collecting cash from receivables.

OC = AAI + ACP

The *Cash Conversion Cycle (CCC)* is the time between when a firm pays it's suppliers (payables) for inventory and collecting cash from the sale of the finished product.

CCC = OC – APP or CCC = AAI + ACP - APP

A permanent funding requirement = *constant invest in operating assets resulting from a constant level of sales over time.* A seasonal funding requirement = a fluctuating investment in operating assets due to changes in the sales cycle.

Aggressive strategy = seasonal needs = short term debt and permanent need = long term debt. (riskier strategy because funds may be unavailable sometimes, but cheaper)

Conservative strategy = funds both seasonal and permanent need with long term debt (less risky; locks in funds, but more expensive.)

CASH INVESTED IN THE CCC

Solar Panels Ltd produces solar panels. The firm has annual sales of R12 million, cost of goods sold amount to 65% of sales, and its purchases are 55% of cost of goods sold. The firm has an average age of inventory (AAI) of 50 days, an average collection period (ACP) of 30 days, and an average payment period (APP) of 25 days. Determine: (1) The amount of funds invested in the firm's CCC. (2) What saving would the firm make if it reduced its ACP by 5 days? Assume 360 days in a year & all sales on credit.

SOLUTION

Solar Panels OC = AAI + ACP = 50 d + 30 d = 80 days

Solar Panels CCC = AAI + ACP – APP

CCC = 50 days + 30 days – 25 days = 55 days

CASH INVESTED IN THE CCC cont'd…..

(1) CCC = AAI + ACP - APP

INVENTORY = (R12 000 000 X 0.65) X (50/360) = R1 083 333 +

TRADE RECEIVABLES = (R12 000 000 X 30/360) = R1 000 000 –

TRADE PAYABLES (APP) = (R12 000 000 X 0.65 X 0.55) X 25/360

= R297 917

Invested cash = R1 083 333 + R1 000 000 – R297 917 = R1 785 083

(2)

Obviously, reducing AAI or ACP or lengthening APP will reduce the cash conversion cycle, thus reducing the amount of cash the firm must commit to support operations. Hence reducing the ACP by 5 day = (12 000 000 x 5/360 = R166 667

Funding strategies for CCC

- Aggressive funding strategy (short and long term funds)
- Conservative funding strategy (Long term funds)

Profitability versus risk

Assets of a business

- Fixed assets
- Current assets

Assets of a business

- Fixed assets----------?
- Permanent current assets-------?
- Seasonal current assets----------?

Assets of a business

- Fixed assets----------?
- Permanent current assets-------?
- Seasonal current assets----------?

AGGRESSIVE & CONSERVATIVE STRATEGIES

Month	Current Assets (R)	Fixed Assets (R)	Total assets (R)
January	60 000	70 000	130 000
February	58 000	70 000	128 000
March	55 000	70 000	125 000
April	47 000	70 000	117 000
May	40 000	70 000	110 000
June	41 000	70 000	111 000

Achar Ltd sells Achar to small scale retail stores in and around the Mamelodi Township of Pretoria. The firm wants to determine the appropriate financing strategy to ensure that they have enough money to finance their assets in order to continue with operations. The firm's current assets and fixed assets for the months of January to June are given in the table below. Determine the amount of financing under the aggressive and conservative strategies. Interest is 6% per annum for short-term debt and 12% per annum for long-term debt

AGGRESSIVE & CONSERVATIVE STRATEGIES

Month	Current assets (R)	Fixed assets (R)	Total assets (R)	Permanent need for funds	Seasonal need for funds
January	60 000	70 000	130 000	110 000	20 000
February	58 000	70 000	128 000	110 000	18 000
March	55 000	70 000	125 000	110 000	15 000
April	47 000	70 000	117 000	110 000	7 000
May	40 000	70 000	110 000	110 000	0
June	41 000	70 000	111 000	110 000	1 000
Monthly average				660 000/6 = 110 000	61 000/6 = 10 167

Aggressive (permanent funds) = R110 000 x 0.12/2 = R6 600

(Seasonal funding) = R10167 x 0.06/2 = R305

Total = (R6 600 + R305) = R6 905

Conservative = (R130 000 x 0.12/2 = R7 800

Remember all requirements are funded by long-term debt

INVENTORY MANAGEMENT (EOQ)

