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DEVELOP AN EFFICIENT SME CREDIT PROCESS AT BANKS IN JORDAN

Evaluation of SME Loan Applications Workshop

April 5, 2009

This publication was produced for review by the United States Agency for International Development. It was prepared by Kevin O'Brien / BearingPoint Inc.

DEVELOPM AN EFFICIENT SME CREDIT PROCESS AT BANKS IN JORDAN

Evaluation of SME Loan Applications Workshop

USAID JORDAN ECONOMIC DEVELOPMENT PROGRAM

CONTRACT NUMBER: 278-C-00-06-00332-00

BEARINGPOINT, INC.

USAID/JORDAN

USAID/ OFFICE OF ECONOMIC GROWTH (EG)

APRIL 5, 2009

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DELIVERABLE NO: 1.14.1.08.1.3 CRITERIAL FOR
SME LENDING IN SABEQ PRIORITY SECTORS.

DISCLAIMER:

The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

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ANNEX ONE
Presentation of Evaluation of SME Loan Applications



EVALUATION of SME LOAN APPLICATIONS

PRESENTATION BY:
KEVIN O'BRIEN
Mar. 17 & 18, 2009

DAY 1

Agenda

DAY ONE

8:30 AM – 1:30 PM

Introduction & Review of Objectives

Accounting Exercise & International Standards

SME Market

Risks vs. Cost

Risks Analysis

5 C's of Credit
Tools for Financial Analysis
Operating Leverage & Break-even Point
Funds Flow Analysis
Proforma Analysis

Lunch

2:30 PM – 4:30 PM

Loan Structure

Loan Type and Repayment Sources
Guarantors
Collateral
Pricing

Loan Decision Process

Loan Approval
Communication
Loan Contract
Performance Measures

Wrap-up and Q & A



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Agenda

DAY TWO

8:30 AM – 1:30 PM

Summary of Day One

Break Out Groups for Case Studies

Presentations

Certificates

Lunch

Finish Breakout Session:
New SME loan application process
30 minutes to complete group discussion
60 minutes for group presentations

Review slide 52 and 53:
Any other risk items to add?

Breakout groups to:
- discuss ways to minimize risk during application process beyond what was discussed yesterday
- think "out of the box"
- consider non-banker options.

If banks and other credit providers, e.g. suppliers, are all "careful" regarding SME exposures, how will financing needs be met?



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Introduction and Objectives

Introduction :

BearingPoint, Inc. – Public Services, Emerging Markets Practice:

BearingPoint, Inc. is one of the world's leading consulting firms, employing over 15,000 professionals worldwide, and serving more than 2,500 clients including major international organizations, governments, multinational corporations, small and medium-sized businesses, and other organizations.

Presenter:

Mr. O'Brien is a Manager for BearingPoint, Inc. with over 25 years of combined experience in trade financing, commercial banking and financial consulting. He holds an Undergraduate Degree in Business from the State University of New York; a Masters in Business Administration from American University in Washington D.C.; and a Jurist Doctorate from George Mason University School of Law in Arlington, Virginia where he served as an Adjunct Professor of Law on the Real Estate Faculty. Mr. O'Brien has advised financial institutions, central banks and other ministries.

Attribution*: American Bankers Association, European Bank for Reconstruction and Development, the European Union, Credit & Management Systems, Inc, and the Association of Banks in Jordan.

* a special thanks to Jane McNeil, McNeil Consulting Group Inc., St. Louis, Missouri, USA.



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Introduction – Cont'd

- Your name
- Name of bank or employer and function – credit, marketing, regulator, other
- How Long in banking or interested in banking?
- What do you expect to learn from the Workshop?
- Do you work in an SME department? If yes – number of SME loan applications received per month? What is the average JD amount?



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Your Expectations

- How to meet market demand, main customer base are SMEs
- More efficient evaluation of SME loan applications
- Learn how to improve the process of the SME loan application
- Figure out the correct approach
- Define what are SMEs
- Sharing knowledge with the other banks
- Find ways to improve skills and develop better practices
- How to avoid risks
- Figure out the pricing (interest, fees, {audit, valuation reimb})
- **Think outside the box** - tackle issues and serve the market
- Central Bank – how they can help as regulators



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Purpose of Workshop

Identify:

- Analytical methods to screen and analyze loan requests
- Major credit risks and ways to protect against these risks
- Sound process for credit and pricing decisions
- Reliable document and closing procedures.



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Methodology

- Presentation
- Discussion
- Exercises
- Case Studie



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Objectives

Upon completion of this course you will understand the:

- SME loan application process
- Risks lending to SMEs and how to protect against these risks
- Tools & methodology of analyzing SMEs
- Components for pricing loans



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Objectives – Cont'd

You will also know how to:

- Format financial statements in compliance with International Accounting Standards
- Analyze an operating cycle and calculate operating leverage and break-even point
- Calculate financial ratios and identify trends in a company's financial performance and position
- Construct and analyze funds flow to determine how a company is funded and how the funds are used.



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Accounting Exercise and International Financial Reporting Standards



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Accounting Exercise

Accounting Exercise

Exercise 1: Income Statement and Balance Sheet Accounts

Put the following accounts in the proper order in the Income Statement and Balance Sheet. Hint: Income Statement has one column, Balance Sheet has two

Sales Rent Expense	Interest Income	Accounts Receivable
Accounts Payable	Equipment	Land Taxes Payable
Cash Contributed	Insurance Expense	Rent Payable
Capital (stock bought by owners)	Notes Payable	Inventory
	Utilities Expense	Long-term Debt Profit
	Retained Earnings	
	Buildings	



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Accounting Exercise – Cont'd

BALANCE SHEET	INCOME STATEMENT



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Accounting Exercise – Cont'd

Please pick a number that best describes your ability to complete this Exercise:

- 1) I know all these accounts and can complete the exercise in 10 minutes
- 2) I know most accounts and can complete the exercise in about 20 minutes
- 3) I am familiar with these accounts but not sure I can put them in the proper place in the Income Statement and Balance Sheet
- 4) I am not familiar with these accounts.



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International Financial Reporting Standards

- Introduction to International Accounting Standards
- Format for a company's Balance Sheet and Income Statement
- Base of knowledge for in-depth analysis of a company's financial position, performance and cash flow



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International Financial Reporting Standards – Cont'd

International Financial Reporting Standards (IFRS)

- Formerly International Accounting Standards
- Issued by International Accounting Standards Board (IASB – www.iasb.org)
- Began in 1973



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International Financial Reporting Standards – Cont'd

- IASB cannot require compliance, however
- Most developed countries adopted IAS/IFRS
- Most developed countries require financial statements of publicly-traded companies to be prepared in accordance with IAS/IFRS (Jordan?)
- Accepted throughout Europe
- IFRS now required or permitted in over 100 countries, including USA (for some companies)
- SME Working Group: [http://www.iasb.org/Current + Projects/IASB+Projects/Small+and+Medium-sized+Entities/Small+and+Medium-sized+Entities.htm?m=print](http://www.iasb.org/Current+Projects/IASB+Projects/Small+and+Medium-sized+Entities/Small+and+Medium-sized+Entities.htm?m=print)



International Financial Reporting Standards – Cont'd

Objective of general purpose financial statements

“to provide information about the financial position, financial performance and cash flow of an entity that is useful to a wide range of users in making economic decisions”



International Financial Reporting Standards – Cont'd

What is included in a complete set of financial statements?

- Balance Sheet
- Income Statement
- Statement of Changes in Equity
- Cash Flow Statement
- Notes to Financial Statements



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International Financial Reporting Standards – Balance Sheet

Balance Sheet

- Reflects an entity's financial position
- Summarizes assets, liabilities and shareholder or owner equity as of a particular date
- Must follow the accounting equation
$$\text{Assets} = \text{Liabilities} + \text{Equity}$$
- Left side, Right side
- Two sides must balance
- Structured according to nearness to cash



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International Financial Reporting Standards – Balance Sheet – Cont'd

Company Name
Balance Sheet
As of Day, Month, Year



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International Financial Reporting Standards – Balance Sheet – Cont'd

Assets

- Resource having economic value that a company owns with the expectation that it will provide future benefit
- Acquired to increase the value of a company or benefit its operation
- Expected to generate cash flow
- **Current, Fixed, Intangible**



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International Financial Reporting Standards – Balance Sheet – Cont'd

Current Assets

- Cash or assets reasonably expected to be converted to cash or consumed within one year in the normal course of business
- Used to fund day-to-day operations and pay ongoing expenses



International Financial Reporting Standards – Balance Sheet – Cont'd

ABC Company d.d.
Balance Sheet
31 December, 2005

Assets	000s SIT	Liabilities	000s SIT
Current Assets			
Cash	3.740		
Accounts Receivable	53.799		
Inventory	9.926		
Total Current	67.465		
Assets			



International Financial Reporting Standards – Balance Sheet – Cont'd

Fixed Assets

- Expected to provide benefit for more than one year
- Recorded at cost and adjusted for depreciation according to respective tax rules



International Financial Reporting Standards – Balance Sheet – Cont'd

Intangible Assets

- Not physical in nature
- Perceived to have value
- Goodwill, patents, copyrights



International Financial Reporting Standards – Balance Sheet – Cont'd

ABC Company d.d.
Balance Sheet
31 December, 2005

Assets	000s SIT	Liabilities	000s SIT
Current Assets			
Cash	3.740		
Accounts Receivable	53.799		
Inventory	9.926		
Total Current	67.465		
Fixed Assets			
Equipment	11.057		
Building	90.579		
Land	12.424		
Less Accumulated Depreciation			
Total Fixed Assets	114.060		
Intangible Assets			
Total Assets	181.525		



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International Financial Reporting Standards – Balance Sheet – Cont'd

Liabilities

- Legal debts or obligations that arise during the course of business
- Settled over time through transfer of economic benefits including money, goods or services
- Vital aspect of a company's operation – used to finance operations and pay for expansions
- **Current and Long-term**



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International Financial Reporting Standards – Balance Sheet – Cont'd

Current Liabilities

- To be paid within one year

Long-term Liabilities

- To be paid beyond one year



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International Financial Reporting Standards – Balance Sheet – Cont'd

ABC Company d.d.
Balance Sheet
31 December, 2005

Assets	000s SIT	Liabilities	000s SIT
Current Assets		Current Liabilities	
Cash	3 740	Accounts Payable	118 931
Accounts Receivable	53 799	Accrued Liabilities	
Inventory	9 926	Bank Loan Payable	
Total Current Assets	67.465	CPLTD	3 322
Fixed Assets		Total Current Liabilities	122.253
Equipment	11 057	Long-term Debt	13 286
Building	90 579	Total Liabilities	135.539
Land	12 424		
Less Accumulated Depreciation			
Total Fixed Assets	114.060		
Intangible Assets			
Total Assets	181.525		



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International Financial Reporting Standards – Balance Sheet – Cont'd

Equity

- Paid in Capital – Owner's investment
- Retained Earnings – accumulation of net profit and net losses after dividends throughout the life of the company



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International Financial Reporting Standards – Balance Sheet – Cont'd

ABC Company d.d.
Balance Sheet
31 December, 2005

Assets	000s SIT	Liabilities	000s SIT
Current Assets		Current Liabilities	
Cash	3.740	Accounts Payable	118.931
Accounts Receivable	53.799	Accrued Liabilities	
Inventory	9.926	Bank Loan Payable	
Total Current Assets	67.465	CPLTD	3.322
Fixed Assets		Total Current Liabilities	122.253
Equipment	11.057	Long-term Debt	13.286
Building	90.579	Total Liabilities	135.539
Land	12.424		
Less Accumulated Depreciation		Equity	
Total Fixed Assets	114.060	Contributed Capital	12.000
Intangible Assets		Retained Earnings	33.986
		Total Equity	45.986
Total Assets	181.525	Total Liabilities & Equity	181.525



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International Financial Reporting Standards – Income Statement

Income Statement

- Reflects a company's financial performance
- Displays how well the company performed generating earnings from operations
- Summary of revenue and expenses for a given period of time



International Financial Reporting Standards – Income Statement – Cont'd

Sales or Revenue

- Total financial amount earned only through the sale of its goods and services
- Does not include interest earned on investments
- Does not include sale of a fixed or intangible asset



International Financial Reporting Standards – Income Statement – Cont'd

Cost of Goods Sold

- What it costs the company to produce or acquire the goods or services sold
- Effective management goal is to keep COGS to a minimum without compromising quality of goods and services sold



International Financial Reporting Standards – Income Statement – Cont'd

Gross Profit

- How much the company made from its operation – main business function
- Sales Less COGS



International Financial Reporting Standards – Income Statement – Cont'd

Operating Expenses

- Any normal expense incurred in the day-to-day operation of the business
- Support the acquisition or production of goods or services the company sells



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International Financial Reporting Standards – Income Statement – Cont'd

Operating Profit

- Earnings from core operations after the cost of day-to-day functions
- Shows if a company's working base is profitable



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International Financial Reporting Standards – Income Statement – Cont'd

Other Income and Expenses

- Revenue that does not come from the core operation of the business
- Revenue earned outside the main business activities
- Expenses incurred outside the main business activities with the exception of interest expense



International Financial Reporting Standards – Income Statement – Cont'd

Earnings Before Interest and Taxes (EBIT)

- Operating Profit plus or minus Other Income and Expenses
- Shows a company's ability to pay interest expense



International Financial Reporting Standards – Income Statement – Cont'd

- Interest Expense
- Net Profit Before Taxes

- Taxes
- Net Profit After Taxes (bottom line)
 Net Profit Before Taxes - Taxes



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International Financial Reporting Standards – Income Statement – Cont'd

ABC Company d.d.
Income Statement
For fiscal year ended December 31, 2005
(in thousands SIT)

Sales	252.684
Cost of Goods Sold	
Direct Costs	193.478
Indirect Costs	28.402
Direct Labor	14.893
Depreciation and Amortization	8.461
Total Cost of Goods Sold	245.234
Gross Profit	7.450
General and Administrative Expenses	3.488
Net Operating Profit	3.962
Other Income and Expenses	908
Earnings Before Interest and Taxes	4.870
Interest Expense	2.571
Net Profit Before Taxes	2.299
Taxes	485
Net Profit After Taxes	1.814



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International Financial Reporting Standards

Conclusion

- IFRS accepted by most developed countries, especially throughout Europe
- Expanding in acceptance globally – USA in process
- Facilitate universal understanding of companies' financial performance and financial position



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SME Market



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SME Market

WHAT DO WE KNOW ABOUT SME Market?