THE EOQ IS USED TO DETERMINE THE OPTIMAL ORDER SIZE OF INVENTORY FOR A FIRM. THE FORMULA IS…

- **The Economic Order Quantity (EOQ) Model**

$$EOQ = \sqrt{\frac{2 \times S \times O}{C}}$$

- **Where:**
  - S = usage in units per period (year)
  - O = order cost per order
  - C = carrying costs per unit per period (year)
  - Q = order quantity in units

Be able to:

- Calculate the economic order quantity
- Reorder point
- Ordering costs
- Carrying costs
- Total costs

INVENTORY MANAGEMENT (EOQ)

Assume that PLC Inc., a manufacturer of electronic equipment, uses 1,600 units of an item annually. Its order cost is R50 per order, and the carrying cost is R1 per unit per year. To get the order quantity we get:

$$EOQ = \sqrt{\frac{2(1{,}600)(R50)}{R1}} = 400 \text{ Orders}$$

The EOQ can be used to evaluate the total cost of inventory as shown on the following slides.

INVENTORY MANAGEMENT (EOQ)

Ordering Costs = Cost /Order x number of Orders/Year

Ordering Costs = R50 x 4 (1600/400) = R200

$$\text{Carrying Costs} = \frac{\text{Carrying Costs/Year x Order Size}}{2}$$

$$\text{Carrying Costs} = \frac{(R1 \times 400)}{2} = R200$$

Total Costs = Ordering Costs + Carrying Costs

Total Costs = R200 + R200 = R400

Management of account receivable

- To be discussed in the class with the aid of an example. Please refer to the example you did with Mr Phenya.

CURRENT LIABILITIES MANAGEMENT

1. Review the key components of credit terms, accounts payable, and the procedures for analyzing them.

2. Understand the effects of stretching accounts payable on their cost and the use of accruals.

3. Describe interest rates and the basic types of unsecured bank sources of short-term loans.

CALCULATION OF CASH DISCOUNTS

- Taking the Cash Discount
  - If a firm intends to take a cash discount, it should pay on the last day of the discount period.
  - There is no cost associated with taking a cash discount.

Global Industries, operator of a small chain of video stores, purchased R1,000 000 worth of merchandise on February 27 from a supplier extending terms of 2/10 net 30 (End of Month) EOM. If the firm takes the cash discount, it will have to pay R980 000 [R1,000 000 - (0.02 x R1,000 000)] on March 10th saving R20, 0000

CALCULATION OF CASH DISCOUNTS

- Giving up the Cash Discount
  - If a firm chooses to give up the cash discount, it should pay on the final day of the credit period.
  - The cost of giving up a cash discount is the **implied rate of interest paid to delay payment** of an account payable for an additional number of days.

For example, If Global Ind. gives up the cash discount, payment can be made on March 30th. To keep its money for an extra 20 days, the firm must give up an opportunity to pay R980 000 for its R1,000 000 purchase, thus costing R20 000 for an extra 20 days.

$$\text{Cost} = \frac{\%\ \text{discount}}{100\% - \%\text{discount}} \times \frac{365}{\text{credit pd} - \text{discount pd}}$$

CALCULATION OF CASH DISCOUNTS

$$\text{Cost} = \frac{2\%}{100\% - 2\%} \times \frac{365}{(30 - 10)} = \text{R37.25}$$

Question??

Mason products can borrow short-term loans from the bank at 13%. Which of the following discounts from the suppliers below should the firm give up? Why?

TABLE 15.1

Cash Discounts and Associated Costs for Mason Products

Supplier	Credit terms	Approximate cost of giving up a cash discount
A	2/10 net 30 EOM	36.5%
B	1/10 net 55 EOM	8.1
C	3/20 net 70 EOM	21.9
D	4/10 net 60 EOM	29.2

STRETCHING PAYABLES

Stretching accounts payable simply involves paying bills as late as possible without damaging credit rating.