Sector:

- Agriculture
- Manufacture
- Wholesale
- Services
- Mining?
- Retail

Business:

- Crops, livestock, food stock
- Heavy, medium, light
- Various
- Financial, transportation, ICT, financial, professional
- Consumer/non-consumer goods



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SME Market – Cont'd

AND:

Economic Factors:

Major employer
Important forex earner
Part of tax base
Agile and innovative
Over 90% of registered firms

Financing Needs:

Letters of credit/guarantees
Inventory financing
A/Receivable financing
Equipment financing
Real estate financing



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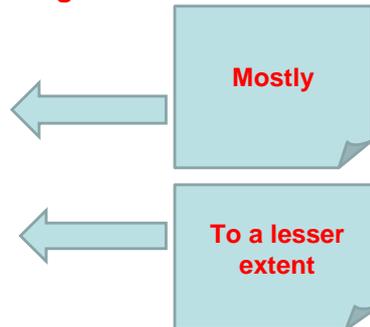
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SME Market – Cont'd

AND:

Common sources of SME Financing:

- Family and friends
- Self financing
- Financial institutions (banks, leasing firms, venture capital firms)



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SME Market – Cont'd

AND:

Economic Factors:

Will continue to play an important role

Financing Needs:

Will continue to expand



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SME Market – Cont'd

How should banks define SMEs? By:

- Sales in JD
- Assets in JD
- Loan size in JD
- Number of Employees
- Listing on Amman Exchange

Why does it matter?



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SME Market – Cont'd

Definition affects:

- Strategic plan
- Marketing plan
- Loan policy
- Loan procedures
- Risk management
- Bank department



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SME Market – Cont'd

Why is SME lending considered high risk?

- Small capital base
- Mistakes have greater impact
- Few members of management
- Unsophisticated management
- Lack of structured business plan
- Lack of diversity in product/service
- Concentrated market area
- Inadequate financial information
- Limited influence
- Risk Takers



Which factors relate to Management?

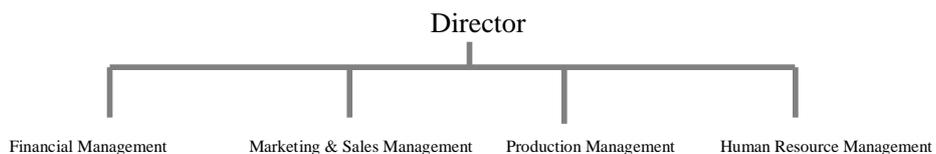


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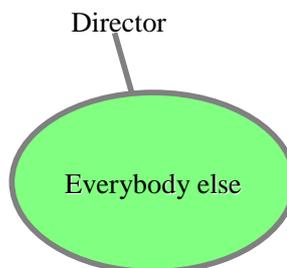
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SME Market – Organization – Cont'd

Organization Chart of Large Companies



Organization Chart of SMEs



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SME Market – Cont'd

Conclusions:

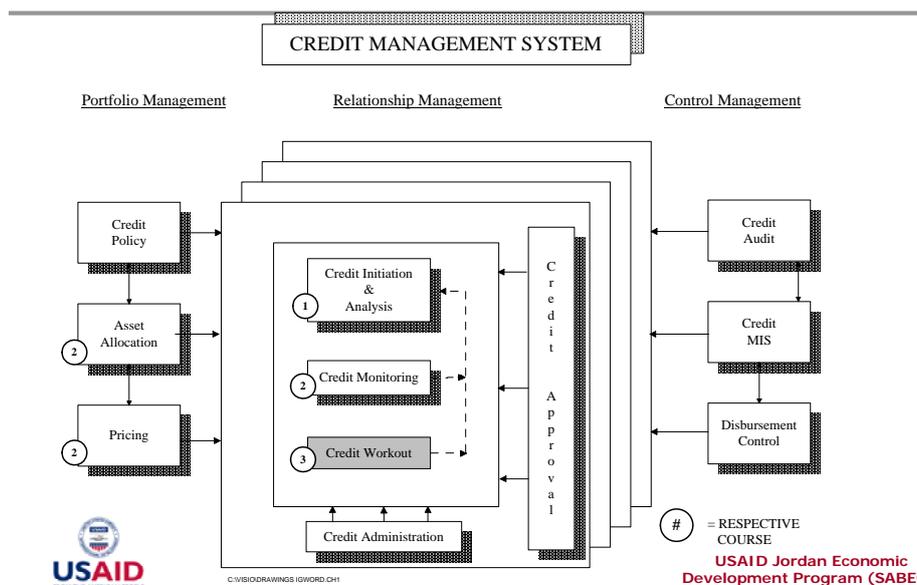
- SMEs:
 - operate in all sectors and play an important role
 - rely heavily on non-bank sources of financing
 - present an opportunity for banks
- Banks should define “SME” (sales, assets, employees)
- Definition affects planning, marketing, lending and process
- Banks consider SMEs “high risk” largely because of management related factors



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Risk vs. Cost



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Risk vs. Cost – Cont'd

How to mitigate risks in lending to SMEs?

- In-depth analysis
- Know the company
- Get behind the numbers
- Crunch numbers



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Risk vs. Cost – Cont'd

How can we justify spending lots of time and expenses on SME loans that return modest profit to the bank?



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Risk vs. Cost – Cont'd

Because:

- It is less costly to conduct in-depth analysis than it is to write off a loan
- It is less costly to conduct in-depth analysis than it is to take legal action
- Rejecting SME loans as too costly means passing up good loans

But process must be efficient and cost effective.

WHY?



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Risk vs. Cost – Cont'd

One Methodology

- Screen loan applications and identify good potential borrowers, i.e. the most creditworthy?
- Gather sufficient data to analyze risk
 - Detailed
 - Complete
 - Accurate
 - Current
- Structure credit facilities to maximize return and minimize losses



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Risk vs. Cost - Screening Process - Cont'd

- **Who?**
- **How?**
- **When?**
- **Which department?**
- **Client contact**

Also, part of Bank's Loan Policy & Procedures??



Risk vs. Cost – Cont'd

Screening Process

<u>ISSUES</u>	<u>OPTIONS</u>
Who	New clients What about existing clients? Or deposit clients?
How	Credit reporting sources (CBJ, other banks) New credit bureau (not until 2011) Quick Credit scoring
When	Time of application After collateral verified
Department	Branch, Relationship Center, HQ Credit Dept
Who informs client of rejection	Department with relationship A central Department



Risk vs. Cost – Cont'd

Screening Process

Let's explore the "How" part

- Credit reporting sources (CBJ, other banks)
 - has many limitations especially for SME loans
- New credit bureau
 - not operating until 2011, at the earliest
 - has been a highly useful screening tool in other markets
- Quick Credit scoring
 - requires understanding of Credit Scoring



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Risk vs. Cost – Cont'd

Credit Scoring to Screen Applications

Introduce Credit Scoring Methodology:

See Sample Credit Scoring Model in Handouts



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Risk vs. Cost – Cont'd

Credit Scoring to Screen Applications

Screen LAs using some non-financial factors

FACTOR

S C O R E

	1	2	3		
Age of business	< 2 yrs	2 – 7 yrs	> 7 yrs		
Repayment history	below average	average	above average		
Returned checks	often	few	never		
Trade references	negative	neutral	positive		
Branch Manager Reference	negative	neutral	positive		
				TOTAL SCORE	COMPARE TOTAL SCORE TO THRESHOLD REQUIREMENT



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Risk vs. Cost – Cont'd

Conclusions:

- There are no Credit “Shortcuts”
- In-depth analysis, KYC, KNN
- Dilemma processing SMEs loan applications – yields vs. costs
 - smaller loans = smaller profits
 - in-depth analysis to avoid bad loans
- One way:
 - screen loan applications and identify good borrowers early in the credit process



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Evaluation of SME Loan Applications

- Screen loan applications and identify good potential borrowers, i.e. the most creditworthy
- Gather sufficient data to analyze risks
 - Detailed
 - Complete
 - Accurate
 - Current
- Structure credit facilities to maximize return and minimize losses



Analyze Risks

Loan Evaluation Equation
Strengths – Weaknesses > Unknowns +
Uncertainties

$$S - W > U + U$$



Analyze Risks – Cont'd

Basic Questions

- Who is the borrower?
- How does the business operate?
- What is the request?
- What is the financial condition of the borrower?
- What is the best way to structure the loan to meet the needs of the borrower and the bank?



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Analyze Risks – Cont'd

5 C's of Credit

- Character
- Capacity
- Capital
- Collateral
- Conditions



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Analyze Risks – Cont'd

- Examine and interpret information to assess a company's
 - **Past performance**
 - **Present condition**
 - **Future viability**
- Identify unique operating and financial characteristics that determine a company's success or failure
- Presents a picture of management's control in operating the business – especially to deal with uncertainties and unknowns



Analyze Risks – cont'd

Examine:

- Financial structure
- Operating cycle
- Trends
- Flexibility



Analyze Risks – Cont'd

- Reformat Income Statement and Balance Sheet
- Understand the company's operating leverage
- Calculate ratios and analyze trends
- Analyze the company's funds flow
- Project future financial performance



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Analyze Risks – Cont'd

Tools required for financial analysis:

- 3 years Income Statement and Balance Sheet to allow for trend analysis
- Funds Flow Statements
- Proforma Financial Statements
- Cash Budget



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Analyze Risks - Ratio Analysis – Cont'd

Key ratio groupings:

- Profitability – is business sustainable
- Efficiency – use of resources
- Leverage – capital vs. debt
- Liquidity-ability to meet ST obligations



Analyze Risks - Ratio Analysis – Cont'd

Ratio Analysis

- Means to an end to greater understanding
- Shows how the balance sheet and income statement intersect
- Used for historical and Proforma analysis

Group	Ratios
Liquidity	<ul style="list-style-type: none"> • Current • Quick
Efficiency	<ul style="list-style-type: none"> • Receivables turnover • Inventory turnover • Payables turnover • Fixed asset turnover
Profitability	<ul style="list-style-type: none"> • Interest coverage • Fixed charge coverage • Net profit margin • ROA & ROE
Leverage	<ul style="list-style-type: none"> • Debt to equity



Analyze Risks- Cont'd

“A banker is a fellow who lends his umbrella when the sun is shining and wants it back the minute it begins to rain.”

Mark Twain



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Analyze Risks – Cont'd

Credit Scoring

Credit Scoring:

- Key mechanism to evaluate credit risk
- Defined as “method to judge credit using a formula based on predictive data”
- Applied to “non-rated corporate borrowers”, like SMEs
- Users - credit institutions, vendors



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Analyze Risks – Cont'd

Credit Scoring

Credit Scoring:

- “Credit Score” - Term of the Day for Wednesday, March 11, 2009*

“A measure of [credit risk](#) calculated from a [credit report](#) using a standardized formula. [Factors](#) that can damage a [credit](#) score include late [payments](#), absence of credit references, and unfavorable [credit card](#) use. [Lenders](#) may use a credit score to determine whether to provide a [loan](#) and what [rate](#) to [charge](#).”

* InvestorWords.com



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Analyze Risks – Cont'd

Credit Scoring

Benefits:

- Speed in the Credit Process
- Accuracy
- Quantifiable
- Fewer Bad Debts
- Favorable Regulatory Treatment



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Analyze Risks – Cont'd

Credit Scoring

Credit Scoring attempts to measure credit worthiness based on combination of factors under 2 or 3 general headings:

1. **Non-financial:** such as years in operation, payment history, trade references, returned checks, litigation
2. **Facility:** such as loan type (OD vs. line of credit), maturity, collateral type & coverage
3. **Financial:** such as ratios to measure Liquidity, Profitability and Leverage



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Analyze Risks – Cont'd

Conclusions:

- Basic questions and 5 C's of Credit
- Financial structure and operating cycle
- Tools required to analyze risks including credit scoring



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Operating Leverage and Break-Even Analysis



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Operating Leverage & Break Even-Point

Objectives

- To understand difference between Fixed and Variable Costs
- To understand Contribution Margin
- To be able to calculate a company's Break-Even Point



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Operating Leverage

What is Operating Leverage?

- Measurement of the degree to which a company or project incurs a combination of Fixed and Variable Costs
- Assessment of cost structure
- Critical in assessing the potential for default



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Operating Leverage – Cont'd

Fixed Costs

- Costs incurred regardless of sales volume
- Sum of all costs required to produce the first unit of a product
- Amount does not vary as production increases or decreases, until new capital expenditures are needed.



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Operating Leverage – Cont'd

Variable Costs

- Costs that vary directly with the production or purchase of each additional unit



Operating Leverage – Cont'd

For a production company (manufacturer), which costs are fixed and which are variable?