- **This can reduce the cost of giving up the discount.**

Lawrence Industries was extended credit terms of 2/10 net 30 EOM. The cost of giving up the cash discount is 36.5%. If Lawrence were able to stretch its accounts payable to 70 days without damaging its credit rating, the cost of giving up the cash discount would fall from 36.5% to only 12.2% [2% x (365/60)]. (using the approximate method)

$$\text{Cost} = \frac{2\%}{100\% - 2\%} \times \frac{365}{(70 - 10)} = 12.4\%$$

UNSECURED SHORT-TERM LOANS

- The major type of loan made by banks to businesses is the short-term, self-liquidating loan which are intended to carry firms through seasonal peaks in financing needs.
- These loans are generally obtained as companies build up inventory and experience growth in accounts receivable.
- As receivables and inventories are converted into cash, the loans are then retired.
- These loans come in three basic forms: single-payment notes, lines of credit, and revolving credit agreements.

UNSECURED SHORT-TERM BANK LOANS

- Loan Interest Rates
  - Most banks loans are based on the prime rate of interest which is the lowest rate of interest charged by the SARB.
  - Banks generally determine the rate to be charged to various borrowers by adding a premium to the prime rate to adjust it for the borrowers "riskiness."
  - On a **fixed-rate loan**, the rate of interest is determined at a set increment above the prime rate and remains at that rate until maturity.
  - On a **floating-rate loan**, the increment above the prime rate is initially established and is then allowed to float with prime until maturity.

METHODS OF COMPUTING INTEREST

- Method of Computing Interest
  - Interest can be paid either when a loan matures or in advance.
  - If interest is paid at maturity, the effective (true) rate of interest—assuming the loan is outstanding for exactly one year—may be computed as follows:

$$\frac{\text{Interest}}{\text{Amount Borrowed}}$$

  - If the interest is paid in advance, it is deducted from the loan so that the borrower actually receives less money than requested. Loans of this type are called **discount loans**. The effective rate of interest on a discount loan assuming it is outstanding for exactly one year may be computed as follows:

$$\frac{\text{Interest}}{\text{Amount Borrowed - Interest}}$$

EXAMPLES OF COMPUTING INTEREST

BootStar Company, a manufacturer of athletic apparel, wants to borrow R100,000 at a stated rate of 10% for 1 year. If interest is paid at maturity, the effective interest rate may be computed as follows:

$$\frac{(10\% \times R100{,}000)}{R100{,}000} = 10\%$$

If this loan were a discount loan, the effective rate of interest would be:

$$\frac{(10\% \times R100{,}000)}{R100{,}000 - R10{,}000} = 11.1\%$$

SINGLE PAYMENT NOTES

Gordon Manufacturing Ltd recently borrowed R100,000 from bank A. The loan from Bank A is a fixed rate note and is a 90-day note with interest due at the end of 90 days. The rate is was set at 1.5% above prime and prime was 6%. Determine the effective annual rate that Gordon Manufacturing will be paying on this loan?

Total interest cost on loan A is R1,849 [R100,000 x 7.5% x (90/365)]. The effective cost is 1.85% for 90 days. The effective annual rate may be calculated as follows:

$$EAR = (1 + \text{periodic rate})^{m} - 1 = (1 + 0.0185)^{4.06*} - 1 = 7.73\%$$

*** = 365/90 days**

COMPENSATING BALANCES

- Line of Credit (LOC)
  - Both LOCs and revolving credit agreements often require the borrower to maintain compensating balances. A compensating balance is simply a certain checking account balance equal to a certain percentage of the amount borrowed (typically 10 to 20 percent).
  - This requirement effectively increases the cost of the loan to the borrower.

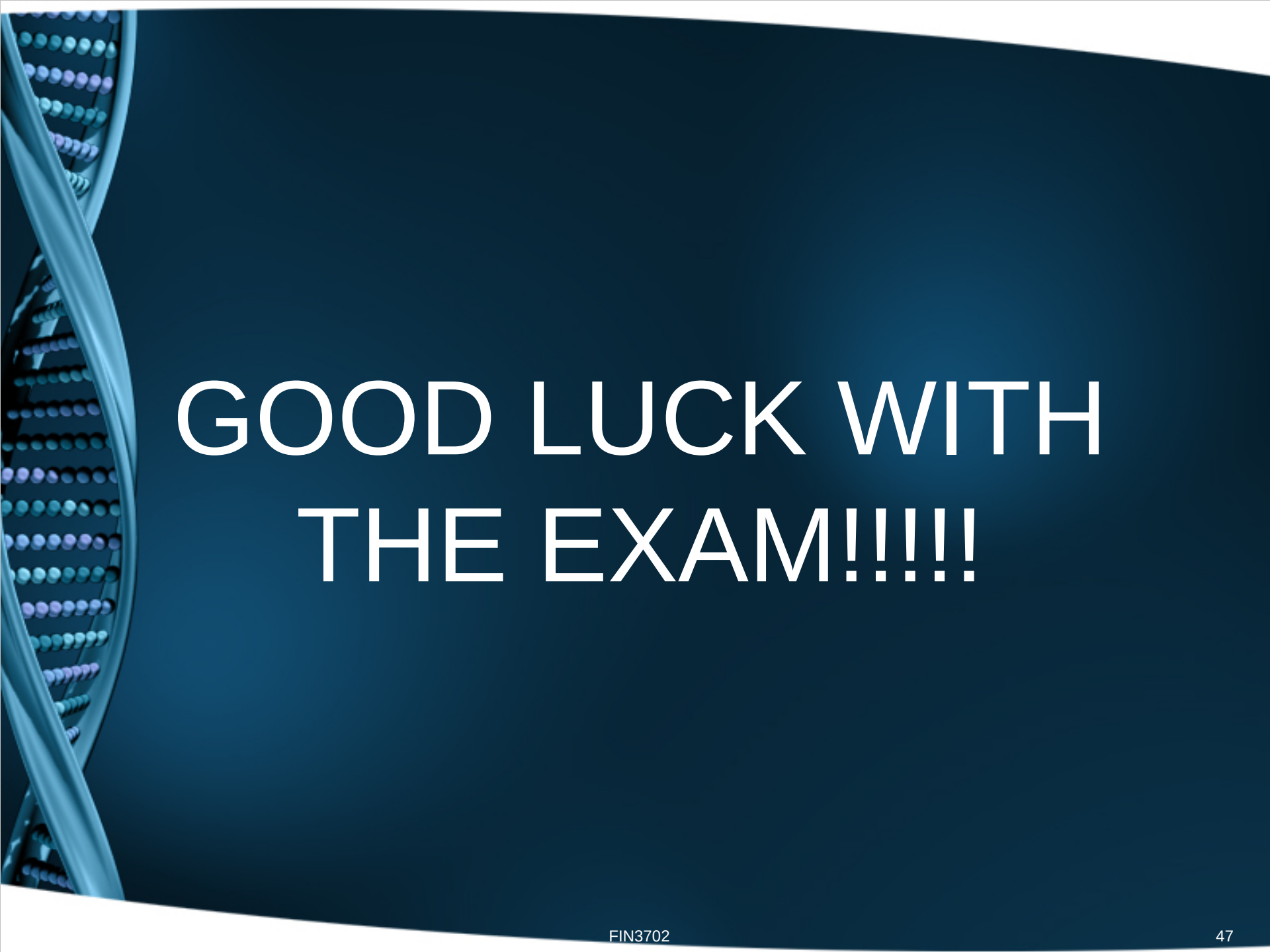
COMPENSATING BALANCES

EITADA Graphics borrowed R1 million under a Line of credit (LOC) at 10% with a compensating balance requirement of 20% or R200,000. Therefore, the firm has access to only R800,000 but must pay interest charges of R100,000. The compensating balance therefore raises the effective cost of the loan to 12.5% (R100,000/R800,000) which is 2.5% more than the stated rate of interest. If the above was an advance loan the effective cost of the loan would be:

$$\frac{(R100,000)}{(R1\ 000,000 - R100,000 - R200\ 000)} = R14.28\%$$

EXAM TIPS!!!

- ALL LEARNING OUTCOMES ARE CRUCIAL. SECTION A WILL COVER ALL OUTCOMES WHILE SECTION B WILL COVER CHAPTERS 14 AND 15
- MANAGE YOUR TIME. USE UP ABOUT 1 HOUR & 10 MIN FOR SECTION A SO THAT YOU HAVE ABOUT 50 MIN FOR SECTION B
- START WITH THE SIMPLEST QUESTIONS TO MANAGE YOUR TIME BUT MARK THE READING SHEET CORRECTLY
- DO NOT PANIC
- SET YOUR CALCULATOR CORRECTLY AND CHECK FOR PROPER FUNCTIONALITY
- ALL STUDY MATERIAL IS IMPORTANT!


GOOD LUCK WITH THE EXAM!!!!!