Rent Interest on debt Costs of Goods Sold Sales commissions Direct materials/supplies Sales or production bonuses Professional services – legal, accounting

Shipping charges Delivery charges Insurance Plant and equipment exp Business licenses Salaries of permanent FTEs Wages of part-time or temporary employees



Operating Leverage – Cont'd

What are examples of Fixed Costs for a

- Production company
- Trading company
- Service company

What are examples of Variable Costs for a

- Production company
- Trading company
- Service company



Operating Leverage – Cont'd

High Operating Leverage

- Company with high Fixed Costs
- At risk if sales decline
- Higher profit potential per unit beyond break-even point

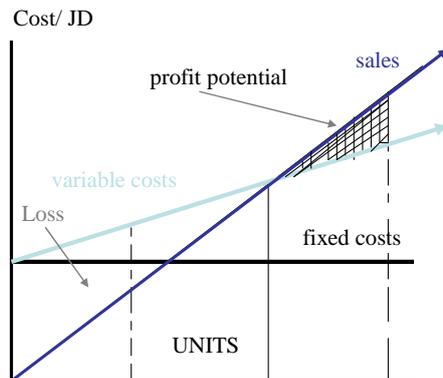
Low Operating Leverage

- Company with low Fixed Costs
- Less profit potential per unit beyond breakeven

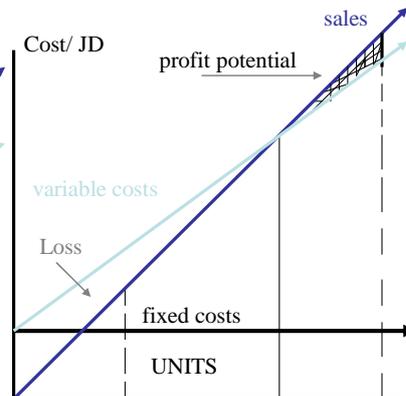


Operating Leverage – Cont'd

High Operating Leverage



Low Operating Leverage



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Break-Even Point

What is a Break-Even Point?

- Level of sales at which total revenue equals total costs
- Point at which company has neither a profit or a loss
- Influenced by
 - selling price
 - fixed costs
 - variable costs

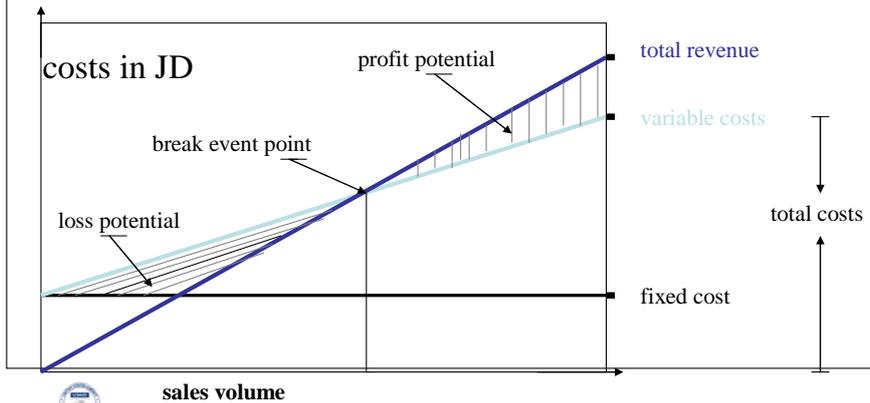


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Break-Even Point – Cont'd

Break-Even Analysis



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Break-Even Point – Cont'd

Calculation for Break-Even Point (BEP)?

$BEP = \text{Fixed Costs} / \text{Contribution Margin}$

$\text{Contribution Margin} = \text{Sales Price per Unit} - \text{Variable Costs per Unit}$



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Break-Even Point – Cont'd

Example:

Fixed Costs = 30,000 JD

Sales price per unit = 6.00 JD

Variable Costs per unit = 4.00 JD

Contribution Margin =

BEP =



Break-Even Point – Cont'd

Conclusion – Why analyze Operating Leverage and Break-Even Point?

- Assess the risk of default on repayment of a loan in the event of economic changes that cause reduction in sales
- Assess the risk/reward of increasing fixed costs by increasing fixed assets



Funds Flow Analysis



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Funds Flow Analysis

Objectives

- identify components of an operating cycle
- understand the meaning of “funds”
- analyze sources and uses of funds
- compile a Funds Flow Statement
- analyze how a company is funding its operation
- identify inappropriate sources and uses of Funds



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Funds Flow Analysis – Cont'd

What the lender needs to know about how the business operates

- **Complexity** of the operation
- **Timing** of steps in the operation
- **Practices** typical in the industry
 - trade terms
 - manufacturing methods
 - marketing practices



Funds Flow Analysis – Cont'd

Operating Cycle – average time between purchasing or producing inventory and receiving cash from its sale (manufacturer)

- Reveals how long cash is tied up in receivables and inventory
- Long operating cycle leaves less cash available to meet short-term obligations



Funds Flow Analysis – Cont'd

Operating Cycle summarizes four parts of a business

- Cash
- Accounts Payable
- Inventory
- Accounts Receivable



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Funds Flow Analysis – Cont'd

Operating Cycle – getting from cash to cash

Example 1

- 14 days credit from suppliers
- Takes 21 days to sell merchandise
- All cash sales (cash business)

How many days from cash to cash?



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Funds Flow Analysis – Cont'd

Example 2

- 14 days credit from suppliers
- 21 days to sell merchandise
- Give customers 30 days to pay

How many days from cash to cash?



Funds Flow Analysis – Cont'd

Example 3

- 30 days credit from suppliers
- 14 days in inventory before sale
- Give customers 14 days to pay

How many days from cash to cash?



Funds Flow Analysis – Cont'd



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Funds Flow Analysis – Cont'd

- Negative Operating Cycle means a company must pay suppliers before it is paid by its customers.
- Positive Operating Cycle means that a company can increase sales without needing additional cash
- Maximize cash flow by getting credit from suppliers, reducing inventory costs and limiting the amount of credit given to customers.



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Funds Flow Analysis – Cont'd

What are Funds?

- Economic resources
- All measurable resources available to the firm for use in its operation
- Cash and cash equivalents
- Tangible resources such as inventory and machinery
- Intangible economic power – credit from suppliers



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Funds Flow Analysis – Cont'd

Sources of Funds

- Decrease in Assets
- Increase in Liabilities
- Increase in Equity

Uses of Funds

- Increase in Assets
- Decrease in Liabilities
- Decrease in Equity



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Funds Flow Analysis – Cont'd

Decisions affecting cash

	<i>Cash Inflows From</i>	<i>Cash Outflows For</i>
Operating Flows	- Sales - Investment income - Non- financing/investing activities	- Goods & services - Administrative expenses - Suppliers or taxes
Financing Flows	Proceeds from new equity & loans	- Shareholders (2 ways) - Creditors
Investing Flows	Sale of investments & assets	New investments & assets



Funds Flow Analysis – Cont'd

Cash Deficit

Consequences of cash deficits

- Delays paying of wages
- Increases Accounts payable
- Increases unpaid Loan(s)
- Decreases Liquid Assets
- Expands operation cycles



Proforma Analysis



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Proforma Analysis

Objectives

- To understand importance of Proforma Analysis in evaluating a company's expected ability to repay a loan
- To identify assumptions required for effective Proforma Analysis
- To be able to construct a Proforma Income Statement, Balance Sheet and Funds Flow Statement



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Proforma Analysis- Cont'd

What is Proforma Analysis?

- Expectation of the future strength of a company based upon its past performance
- Reflection of financial consequences of management's plan and expectations



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Proforma Analysis- Cont'd

How is Proforma Analysis represented?

- Projected Income Statement
- Projected Balance Sheet
- Projected Funds Flow Statement



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Proforma Analysis- Cont'd

Why should a loan officer attempt to predict the future performance of a borrower?

- To reduce uncertainty about the company's ability to repay a loan
- To assess the reasonableness of management's expectations and representations
- To identify future needs for loans



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Proforma Analysis

Basic Considerations

- Analysis of past financial performance
- Analysis of current financial position
- Dependability of performance
- Reasonableness of assumptions



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Proforma Analysis

External Factors

- Economy
- Industry
- Market
- Government Regulation
- Labor

Internal Factors

- Management
- Physical Plant
- Financial Controls
- Marketing Strategy



Proforma Analysis- Cont'd

Sources of Information

- 3-5 years historical financial statements
- Past projections relative to historical statements
- Industry trends and projections
- Auditor's Report
- Economic forecasts relative to the industry
- Company Business Plan



Proforma Analysis – Cont'd

Other Sources of Information

- Copies of promotional material of the company
- Organizational diagram of the company management
- Information about competitors
- Management's assumptions and projections



Proforma Analysis – Cont'd

What is involved in creating Proforma Financial Statements?

- Assumptions
- Calculations
- Sensitivity Analysis



Proforma Analysis - Assumptions

- Sales
- Cost of materials
- Labor costs
- Utility costs
- Transportation costs
- Marketing expenses
- Administrative expenses
- Interest rates
- Taxes
- AR Collection Time
- Inventory level
- FA Requirements
- Terms from creditors
- Loan payments
- Equity injections
- Dividends



Proforma Analysis – Assumptions – Cont'd

Sales

- Size of market
- Market share
- Market trends
- Changes in competition
- Pressure on prices



Proforma Analysis – Assumptions – Cont'd

Cost of materials

- Supply
- Demand

Other Direct Costs

- Utilities
- Rent

Labor Costs

- Need to increase labor force
- Salary increases
- Additional payroll taxes

Depreciation



Proforma Analysis – Assumptions – Cont'd

Sales and Marketing

- New promotion
- Additional sales people
- Compensation plan

Other Income and Expense

- Usually insignificant
- May not be crucial to reasonable projections

General and Administrative

- Need for financial manager
- Need for IT

Working Capital Ratios

- AR Collection Time
- Inventory level
- Credit terms from suppliers



Proforma Analysis – Assumptions – Cont'd

Fixed Asset Requirements

- Purchasing additional RE
- Purchasing additional equipment
- Expanding existing physical facility

Capital

- Debt
- Equity injections



Proforma Analysis – Assumptions – Cont'd

Calculations

- First – Income Statement
- Second – Balance Sheet
- Third – Funds Flow Statement



Proforma Income Statement - Calculations

- | | |
|---|--|
| <ul style="list-style-type: none"> 1- Sales 2- Direct Labor 3- Cost of Materials 4- Depreciation 5- Other Direct Costs 6- Cost of Goods Sold 7- Gross Profit 8- Sales & Marketing 9- Gen. & Administrative | <ul style="list-style-type: none"> 10- Total Operating Expense 11- Net Operating Income 12- Other Income/Expense 13- Interest Expense 14- Net Income before Taxes 15- Income Taxes 16- Net Income after Taxes |
|---|--|



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Proforma Balance Sheets – Calculations – Cont'd

- | | |
|--|--|
| <ul style="list-style-type: none"> 1- Contributed Capital 2- Retained Earnings 3- Total Equity 4- CPLTD 5- LTD 6- Short-term Loan 7- Accounts Payable 8- Accrued Liabilities 9- Total Current Liabilities 10- Total Liabilities 11- Total Liabilities + Equity 12- Accounts Receivable | <ul style="list-style-type: none"> 13- Inventory 14- Vehicle 15- Office Equipment 16- Plant Equipment 17- Furniture & Fixtures 18- Buildings 19- Land 20- Accumulated Depreciation 21- Total Fixed Assets 22- Cash – excess or minimum 30- Total Current Assets |
|--|--|



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Proforma Balance Sheet – Calculations – Cont'd

- 31- Total Assets
- 32- Bank loan required if $TA > TL + Equity$
- 33- Recalculate Total CL
- 34- Recalculate Total Liabilities
- 35- Recalculate Total Liabilities + Equity – must equal TA



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Proforma Funds Flow Statement

Operating Funds Flow

- Operating Inflows
- Operating Outflows

Discretionary Funds Flow

- Discretionary Funds Inflow
- Discretionary Funds Outflow

Financing Funds Flow

- Financing Funds Inflow
- Financing Funds Outflow



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Proforma Analysis

Interpreting the Proforma Financial Statements

- Amount of financing required
- Company's ability to repay a loan
- Creditworthiness of the company
- Reasonableness of management's expectations



Proforma Analysis – Cont'd

Pitfalls of Proforma Analysis

- Uncertainty
- Unforeseen catastrophe
- Omission of interim financial needs
- Dependent upon assumptions



Proforma Analysis – Cont'd

Summary

- One of several tools to evaluate risk make sound lending decisions
- Assumptions should be based on historical performance, current position and reasonable projections for the future
- Can be used to ask “what if?”



Evaluation of SME Loan Applications

- Screen loan applications and identify good potential borrowers, i.e. the most creditworthy?
- Gather sufficient data to analyze risk
 - Detailed
 - Complete
 - Accurate
 - Current
- Structure credit facilities to maximize return and minimize losses



Loan Structure

Goal

Maximize return and minimize losses

which is another way of saying

Bankers must earn fair compensation for the risk incurred

Why?



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Loan Structure Cont'd

Key elements

- Type of facility
- Repayment sources
- Collateral
- Guarantees
- Pricing
- Loan contract



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Loan Structure - Type of Facility

Types of Loans:

- Seasonal
- Term
- Bridge
- Permanent Working Capital
- Line of credit

For each type, the lender must identify:

- Loan Purpose
- Risks
- Source of Repayment
- Collateral
- Monitoring Scheme

USE OF LOAN
PROCEEDS SHOULD
RELATE DIRECTLY TO
SOURCE OF
REPAYMENT



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Loan Structure - Repayment Sources

Type of Loan

1. Seasonal
2. Term
3. Bridge
4. Line of Credit
5. Overdraft Facility ??
6. Permanent Working Capital

Repayment

1. Cash from conversion of seasonal assets
2. Cash from profits over more than one year
3. Refinancing, new equity, sale of fixed assets
4. Cash conversion of accounts receivable and inventory

5. ??

6. Normally a revolving facility for which repayment is indefinite. Eventual repayment sources may include:

Conversion of the facility to a term loan or, alternately, a step-down in the borrowing base; in either case, repayment coming from cash in profits
Refinancing
Infusion of equity
Liquidation of assets, which is the least desirable



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Loan Structure - Collateral

Types:

- Cash, marketable securities
- Other securities
- Accounts Receivables
- Inventory
- Equipment
- Real Estate



Loan Structure - Collateral - Cont'd

Managing Collateral Risk

- Valuations
- Audit Procedures

Bankers nightmare = collateral value declines below the amount of the outstanding loan. How can banks best protect against this risk?



Loan Structure - Guarantees

Managing Risk

- Analyze and monitor - similar to Borrower
- Guarantor exposure
- Moral vs. financial guarantees
- Bank (LCs) and sovereign (JLGC) guarantees



Loan Structure - Guarantees – Cont'd

Amount of Guarantor exposure

- Financial strength
- Information obtained from client/other sources
- number of years successfully in business
- Reputation

Sound familiar?



Loan Structure - Pricing

Pricing SME Loans - Systemic Approach

Rate charged is the:

Sum of Base Rate Components
plus
Sum of Risk Adjustments

OR

Interest Rate = (BRC) + (RA)



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Loan Structure - Pricing – Cont'd

<i>Base Rate Components</i>	<i>Assumptions/Comments</i>	<i>Estimated Cost</i>
Marginal Cost of Funds	Cost of deposits generated for loan - Matching maturity desirable	10% (Assumed -1 yr fixed deposit)
Reserve Adjustment	Reserves required for deposits - no interest received on reserves	2.5% (Assumed)
Loan/Deposit Servicing Cost	Average cost of servicing deposits and loans; cost accounting exercise	2% (Assumed)
Taxes	Taxes paid before post profit decisions?	? (other margins to be adjusted)
Fund Growth	4% Tier 1 capital requirements on risk weighted asset growth	.40% - .60 % (growth of 10 - 15%)
Additional Profits	Added profits for strategic objectives	.6 - 1.00% (Assumed after tax) .8 - 1.35% (Assumed before tax)
TOTAL		15.5% - 16.1%



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Loan Structure – Pricing – Cont’d

Risk Adjustments

Collateral Coverage – most SME loans are supported with collateral within lender policy ranges

Company Risk – this premium is based on the borrower’s overall credit score

Industry Risk – lenders will assign higher risk premiums to certain industries, e.g. agriculture

Profit Margin – assume all SME loans must earn a minimum profit margin of 2%



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Loan Structure - Pricing – Cont’d

<i>Sum of Base Rate Components</i>	15.50 – 16.10 %
Risk Adjustments:	
Profit Margin	2.00%
Industry Risk	0.50%
Company Risk	0.25%
<u>Collateral Coverage</u>	<u>0.00 % (LTV exceed policy guidelines)</u>
<i>Sum of Risk Adjustments</i>	<u>2.75 %</u>
<i>Total Pricing</i>	18.25 – 18.85 % (Range)



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Loan Structure - Loan Contract

- Timing – obtain before disbursement
- Terms and conditions
- Covenants
- Financial reporting
- Monitor with site visits
- Review by loan officer
- Legal review
- Involuntary waiver
- Problem loans



Loan Structure - Cont'd

Conclusions

- **Appropriate structure = maximize return and minimize loan loss**
- **Key elements:**
 - **Type of facility and repayment sources. Ideally, we want the use of loan proceeds to relate directly to the primary source of repayment**
 - **Secondary sources of repayment are Collateral and Guarantees. Important to know and minimize the risks of secondary sources**
 - **Pricing should consider several factors, not just the cost of funds**
 - **Loan contract and documentation. Get it right and signed “up front”**



Loan Decisions

- **Loan Approval**
- **Officer authority (limits)**
- **Loan committee (review and/or authorize)**
- **Board (review and/or authorize)**
- **Best institutional fit for SME decision process**



Loan Decisions – Cont'd

Loan Contract

- Timing – obtain before disbursement
- Terms and conditions
- Covenants
- Financial reporting
- Monitor with site visits
- Review by loan officer
- Legal review
- Involuntary waiver

Cross reference with Problem loans



Loan Decisions – Cont'd

Performance Measures

Applications:

- Turnaround time – completed application
- Approval rates
- FTE per application – human man/women hrs.

Loan Portfolio:

- N/P
- Risk ratings – trend of risk rated capital requirements
- Portfolio yield

KEEP PERFORMANCE MEASURES SEPARATE



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Loan Decisions

Conclusions

Loan Approval

- Loan policy drives the process
- Best institutional fit

Communication – fast no is better than a slow yes

Loan Contract – do it right and get it signed “up front”

Performance Measures

- Start with a base line
- Measure service, cost and quality
- Track applications and portfolio separately



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Evaluation of SME Loan Applications Wrap-up

Accounting Exercise & International Standards

SME Market

Risks vs. Cost

Risks Analysis

5 C's of Credit
Tools for Financial Analysis
Operating Leverage & Break-even Point
Funds Flow Analysis
Proforma Analysis

Loan Structure

Loan Type and Repayment Sources
Guarantors
Collateral
Pricing

Loan Decision Process

Loan Approval
Communication
Loan Contract
Performance Measures



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Evaluation of SME Loan Applications Wrap-up – Cont'd

SME demands will continue after current slowdown

- Banks have time now to work on Application Process
- More Cost Effective
- Sound Credit Quality – with poor financial information
- Provide Good Service
- Bankers are “numbers people” – clients, including rejections, are people



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Evaluation of SME Loan Applications Wrap-up – Cont'd

“ We can not be all things to all people. There are only so many hours in a day...”

quote from frustrated SME credit officer

“ Be nice to people, it costs you nothing ..”

Helen O'Brien (my mother)

“ Through these doors walk the most important people in the world - my customers”

sign over the door of Schools Cafeteria, Washington, D.C.



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Evaluation of SME Loan Applications – Cont'd

Thank you!

Any questions?

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Annex two
Case Study for Day two

Case Study for Day 2

Exercise #1

Assume a new bank is formed and the General Manager wants your group to propose a SME evaluation process for loan applications. Recommendations should address the need to maximize return while minimizing risk given the:

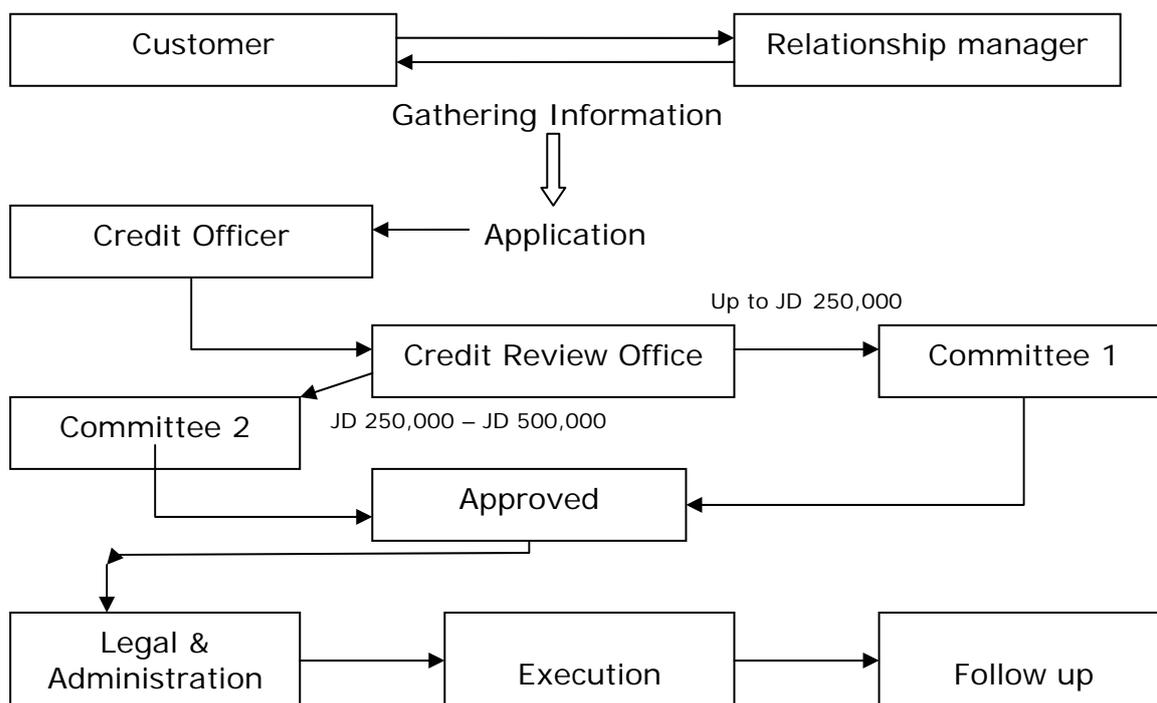
- Process must be cost effective
- Good service and credit quality must be maintained
- Target market is less sophisticated – for example, loan applications generally lack reliable financial information

Each group was given ample time to meet and formulate a proposal for the General Manager. The following are the presentations from each group.

Group 1

Propose three main steps:

- 1- Choosing customers selection done in accordance to
 - a. An industry forecast and
 - b. The exposure level
- 2- Designing a business unit branch out into two main lines:
 - a. A business line
 - b. A credit line
- 3- Business line tasks

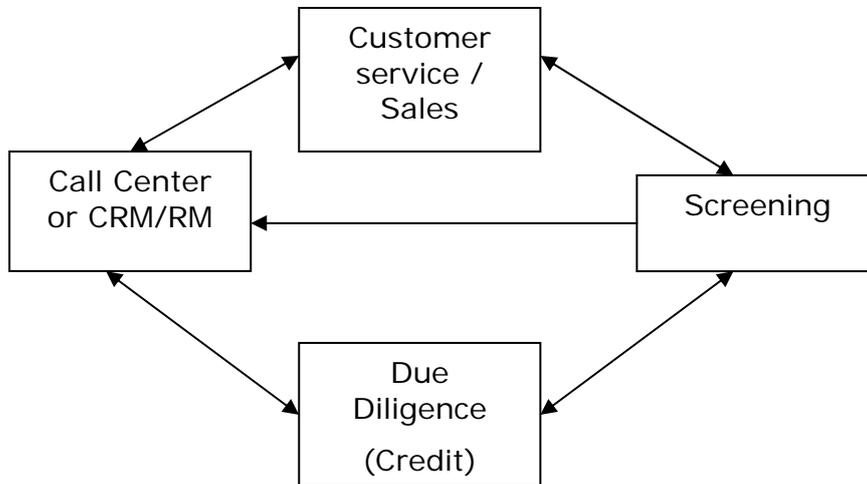


The process of the business unit tasks flows as described below:

- 1- A direct relationship between the customer and the relationship manager, the initial approach comes from either side.
- 2- Followed by a process of information gathering which includes
 - a. Financial statements
 - b. Legal papers
 - c. Personal net worth
- 3- A review of the gathered information
- 4- The application accompanied with a business recommendation is passed on to the credit officer
- 5- The application is received by the credit review office with credit recommendation.
- 6- The application according to the amount is either passed on to committee 1 which covers up to JOD 250,000, or to committee 2 which covers between JOD 250,000 and JOD 500,000.
- 7- Once approved it is passed on through the following channels:
 - i. Legal and administration department
 - ii. Execution of granting the loan
 - iii. Follow up

Group 2

Propose the following flow of work:

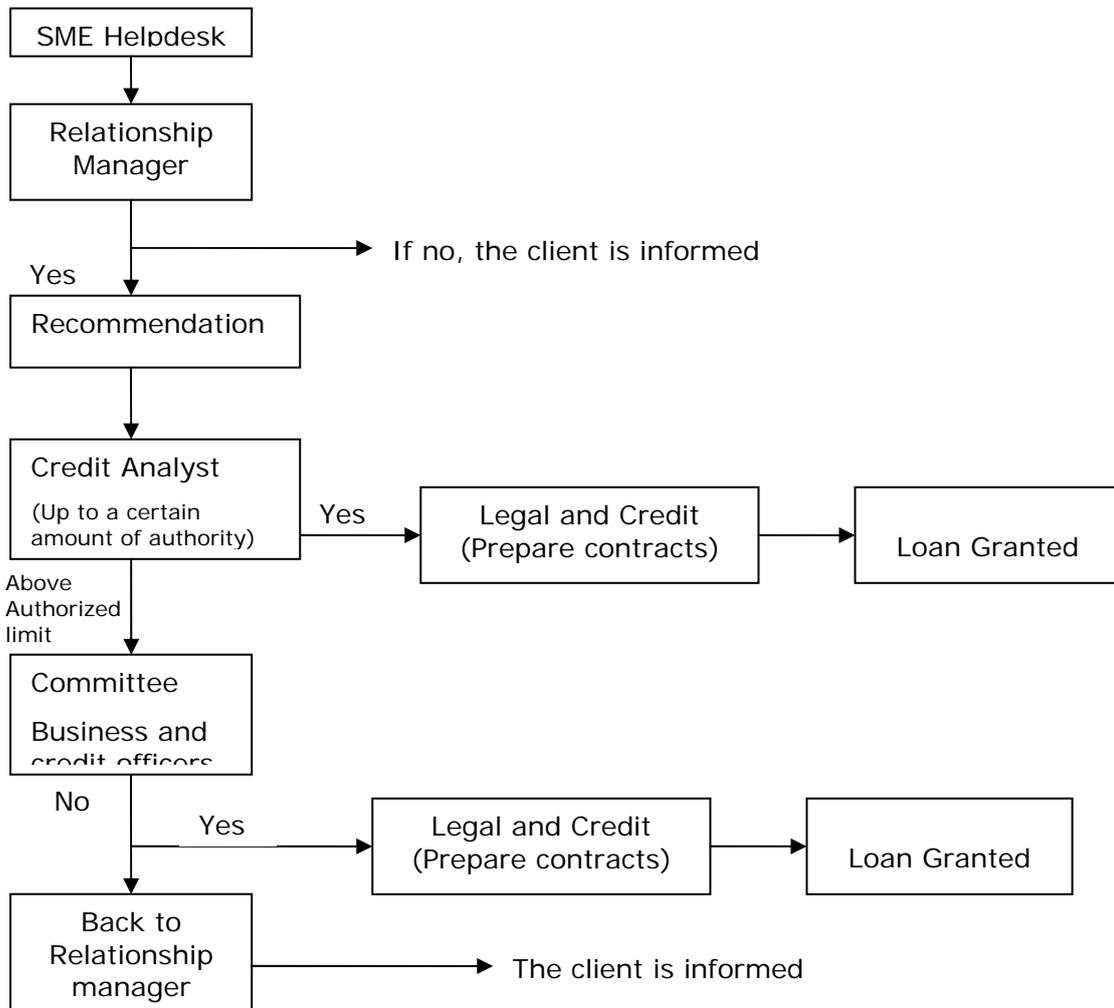


The role of each component in the chart is as follows:

- 1- Customer Service/Sales Team
 - The application with all needed documents
 - The black list test
 - Have an online option to save time, cost and effort.
- 2- Screening
 - Checklist/score card
 - CBRR
 - Authentication
- 3- Due Diligence
 - Ratios, MK, SWOT studies and peer analysis
 - 5 Cs
 - E-K YC Loan details
 - Legal advice
- 4- CC, CRM, RM, HD
 - Feedback
 - Follow up
 - Portfolio Management

Group 3

Propose the following procedures:



- 1- Customer fully completing the application (SLA)
- 2- Have an SME helpdesk consisting of 2 trained employees which will take care of:
 - a. Verify customer needs
 - b. Serve as a facilitator
 - c. Match the clients' needs with the bank
- 3- Application passed to the Relationship Manager (RM) to insure the following:
 - a. Required documents
 - b. Generate a scoring system
 - c. Prepare the RM report
- 4- If the application has passed that stage a recommendation is made and the application is passed forward to the credit analyst.

- 5- Once application is approved it is passed on to the legal and credit departments and contracts are prepared for the loan to be granted.
- 6- The credit analyst has limited authority; therefore some applications could be falling under exceptions or exceed a certain amount. Those applications are passed to a committee where it might be granted approval or rejection. The committee consists of a business officer and a credit officer.

Group 4

They propose to foster the following elements:

- 1- A Clear Policy
 - A clear definition of SMEs
 - A clear scoring structure
- 2- Delegation of authority/limits
 - Create a structure for direct and indirect facilities
- 3- Insure having qualified and well trained staff members
 - Better reflection on customer service and an easier application process
- 4- Develop a supporting system
 - Have better access to information to have better efficiency
- 5- An approved process and better work flow
 - Establish a timeline
 - Have a checklist
- 6- Supporting documents
 - Have minimum requirements from the SMEs/less bureaucracy
- 7- Pricing
 - Establish an evaluation method depending on risk to provide the bank with a competitive advantage; for example: long term customers receive a better rate to create a loyalty base.
- 8- Segmentation/sectors
 - Divide staff according to expertise in different sectors to facilitate the process

Group 5

- 1- Create an online assessment tool on the bank's website to serve as a checklist to the applicant.
- 2- The applicant to bring all required documents during the first visit.
- 3- Screen the application based on an agreed on checklist.
- 4- If rejected, then the application is rejected with the branch manager.
- 5- If accepted,
 - a. The application is studied
 - b. A field visit to the customer is made
 - c. Have a credit scoring scheme
 - d. Documents are signed, by applicant
- 6- The application is run through the bank's system based on a service level agreement and passed on through the following channels:
 - i. The Central Division
 - ii. The Credit Risk Review
 - iii. The committee with the final decision

Exercise #2

Review slide 52 and 53 and add other risks not shown. As discussed yesterday, most of the risk factors relate to management or the lack thereof.

Breakout groups to discuss ways to minimize risk during application process beyond what was discussed yesterday. The participants were asked to think "out of the box" and to consider "non-banker" options.

Responses:

- 1- SMEs should invest at the beginning with a consultant/s to take care of the managements system. It might be of a high cost on the short run but much more effective on the long run.
- 2- A body to insure or guarantee up to 75% for a certain commission (Credit Insurance).
- 3- Venture Capital.

Exercise #3

If banks and other credit providers, e.g. suppliers, are all "careful" regarding exposures, how will SME financing needs be met?

Response:

As time expired, some of the previous suggestions were discussed such as Credit Insurance.

Annex Three

Workshop Exercises

Exercise 1 - Five C's Exercise

First Bank of Amman

PR Co and the Five Cs of Credit

An SME Credit Officer was recommending approval of a 500,000 JD loan request to the Loan Committee at First Bank in Amman. The proceeds of the loan would allow the borrower to purchase office equipment, expand its facility and support working capital. This was a new loan request from a new client. The Loan Committee met in a small auditorium that was arranged "theatre style." The Credit Officer was at the front of the room presenting his recommendation.

The Credit Officer was an experienced banker but new to Amman and hired recently by First Bank. He was still learning about the area, the market and the people. The Credit Officer was aggressive in developing new customers and was eager to have this loan approved.

The proposed borrower, PR Co., is owned by one person. PR performs advertising and promotions for well known, successful, and large clients in Jordan, Egypt and the UAE. Some of PR's clients operate internationally. PR's owner is very impressive and most effective in marketing his company, as reflected by its strong client base. PR works out of nice offices in a desirable area of Amman. The company's unaudited financial statements reflect a profitable company with an acceptable balance of debt and equity and accounts receivable from a strong customer base. Going forward, PR promised to provide annual financial statements audited by a respectable accounting firm in Amman. Due to the nature of its business, PR has few fixed assets (hard assets) but the loan would be secured with an assignment of contracts and accounts receivable. The money due on the receivables would be assigned to the bank. PR and the Credit Officer expected more sales if PR had the loan proceeds to expand the art and video studio.

As the Credit Officer was standing before the Loan Committee discussing PR and its owner, he heard one committee member say to another, "isn't this owner the same guy who went to prison 10 years ago for embezzlement?"

- 1) How should the Credit Officer respond to this comment?

- 2) How should the Loan Committee proceed?

- 3) Assume the loan request is denied by the Loan Committee before the Credit Officer has finished his presentation. Assume also, upon further investigation, the Credit Officer confirms that PR's owner was imprisoned briefly for a personal "income tax violation", and not for embezzlement. How would you proceed if you were the the Credit Officer?

- 4) Assume the Credit Officer appears again before the Loan Committee, presents the new information (tax violation not embellelement) and recommends approval. As a member of

Loan Committee, identify risks regarding Character, Capacity, Capital, Collateral or Conditions based on this fact pattern?

5) As Credit Officer, can you identify the sources of repayment? Please explain answer.

Group 4 – Credit Officer (select one person with group support for question #1)

Credit Officer (select a different person with group support to answer questions #3 and #5)

Group 5 – Loan Committee to answer questions #2 and #4.

Exercise 2 - New Company Financial Statements

	Act		Act		Act
In thousands	€	%	€	%	€
FYE Date	12/31/04		12/31/05		12/31/06
INCOME STATEMENT					
Credit Sales					
Cash Sales					
Total Sales	1,500		1,800		2,340
Cost of Goods Sold					
Material Costs	800		1,000		1,400
Direct Labor	300		340		415
Depreciation	10		10		10
Other Direct Costs	15		18		20
Total Cost of Goods Sold	1,125		1,368		1,845
Gross Profit	375		432		495
Total Sales, General & Administrative Expenses	280		300		350
Net Operating Profit	95		132		145
Other Income and Expenses					
Interest Income					
Other Non-Operating Income					
Interest Expense	0				
Net Other Income and (Expenses)	0		0		0
Gain (Loss) from Extraordinary Items					
Net Income Before Taxes	95		132		145
Income Taxes	46		66		67
Net Income	49		66		78
Dividends Paid					

Exercise 3 - Value Company IS.BS.FF 2006 – 2008

	(000 JD)		(000 JD)		(000 JD)
	2006		2007		2008
Sales	1,378		1,648		2,142
Cost of Goods Sold	931		1,125		1,500
Gross Profit	447		523		642
Total Operating Expenses	374		444		577
Operating Profit	73		79		65
Other Income	6		6		8
Other Expense	17		21		30
Net Profit Before Tax	62		64		43
Income Tax	27		26		16
Net Profit After Tax	35		38		27
Dividends	21		21		21
Depreciation	10		12		10

Exercise 4 -Break Even Exercise

Bakery and Carpentry Shops

Break-Even Analysis

The Credit Department at Second Bank in Amman has two SME loan applications under review. The Credit Manager has decided to divide the analysis among his Credit Officers. This will speed up the analysis and allow the bank to respond quickly to each loan request.

One loan application is from Tasty Bakery and the other application is from High Value Carpentry Shop. The Credit Manager wants one Credit Officer to calculate the Break-Even Point (BEP) of production in units for both companies.

The following information is provided:

A. Tasty Bakery: for one loaf of bread:

Inputs

Fixed Costs JD	49,000
Sales Revenue/unit JD	1.00
Variable Costs/unit JD	0.30

1) What is the contribution margin in JD for each loaf sold?

2) How many loafs of bread does Tasty Bakery need to sell to 'break-even'?

B. High Value Carpentry: for one board of wood:

Inputs

Fixed Costs JD	28,000
Sales Revenue/unit JD	1.00
Variable Costs/unit JD	0.60

- 1) What is the contribution margin in JD for each board of wood sold?
- 2) How many units of wood does High Value Carpentry need to sell to 'break-even'?

One Group is assigned as the Credit Officer perform BE analysis for A. And B. Above.

Exercise 5 - New Company Exercise. Ratio Analysis

New Company Ratio Analysis

The Credit Department at Second Bank in Amman received a loan application from New Company Co. New Company is based in Germany and has opened up an office in Amman. Three years of audited financial statements were submitted in Euros. Since this client has audited financial information, the Credit Manager has assigned one Credit Officer to perform ratio analysis.

1) The Credit Officer has been told to calculate the following ratios for the year ended 2005

PROFITABILITY RATIOS

Gross Margin = Gross Profit/Sales =

Operating Margin = Net Operating Income/Sales =

Net Margin = Net Income/Sales =

Liquidity Ratios

Current Ratio = Current Assets/Current Liabilities =

Quick Ratio = (Current Assets – Inventory)/Current Liabilities =

Accounts Receivable Average Collection Time = Accounts Receivable/(Sales/Days in period) =

Efficiency Ratios

Accounts Payable Average Payment Time = Accounts Payable/(Cost of Goods Sold/Days in period) =

Days Production (Sales) in Inventory = Inventory/(Cost of Goods Sold/Days in period) =

Annual Average Inventory Turnover = 365/Days Production in Inventory =

Solvency Ratios

Capitalization Ratio = Total Liabilities/(Total Liabilities + Equity) =

Leverage Ratio = Total Liabilities/Equity =

Debt Service Coverage Ratio = (Net Income + Interest + Depreciation)/(Interest + Principle

Repayment Required in the period) = (_____ + _____ + _____) /
_____ + _____ = _____ / _____ = _____ :1

2) How do these ratios compare with 2006? Comment on important trends.

One Group will perform this exercise

Exercise 6 - Al-Mustafa Exercise Mustafa Exercise

Screen Loan Application, Follow-up & Recommend Loan Structure

In 2007 two brothers used the family's savings to establish **Mustafa Co.** (Mustafa) - a petro transportation company. Mustafa's best customer has been Sun Oil (Sun) - a well-known petro wholesaler in Amman. Mustafa's little business started with 2 used trucks and it purchased more used trucks in 2008 to meet Sun's growing requirements.

The brothers work out of a small office in the family residence. Like many start-up companies, Mustafa did not earn a profit at first. However, the family is very proud because 2008 was the first full year of profitability. It seems sales volume during January and February of 2009 is running well ahead of the same time period during 2008. Mustafa expects strong results in 2009 based on its business with Sun, and new business from one of Sun's competitors, Moon Oil.

In order to satisfy Moon's requirements, Mustafa will purchase its first new truck at a cost of 100,000 JDs. A new truck will be more dependable, require less maintenance and replace a leased truck the company is using to satisfy new business. **The problem is neither the business nor the family have the cash for a new truck.** All cash is invested in the business (equity and loans), and the brothers have very little in the way of savings. They have received no dividends and drawn small salaries to pay living expenses.

The Mustafa brothers apply for a bank loan of 120,000 JD, which is the company's first loan application to a bank. The bank is exploring a new SME loan application process. The Credit Manager selects his best Credit Officer to develop a checklist or simple model to "screen" the loan application and to suggest the best way to handle rejections based on the new screen tool.

The Mustafa brothers don't know accounting. They paid their cousin, an accountant, to send the following financial statements to you at the bank.

	2007 (6 months)	2008 (12 months)	2009 (Feb& March)
Net sales	40,000 JD	90,000 JD	30,000 JD
All costs & expenses	60,000	88,000	27,000
Profit	(20,000) JD	2,000 JD	3,000 JD

	12/31/2007	12/31/2008	2/28/2009
Cash	5,000	3,000	1,000
Other Current Assets	3,000	5,000	10,000
Trucks and other equipment	60,000	100,000	100,000
Total Assets	68,000	108,000	111,000
Total Debt	53,000	66,000	94,000
Total Equity	15,000	17,000	17,000
Total Debt and Equity	68,000	83,000	111,000

1. The Credit Officer will:

- develop a checklist or model to “screen” this loan application and apply the above facts

- present the “screen” tool to the Credit Manager along with his recommendation to:

- a) reject Mustafa’s loan application, or
- b) proceed with analysis of the application.

Be prepared to justify your analysis to the Credit Manager.

Be prepared how recommend how rejections should be handled.

(MEETING BETWEEN CREDIT OFFICER AND CREDIT MANAGER)

2. Assume Mustafa's loan application passes the screen. The Credit Officer schedules a meeting at the bank with the Mustafa brothers and their accountant. What questions should the Credit Officer prepare for this meeting that would allow him or her to prepare an analysis for a loan structure? Please explain.

The Mustafa brothers and accountant should prepare in advance to answer questions from the Credit Officer at the meeting.

(MEETING AMONG MUSTAFA BROTHERS, ACCOUNTANT, CREDIT OFFICER)

3. Assume that the Mustafa meeting is satisfactory. The brothers and accountant are able to answer questions including how the loan proceeds will be used as shown below:

- JD 100,000: purchase of the new truck
 JD 20,000: working capital for the new contract with Moon

a) Is this enough information for the Credit Officer to recommend a **loan structure** to the Credit Manager? If not, what other information is needed?

b) The Credit Officer takes the available information to propose a loan structure to the Credit Manager that will include loan type, repayment sources, guarantor (s), collateral and pricing. Be prepared to present your reasoning.

c) Based on the proposed loan structure, the Credit Officer will identify:

a) the primary source of loan repayment?

b) the secondary source of loan repayment?

(MEETING BETWEEN CREDIT OFFICER AND CREDIT MANAGER.

CREDIT OFFICER WILL PRESENT a), b) and c) ABOVE.

CREDIT MANAGER WILL RESPOND TO THE CREDIT OFFICER ON EACH ITEM.)

Group 1 – Credit Officer at Bank (select a different person for each meeting below and provide support)

Group 2 – Credit Manager (select a different person for each meeting below and provide support)

**First Meeting between Credit Officer and Credit Manager (screen application), AND
Second Meeting between Credit Officer and Credit Manager (loan structure)**

Group 3 – Mustafa brothers and accountant (select two brothers and one accountant from this group {total of 3} and provide support)

Meeting among Mustafa brothers, accountant with Credit Officer at bank.

Exercise 7- Value Company Funds Flow Analysis

Value Company Funds Flow Analysis

The Credit Department at Third Bank in Amman received a loan application from Value Company. Value Company has presented three years of audited financial statements (attached). The Credit Manager has assigned one Credit Officer to perform a funds flow analysis.

1) The Credit Officer has been told to calculate a funds flow analysis for the year ended 2008 using the following format:

Operating Funds Flow

Operating Inflows:

Net Income

Depreciation

Increase in Accounts Payable

Increase in Accruals

Total Operating Inflows

Operating Outflows:

Increase in Accounts
Receivable

Increase in Inventory

Total Operating Outflows

Net Operating Outflows

Discretionary Funds Flow

Discretionary Outflows:

Increase in Fixed Assets

Dividends Paid

Total Discretionary
Outflows

Net Discretionary Outflows

Financing Funds Flow

Financing Inflows:

Increase in Notes Payable to
Bank

Increase in Long-term Debt

Net Financing Inflows

Summary:

Net Operating Outflows

Net Discretionary Outflows

Net Financing Inflows

Net Change in Cash

Actual Change in Cash

Annex Four

Solutions

Break-Even Analysis - Carpentry Shop

Inputs

Fixed Costs €	28,000
Sales Revenue/unit €	1.00
Variable Costs/unit €	0.60

Breakeven (unit sales) 70,000

Back solve for the Break-even Point using the Income Statement

Unit Sales #	70,000
Sales Revenue €	70,000
Variable Costs €	42,000
Gross Profit €	28,000
Fixed Costs €	28,000
EBIT €	0

Output Formulae		40,000	60,000	80,000	90,000	100,000
Fixed Costs €	28,000	28000	28000	28000	28000	28000
Variable Costs €	42,000	24000	36000	48000	54000	60000
Total Costs €	70,000	52000	64000	76000	82000	88000
Sales €	70,000	40000	60000	80000	90000	100000
EBIT €	0	12000	-4000	4000	8000	12000

New Company - Calculation of Financial Ratios - 2005

PROFITABILITY RATIOS

Gross Margin = Gross Profit/Sales = **432/1800 = 24%**

Operating Margin = Net Operating Income/Sales = **132/1800 = 7,33%**

Net Margin = Net Income/Sales = **66/1800 = 3,67%**

Liquidity Ratios

Current Ratio = Current Assets/Current Liabilities = **609/503 = 1,21:1**

Quick Ratio = (Current Assets – Inventory)/Current Liabilities = **387/503 = 0,77:1**

Accounts Receivable Average Collection Time = Accounts Receivable/(Sales/Days in period) =

247/(1800/365) = 247/4.93 = 50 days

Accounts Payable Average Payment Time = Accounts Payable/(Cost of Goods Sold/Days in period) = **220/(1368/365) = 220/4.93 = 45 days**

Days Production (Sales) in Inventory = Inventory/(Cost of Goods Sold/Days in period) =

222/(1368/365) = 222/4.93 = 45 days

Annual Average Inventory Turnover = 365/Days Production in Inventory =

365/45 = 8,11 times turned during period

Solvency Ratios

Capitalization Ratio = Total Liabilities/(Total Liabilities + Equity) =

$$768/1069 = 0,72:1$$

Leverage Ratio = Total Liabilities/Equity = $768/301 = 2,55:1$

Debt Service Coverage Ratio = (Net Income + Interest + Depreciation)/(Interest + Principle

Repayment Required in the period) =

$$(\text{_____} + \text{_____} + \text{_____}) / \text{_____} + \text{_____} =$$

$$\text{_____} / \text{_____} = \text{_____}:1$$

Value Company Funds Flow Statement 2008

Operating Funds Flow	
Operating Inflows	
Net Income	27
Depreciation	10
Increase in Accounts Payable	53
Increase in Accruals	9
Total Operating Inflows	99
Operating Outflows	
Increase in Accounts Receivable	163
Increase in Inventory	125
Total Operating Outflows	288
Net Operating Outflows	189
Discretionary Funds Flow	
Discretionary Outflows	
Increase in Fixed Assets	6
Dividends Paid	21
Total Discretionary	27

Operating Funds Flow	
Outflows	
Net Discretionary Outflows	27
Financing Funds Flow	
Financing Inflows	
Increase in Notes Payable to Bank	180
Increase in Long-term Debt	17
Net Financing Inflows	197
Summary	
Net Operating Outflows	-189
Net Discretionary Outflows	-27
Net Financing Inflows	197
Net Change in Cash	-19
Actual Change in Cash	-19

Value Company IS BS FF 2000-2008

Operating Funds Flow	
Operating Inflows	
Net Income	27
Depreciation	10
Increase in Accounts Payable	53
Increase in Accruals	9
Total Operating Inflows	99
Operating Outflows	
Increase in Accounts Receivable	163
Increase in Inventory	125
Total Operating Outflows	288
Net Operating Outflows	189
Discretionary Funds Flow	

Discretionary Outflows	
Increase in Fixed Assets	6
Dividends Paid	21
Total Discretionary Outflows	27
Net Discretionary Outflows	27
Financing Funds Flow	
Financing Inflows	
Increase in Notes Payable to Bank	180
Increase in Long-term Debt	17
Net Financing Inflows	197
Summary	
Net Operating Outflows	-189
Net Discretionary Outflows	-27
Net Financing Inflows	197
Net Change in Cash	-19
Actual Change in Cash	-19

Annex Five

Handouts|

Handout #1

Trade Credit

Have you made a sale -or a loan?

BY JIM BLASINGAME

You just made a sale. Congratulations! I know you're excited. But I have a question for you: Did you get your money before your products went out the door? Retail operations selling to consumers usually do. But if your customers are businesses, they typically prefer to have an open account relationship and pay you (theoretically) in 30 days.

Remember, if you sell something and don't get the money at the point of sale, you haven't so much made a sale as you have made a loan. If you extend credit when you are operating with a 30% gross profit margin, that means you have to fund 70% of the price of your products until you get paid.

Granting credit is, of course, an essential part of doing business for most companies. But there are risks involved -as well as steps you can take to mitigate those risks.

False security?

Often, small businesses receive a false sense of security when selling to larger companies, assuming that because the customer is big, they won't have to worry about payment. But you might be surprised to learn that many of these "Big Dogs" have an accounts payable policy that doesn't come close to matching your cash flow requirements.

When you provide an open account to a small customer, however, you set the terms and tell them what they are. The big guys already know you want to be paid in 30 days. The discussion you want to have with them is not only about your credit policy, but also about their payment policy. Here's how it might sound:

"I really appreciate your business. As you know, we're a small business. In order to make sure that we can serve you successfully, I base my working capital requirements on being paid within 30 days of receipt of invoice. Will we be able to count on that schedule from your firm?"

ESTABLISH A CREDIT POLICY

I've heard it said that if you don't have any bad debt, your credit policy is probably too rigid. That may be true for larger firms that budget for bad debt, but we small businesses need to collect it all. Here are some of the major components to creating an effective credit policy:

Information -Provide your payment requirements and collect your prospect's credit information. The best time to get the information is at the point of sale, when everyone is happy. Here's the short list:

- **Trade references (at least two):** Call them! I don't care how big the customer is.

- **Who are the prospect's customers?:** If you know that they are extending credit to a company you know is in trouble, believe it or not, that might affect your account. Armed with that information, you can make your decision accordingly.
- **Terms of the account:** Net 30, 2% discount, if paid within 10 days. Due upon receipt. Whatever your terms, make sure the customer clearly understands them. Put it in writing so there is no misunderstanding.
- **Account level-** Determine the level of credit for each customer. This is based on their size, creditworthiness, and your working capital. Big or small, solid gold credit or bankrupt, none of that matters if you go beyond your ability to fund your customers' open account purchases.
- **Diligent follow-up** -Call customers quickly when the account goes over the agreed payment terms. Experts say that after 90 days, the likelihood of collecting your account is 72%, down from 90% within the first 30 days.

A poor credit policy can potentially hit you from two directions: small customers incrementally chipping away at your cash flow, or big customers siphoning away your working capital. Either way, someone else has your cash. Have you ever heard about a company growing themselves out of business? Well, that's how it happens.

Handout #2

Strategic Planning for Borrowing Needs

Make sure you are borrowing *proactively*, not *reactively*

By Lisa Aldisert

The ability to strategically plan for your company's borrowing requirements as a management skill well worth learning. Too many times, small business owners approach the subject of borrowing *reactively*, rather than *proactively*.

By taking a strategic approach to your company's external financing, you will be able to enhance your overall business planning, borrow at the most advantageous terms and rates and even enhance the overall value of your company.

REASONS TO BORROW

The first step is to identify your potential borrowing needs. Do you need the money to fund the day-to-day aspects of the business? Or are you seeking money for business expansion? Your banker will need to know why you need the money, so this is an important starting point in the process.

Working capital loans are related to the cycle of creating, selling and collecting money from the sale of your product or service. Many businesses have lines of credit available to finance short-term cash shortfalls in the business. It is a good idea to have a line of credit in place. If you don't have one, talk to your banker about setting one up. You may not need it today, but when you do, it can be a relief to have it in place.

Long-term loans typically finance the purchase of equipment, property or business expansion. In nearly all of these cases, the bank will lend you money based on the specific need, as opposed to making available a lump sum of cash to be used at your discretion. Some examples:

- Plant expansion
- Building or expanding a Web site
- Overhauling a telecommunications system
- Buying a commercial building
- Expanding your business into a new area
- Adding key employees to the company
- Buying a company that complements your core competencies
- Project financing

You may want to evaluate *leasing* as a financing alternative, particularly in the case of equipment financing. Sometimes it can be more advantageous *not* to own the assets, especially for assets with built-in obsolescence. Your banker can help you evaluate the pros and cons of leasing.

Strategic use of money

Small business owners often make the mistake of using their line of credit for *any* borrowing need, not just the short-term ones this type of financing is designed for. ... {Example, using the line of credit to buy long term assets to support expansion plans}.

You don't want to get to that stage. Instead, proactively sit down with your banker and sort out what potential borrowing needs your company will have over the next 12-18 months. Your banker may then create a term loan for some of the expansion-oriented money, freeing up your line of credit to its rightful purpose.

Of course, in any of these situations, you will need to provide your banker with updated financial statements and continue to demonstrate creditworthiness. For long-term loans, you will also need to create financial projections, specifically identifying future sources of cash flow that will be used to repay the loan.

RETURN ON INVESTMENT

In making the decision to borrow, look at the big picture. You will want to determine your cost of capital and what your return on investment (ROI) will be.

There are all kinds of ROI theories (see boxed article below), but the important thing to determine is whether the incremental profit generated by the loan will cover the cost of the loan (i.e., your cost of capital). You may have a perfectly brilliant idea for business expansion but, upon further scrutiny, make sure that your business will *profit* from this investment.

Taking a strategic approach to borrowing has a tremendous long-term benefit. If done correctly, it will ultimately result in increasing the value of your company. Evaluate your upcoming borrowing needs and plan to spend some time with your banker and CPA {accountant} to determine the best alternatives for these needs. Most importantly, evaluate the ROI on each option to make sure that you are really *making* money by borrowing money.

What's your EVA[®]?

One method companies use to evaluate their cost of capital is what's known as Economic Value Added (EVA). Stern, Stewart & Go. pioneered this concept essentially as a way for companies to maximize shareholder wealth and monitor the degree to which future profits exceed (or fall short of) the cost of capital. Their formula:

Net operating profit after taxes - (capital x the cost of capital) = EVA

They describe EVA as "an estimate of true 'economic' profit, or the amount by which earnings exceed or fall short of the required minimum rate of return that shareholders and lenders could get by investing in other securities of comparable risk."

Companies ranging from *Fortune* 500 to small businesses are using EVA. Ultimately, it is a way to increase and maximize shareholder wealth, and return profit in excess of the cost of capital. For small businesses, it has the added attraction of being a tool to allocate a firm's scarce capital resources.

Handout #3

The Five C's of Credit

Acceptable commercial loans are characterized by the five C's of Credit: Character, Capacity, Capital, Conditions, and Collateral. Character implies the borrower's willingness to meet its financial obligations; capacity, capital, conditions, and collateral reflect its ability to do so. Ascribing high marks for these characteristics to a lending situation is a way of saying that the bank believes the borrower is willing and able to repay the proposed loan.

- Character refers to a borrower's honesty, trustworthiness, and expected way of functioning under the stress of adverse circumstances. A high rating in character implies that a company's management can be relied upon to adhere to a high code of professional ethics in bad times as well as good.
- Capacity refers to a company's ability to service its debt, including the loan under consideration. A company's capacity to support a loan generally depends upon its ability to generate sufficient cash flow to make principal and interest payments as agreed.
- Capital as one of the C's of Credit refers to equity capital in contrast to debt capital. An attractive candidate for a loan is a company that has an acceptable portion of its assets financed by equity capital, rather than having all of its assets financed by debt.
- Conditions of the economy and of the industry in which the borrower is engaged require an investigation to identify any existing or anticipated adversities that would prevent the company from meeting its debt obligations. A faltering industry or a depressed economy with a negative impact on that industry can offset the most talented and honorable management team of a company that was originally financially sound.
- Collateral may be taken to strengthen a loan, even though loans are not normally made solely on the basis of collateral. In addition to being a secondary source of repayment, collateral provides a psychological advantage to the lender. Taking collateral establishes the lender's rights to certain of the borrower's assets, and may encourage the borrower to repay its debts rather than risk losing those assets through their liquidation by the secured lender.

Handout #4

Sample SME credit scoring model

	↓ Scoring	↓ Scoring	↓ Scoring			
↓ Factors	1	2	3	Score	Weight	Total Score
<u>THREE COMPONENT FACTORS</u>						
1. Non-financial = 45%						
Age of business - years	<two	two-seven	>seven			
Legal form	Personal	Partnership	Limited			
Trade reference #1 - payment history	30+ days PD	10-30 days PD	0-10 days PD			
Trade reference #2 - payment history	30+ days PD	10-30 days PD	0-10 days PD			
Trade reference #3 - payment history	30+ days PD	10-30 days PD	0-10 days PD			
Black list - returned checks	Often	rare to sometimes	Never			
Bank client - years	<one	one to four	> four			
Repayment record with bank	below average	average - above average	well above average			
Branch manager comment	poor reputation	fair to good reputation	very good reputation			
Client concentration - <75% sales	< two clients	two-five clients	>five clients			
Debt confirmed with other lenders	Uncertain	somewhat certain	nearly certain			
Bank references	<fair	fair-favorable	>favorable			
Credit rating - owner	TBD	TBD	TBD			
Credit rating - guarantor	TBD	TBD	TBD			
Credit rating - business	TBD	TBD	TBD			
Ability to confirm key factors with:						
deposit statements,	not confirmed	mostly confirmed	Confirmed			
bank invoices	not confirmed	mostly confirmed	Confirmed			
customer's books and records	not confirmed	mostly confirmed	Confirmed			
Total Score - Non-financial factors						45 (max)
2. Facility = 20%						
Type - P&I payment	Overdraft	Structured- Quarterly	Structured- Monthly			
Tenor - years	> five	one to five	< one			

Collateral coverage	< 1.25	1.25 – 2	>2			
Collateral type	not liquid	25-50% liquid	50-100% liquid			
Industry sector	high risk	medium risk	low risk			
Total Score - Facility factors						20 (max)
3. Financial = 35%						
Quick ratio	<.75	.75-1.25	>1.25			
Sales growth (past 2 years)	< 5%	5-20%	>20%			
Net margin	<1.5	1.5 - 5%	>5%			
Projected debt service coverage	<1.2	1.2 - 2	>2			
Receivable turnover - days	>120	60 - 120	<60			
Inventory turnover - days	>180	90-180	<90			
Debt leverage	>5	1.5-5	<1.5			
Total Score - Financial factors						35 (max)
TOTAL SCORE						100 (MAX)

Total Score	Quality
90 – 100	Highest
75 – 90	Good
50 – 75	Average
Below 50	Below Average

Handout # 5

Commercial Loan Analysis

(Excerpt from Introduction to Commercial Lending; McNeil, Jane H. & O'Leary, Edward; American Bankers Association)

"Seek and ye shall find" is not always the rule in a company's quest for debt capital. From a lender's viewpoint, a request from a company is not sufficient cause for approving a commercial loan; rather, a request sets the decision-making process in motion. The process that leads to the decision to approve or decline a commercial loan request is the subject of this chapter, which provides a general introduction to and overview of commercial loan analysis. The chapter's specific objectives are to--

- summarize the five general conclusions that form the basis for a bank's deciding either to approve or to decline a request for a commercial loan;
- organize the information that needs to be analyzed before those conclusions are reached;
- present specific questions whose answers will provide the information to be analyzed; and
- identify sources that will provide the answers that will give the necessary information.

BASIS FOR THE DECISION

The decision to approve a commercial loan should be based upon the following conclusions:

1. The purpose of the loan is legal and acceptable to the bank, and the loan is an appropriate solution to the borrower's need for funds.
2. The prospective borrower's management will run the company successfully and is composed of individuals of integrity people with whom the bank wishes to do business.
3. The company's financial status or future prospects will enable it to make the scheduled principal reductions and interest payments.
4. The company's ability to meet its debt obligations will not be impaired by adverse conditions of the economy or of the industry in which the company is engaged.
5. The loan is compatible with the bank's philosophy and lending policies.

Five C's of credit {see separate handout}

INFORMATION REQUIRED AND QUESTIONS THAT PROVIDE THE INFORMATION

...Reaching the above five conclusionsrequires an extensive analysis of information one can obtain by asking questions. The kind questions... and information ...can be organized into the following general areas:

- the purpose of the loan {and source of repayment};
- the nature of the borrower;

- the borrower's management team;
- the borrower's financial status;
- the industry in which the borrower is engaged, and the general economy; and
- the bank's philosophy and lending policies.

THE PURPOSE OF THE LOAN

Is the loan for an acceptable purpose? It is reasonable to expect the proceeds of a loan to be used for a legal activity that supports the normal operations {..finance short- or long-term working capital, fixed or current assets}. A loan to finance assets for use other than for primary operations...may be unacceptable if it creates an undue drain on the company's cash. Some questions to be asked about the purpose of a loan are

- What is the purpose of the loan?
- Is the purpose a lawful activity?
- Will the loan proceeds be used to support the normal operation of the business?

Is a loan the appropriate solution to the need for funds? Bank debt may not be the best method a company should use for raising cash.... {Examples – equity, collecting A/R, sale of unused assets}. Further, a company may be proposing an inadvisable increase in assets ... financed with the additional debt. For instance, a retail store may burden itself with unnecessary debt to purchase land and a building when actually operate in rented space.

Some questions to be asked regarding the appropriateness of the loan as the solution to the need for funds are:

- What has created the need for the loan?
- Are the assets to be financed necessary for the most productive and profitable operation of the business?
- Is a loan the appropriate source of cash?

THE NATURE OF THE BORROWER

Who is the proposed borrower? It is necessary and certainly advisable for a lender to have thorough knowledge of a prospective borrower, including its history as well as its present status. Much of the information gathered will be factual, thus requiring minimal interpretation and evaluation. Questions to be asked regarding the nature of the borrower are-

- What is the company's legal name and complete address?
- What is the company's organizational structure?
- Who owns the company and, if there is more than one owner, what are the percentages of ownership?
- How long has the company been in business?
- What is the company's primary business?
- What specific products and/or services does the company provide?
- How significant is the company in its industry?
- How significant is the company in its community?
- Has this company always been in the same line of business?
- What physical facilities does this company have? Does the company own or lease them?

- Does the company have unionized employees? If so, what is the union and what is the status of the contract? Are union management relations cordial?
- Who are the company's customers and how do the customers regard the company?
- Who are the company's suppliers and how do they regard the company?
- Who are the company's competitors?
- Who are the company's professional advisors, such as lawyers, accountants, insurance agents, and consultants? Are they competent and independent?
- With whom does the company bank? How is the company regarded by its bank? How established is the banking relationship? Are there multiple banking relationships? Is the company changing its banking relationship? If so, why?
- Is the company involved in any significant litigation?
- Has the company undergone any significant adversities, such as floods, fires, financial setbacks, lawsuits, or a weak economy?

THE BORROWER'S MANAGEMENT TEAM

Are the members of the management team individuals with whom the bank feels comfortable doing business? Character, cooperativeness, and competence are traits that a bank looks for in ...management... Some questions to be asked regarding the borrower's management team are-

- Who are the members of the management team and what are their professional histories?
- What are the personal and professional reputations of each member of management?
- What ownership in the company does each member of management have?
- Do the members of the management team collectively represent expertise in administration, finance, sales, and production ?
- How long has each of the members of the management team been with this company?
- Do any members of management have personal liability for any of this company's debt? If so, to what extent? What is the financial status of each?
- Is there provision for competent succession in management?

THE BORROWER'S FINANCIAL STATUS

Will the company's financial status permit it to repay the proposed loan with interest? Three primary considerations in analyzing a company's financial status are its *profitability*, its *solvency*, and its *liquidity*.

An analysis of a company's *profitability* as presented on its income statement will reveal whether it has priced its products or services properly and maintained costs and expenses at a level that has allowed the normal operation of the business to generate an acceptable net profit.

Some questions to be asked regarding a company's profitability are-

- What has been the nature of this company's sales? For instance:
 - Has the trend been one of increasing, of decreasing, or of stable sales?
 - Is there seasonality in sales?

- What is the breakdown of sales by service/product classification ?
- Does the company have a marketing strategy?
- Has the sales performance been in line with the company's past projections?
- What impact will the current marketing strategy be expected to have on future sales trends?
- Have sales increased because of price increases or because of an increase in the number of items sold?
- When is a transaction recorded as a sale on the company's book (i.e., at the time of sale, at delivery, or at percentage of completion)?

- Is the company's cost of goods sold a reliable representation ?
- Was inventory audited? If so, by whom?
- How was inventory priced? LIFO? FIFO? Market? Lower of cost or market?

- What is the trend of gross profit?

- What is the composition of operating expenses?
- What are the largest expenses?
- What salaries are paid to management and/or owners? Are they excessive?
- Do there appear to be any extraordinarily large expenses?
- Are there any unusual expenses for this company (e.g. excessive airplane expense for a small retail store)

- Does this company have any significant "Other Income"? If so, what is its source?

- What is the trend in this company's net income before and after taxes? What are the trends of these ratios over the last few years?

- What is each item on the income statement as a percentage of net sales? What are the trends of these ratios over the last few years ?

- What are this company's profitability ratios ?

$$\text{Profitability of Sales} = \frac{\text{Net Income After Taxes}}{\text{Net Sales}}$$

$$\text{Efficient use of Net Worth} = \frac{\text{Net Income After Taxes}}{\text{Average Net Worth}}$$

$$\text{Efficient use of Working Capital} = \frac{\text{Net Income After Taxes}}{\text{Working Capital}}$$

Net Working Capital

- How does this company's profitability compare with industry standards?

A company's *solvency* refers to its ability to meet all its financial obligations. A company is said to be solvent if its assets are sufficient to pay all its liabilities. In other words, ...the value of assets exceeds liabilities. In evaluating a company's solvency, one must verify the ... items.. on the balance sheet. Some questions to .. determine solvency are-

- Is cash as reported on the balance sheet representative of the cash that is typically available to fund the normal operation of the business?
 - In what types of accounts and at what banks is this company's cash deposited?
 - Is any cash restricted by such things as compensating balance and escrow requirements?
 - What is the trend in the cash balance?
 - Is there seasonality in the cash balance? If so, what point in the cycle is represented in the balance sheet under evaluation ?
- Are the accounts receivable collectible?
 - Can the companies that owe the receivables be expected to pay their accounts ?
 - Are there any problem industries or companies represented in the receivables?
 - Are the accounts being collected according to sales terms, or are there large amounts of past due accounts?
 - What is the trend in accounts receivable? How does it compare with sales trends?
 - What is this company's accounts receivable collection period, as calculated by the following formula:

Average Accounts Receivable

Average Daily Credit Sales

- Are there any concentrations, as indicated by large amounts due from one company or from companies within one industry?

- Is the inventory figure on the balance sheet valid by virtue of the facts that the inventory does exist, the company is the rightful owner of the inventory, and the inventory is saleable ?
 - Where is the inventory and is it being stored properly to avoid damage and spoilage?
 - What method is used for valuing the inventory?
 - What is the inventory turnover ratio as calculated by the following formula:

Cost of Goods Sold

Average Inventory

-What is the condition of the inventory?

-Has the inventory been audited? If so, how often?

-What is the trend in inventory? How does it compare with the sales trend?

- Does the fixed asset figure on the balance sheet represent assets that are of verifiable value and that are useful to the long-term needs of the company?

-How does the age of the assets compare with their useful life?

-How are the assets depreciated?

-In what condition are the fixed assets?

-How does the book value of the fixed assets compare with their market and liquidation values?

-Does the company use all of its fixed assets in the normal operation of the business? .

-Does the company have sufficient fixed assets, either owned or leased, to meet the requirements of the normal operation of the business?

- What is the status of the company's accounts payable?

-Does the company pay its bills on time?

-Does the company take advantage of discounts?

-Are there any disputed accounts?

- What are the sources and composition of long-term debt?

-What was the use of proceeds of the long-term debt?

-What and where did the long-term debt originate?

-What are the repayment terms of the long-term debt?

-Is the debt being repaid according to the agreement?

- What is the composition of this company's equity capital?

-How does earned equity compare with contributed equity?

-What is the trend in equity?

-Is the total net income after taxes being converted to equity rather than distributed to the owners?

An analysis of a company's *liquidity* will reveal its ability to generate sufficient cash to pay its bills when they are due. While a company may be solvent in that its assets have a greater value than its liabilities, it may be illiquid in that it is unable to pay its bills when they are due. A company's liquidity is determined by an analysis of the structure of its balance sheet.

Some questions to be asked to evaluate a company's liquidity are-

- What is the company's reliance on each of the three sources of funds?
 - What is the reliance on investors who make equity contributions?
 - What is the reliance on creditors who extend debt?
 - What is the reliance on normal operation of the business that generates net profit and converts noncash assets to cash?
- How are these funds used in the business?
 - To pay dividends to investors?
 - To reduce debt owed to creditors?
 - To pay bills incurred in the normal operation of the business?
- Is the company matching its sources and uses of funds by financing current assets with short-term debt and fixed assets with long-term debt when equity is insufficient to finance all the assets ?
- Does this company rely too heavily upon debt as a source of funds?
 - Do the creditors have more invested in the company's assets than the owners ?
 - What are the company's leverage ratios, as calculated by the following two formulas?

$$\frac{\text{Total Debt}}{\text{Equity}} \qquad \frac{\text{Current Debt}}{\text{Equity}}$$

- What is the composition of this company's working capital ?
 - Is there positive working capital, as indicated by the following formula ?

Working Capital = Current Assets - Current Liabilities

-Does this company have sufficient current assets to pay its current liabilities, as indicated by the following liquidity ratios?

Acid Test = $\frac{\text{Quick Assets (Cash, Accounts Receivable, \& Marketable Sec.)}}{\text{Current Liabilities}}$

Current Liabilities

and

Current Assets

Current Ratio = $\frac{\text{Current Assets}}{\text{Current Liabilities}}$

Current Liabilities

As a general guideline, a 2:1 current ratio and a 1:1 Acid Test ratio are desired. However, standards will vary by industry.

-Is there sufficient working capital in the form of cash to pay bills, or are accounts receivable and inventory too great a part of working capital?

-Is the company converting inventory and accounts receivable to cash in a reasonable length of time, as indicated by the inventory turnover and accounts receivable collection period ?

- What is the company's ability to repay its debt, as indicated by the following debt coverage ratio ? {what is missing from these ratios?}

Net Income After Taxes + Noncash Expenses

Annual Debt Reduction

- Has this company's net profit provided adequate coverage for its interest expense as indicated by the following calculation ?

Net Income Before Taxes + Interest Expense

Interest Expense

THE INDUSTRY AND THE ECONOMY

Can one anticipate circumstances in the relevant industry or in the economy that will have a negative impact on the company? Significant factors determining a company's future are the industry in which the company is engaged and the general economy. The most talented management team of a financially sound company may be helpless against a downturn in the

economy or against adverse conditions within its industry. A thorough commercial loan analysis looks into the future and attempts to anticipate any negative circumstances that would prevent the potential borrower from repaying its loan as agreed.

Some questions to be asked about the industry and the economy are-

- What is the history of the industry?
 - Is it an old industry?
 - Is it well established?
 - Has it been relatively stable?
- What is the current status of the industry?
 - Are companies in this industry closing?

-Is the industry experiencing steady growth, growing by leaps and bounds, or dying?

-Is this a rapidly changing, high-technology, state-of-the-art industry?

- What is expected for the future of the industry?
- How does the general economy affect this industry?
- What is projected for the general economy and what impact will the realization of those projections have on the company?

THE BANK'S PHILOSOPHY AND LENDING POLICIES

Is this a loan that is compatible with the bank's philosophy and lending policies? This area of consideration does not in any way reflect on the creditworthiness of the proposed borrower. Further, the bank's lending practices may vary from time to time, and they may differ from one bank to another. Some questions to be asked ...are-

- Does the bank's lending policy permit making the loan ?
- Does the bank's lending philosophy endorse the loan ?
- Does the bank have the lending experience or industry expertise that the loan requires?
- Is the purpose of the loan compatible with the bank's philosophy?
- Does the bank's current and projected financial status permit approval of the loan ?
- Is the bank's existing and projected loan portfolio, in size, quality, and portfolio mix, conducive to making this loan ?
- Is the amount of this loan a large percentage of the bank's legal lending limit?
- Does this loan involve an industry in which the bank has an undesirable concentration?

SOURCES OF INFORMATION

Borrower. The borrower is usually the primary source of information necessary for analyzing a loan request. Most of the information about the nature of the business can be obtained during interviews with the borrower and a tour of the place of business.

Company's Professional Associates. Indications of the borrower's professional reputation can be obtained from conversations with people who have contact with the borrower in the course of business. Knowing the company's professional associates, such as lawyers, accountants, insurance agents, and consultants, will make it easier to determine the caliber of professional advice the company receives, and conversations with them can provide information about the company's professional reputation and the competence of its management. Banks where a company is known as a past or present customer can be used to verify a company's banking activities, such as deposit accounts and loans. Inquiries made to banks might also help an analyst determine the company's regard for its banking relationship. Customers and suppliers can be reliable informants about the company's performance in connection with its record of filling customers' orders and with its paying habits.

Credit Reporting Agencies and Public Records. Credit reporting agencies are other sources of information about the manner in which a company honors its financial obligations. These agencies gather information from various creditors and provide summaries on the amount of credit extended and a rating of the promptness of payment. In addition, a search of public records will reveal any recorded liens against assets and any pending litigation.

Trade Associations, Governmental Agencies, and Publications. Industry information can be obtained from trade associations, governmental agencies, and publications. For instance, Robert Morris Associates (RMA) publishes Annual Statement Studies that can be used to compare anyone company with its industry's averages. Statistics, history, and projections for many industries are available from various federal, state, county, and city governmental agencies and offices. Books, newspapers, newsletters, brochures, and pamphlets are sources of financial, industry, and economic information.

Financial Statements. A company's financial statements are the major source of information about its financial status. Their usefulness depends upon their being detailed, accurate, and reliable. Reliability means being based on sound and generally accepted accounting principles. Statements prepared by a person or firm separate from and independent of the subject company are preferred.

Jane McNeil

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Hand out #6

FINANCIAL RATIO INTERPRETATION (European standards)

Ratio	COMPUTATION	Example	Meaning
Current Ratio	$\frac{\text{Current Assets}}{\text{Current Liabilities}}$	1.5	There are 1.5 JD in current assets to pay every JD of current liabilities. ≥ 1.5 is acceptable.
Quick Ratio	$\frac{\text{CASH + ACCOUNTS RECEIVABLE}}{\text{Current Liabilities}}$.85	There is .85 JD in liquid assets to pay every JD in current liabilities. ≥ 1.0 is acceptable.
Debt-to-Equity	$\frac{\text{TOTAL DEBT}}{\text{Total Equity}}$	2.75	For every JD the owners put into the business the creditors have put in 2.75. ≤ 2.00 is acceptable.
Gross Profit Margin	$\frac{\text{GROSS PROFIT}}{\text{Sales}}$	35.0%	For every JD of sales generated, the company makes .35 JD at the gross profit level. Will vary by industry. Usually $\geq 50\%$ is necessary to have acceptable profits.
Pre-tax Profit Margin	$\frac{\text{PROFIT BEFORE TAXES}}{\text{Sales}}$	3.0%	For every JD of sales generated, the company makes 3 JD at the profit before tax level. Will vary by industry. Usually ≥ 10 is desirable.
Sales to Assets	$\frac{\text{SALES}}{\text{Total Assets}}$	2.6	For every JD of assets employed in the business, it generates 2.6 JD in sales. Will vary by industry. Trend should be positive.
Return on Assets	$\frac{\text{PROFIT BEFORE TAXES}}{\text{Total Assets}}$	10.0%	For every JD of assets employed in the business, it generates .10 JD in profits. Will vary by industry. Trend should be positive.

	Total Assets		
Return on Equity	PROFIT BEFORE TAXES Total Equity	22.0%	For every JD the owners invest in the business, it generates a return of .22 JD. $\geq 22.0\%$ is acceptable.
Inventory Turnover	COST OF GOODS SOLD Inventory	6	The business turns its inventory 6 times a year. The higher the number the better. Perishable inventory should be turned at least weekly. Generally, the higher the sales price, the slower the inventory is sold.
Inventory turn in days	365 DAYS Inventory Turnover	61 days	On average, the business turns its inventory every 61 days.
Accounts Receivable Turnover	SALES Accounts Receivable	9	On average, the business collects its accounts receivable 9 times a year.
Accounts Receivable Collection Period	365 DAYS Accounts Receivable Turnover	41 days	On average, the business collects its accounts receivable in 41 days. The lower the number the better. Should not be greater than the credit terms given to the customers (is this realistic?).
Accounts Payable Turnover	COST OF GOODS SOLD Accounts Payable	7	On average the business pays its trade creditors 7 times a year.
Accounts Payable Pay Period	365 DAYS Accounts Payable Turnover	52 days	On average, the business pays its trade creditors every 52 days. Over 60 days is usually regarded unfavorably.

Handout #7 Break-even Point

The breakeven point: Every company has one, though many are rather clueless as to what it is. For many, it's not even considered until that embarrassing meeting when the banker or investor gets that serious look in his or her eye and inquires about the company's breakeven point.

The simple definition of a breakeven point is the volume of sales needed for a business to generate zero profit. From a formula standpoint, the equation would read as follows: breakeven point = fixed costs / gross margin percentage. For example, let's pretend a shoe store is able to buy all its sneakers wholesale for \$25 a pair and is then able to resell them for \$50. Let's assume that this same store's average fixed monthly costs (rent, salaries, telephone, etc.) are \$15,000. This store's monthly breakeven point would be \$30,000: $(15,000) / (25/50) = \$30,000$.

Unfortunately, the calculations are hardly ever this straightforward. Most companies have multiple sources of revenue, each with their own sets of fixed and variable costs. This is where many companies get into trouble. Ideally, every source of revenue should be computed with its own breakeven point. Not only will this allow the entire company's strength to be evaluated, but should a specific product have an improbable breakeven point, it can be fine-tuned or, if need be, eliminated before it hurts the entire company.

There are two key strategies to keep your breakeven point at a manageable level. The first is to increase the company's overall gross margin. Simply put, increase your profit level on every sale. The most obvious way to accomplish this is to raise prices, but for some companies and products that is not an option. Instead they should look to either decrease variable costs or concentrate more heavily on the products with the highest gross margin.

The second way to manage the breakeven point is simply to cut overhead. Nobody likes to do it, but if the company fails, then all holdings will be lost anyway. If managed early enough, a company can cut the fat without touching an ounce of the bone. Often there is plenty of unnecessary overhead to be cut without touching a single employee. How many dotcom jobs could have been saved if companies had simply served generic coffee every morning instead of specially imported European blends? We all want our companies to be happy, comfortable places, but paying attention to our breakeven points can help alert us when it's time to give up some of our toys and which, if any, we can afford to keep.

NEXT STEP

✓ Want to impress investors? Read "[Model Behavior](#)" to find out how.

✓ Check out [The CFO Handbook](#) by Mark E. Haskins for more help in managing your business's finances.

The breakeven point may seem like Business 101, yet it remains an enigma to many companies and their management teams. Any company that ignores the breakeven point runs the risk of an early death and at the very least will encounter a lot of unnecessary headaches later on. If you've never computed your breakeven point, take a few minutes right now and perform some basic calculations for the sake of your investors, your employees, your customers and, most important, yourself. Doing a little easy math now can prevent having to do a lot of hard math later

Handout #8 Breakeven Analysis

A second tool for management decisionmaking that has grown out of cost/volume/profit analysis is breakeven analysis.

Once you know what your variable costs are, as well as your overall fixed costs for the business, you can determine your breakeven point: the volume of sales needed to at least cover all your costs. You can also compute the new breakeven point that you'd need to meet if you decided to increase your fixed costs (for example, if you undertook a major expansion project or bought some new office equipment).

Your breakeven point can be determined by using these formulas:

Sales Price per Unit — Variable Costs per Unit = Contribution Margin per Unit.

Contribution Margin per Unit divided by Sales Price per Unit = Contribution Margin Ratio.

Breakeven Sales Volume = Fixed Costs divided by Contribution Margin Ratio.



Example

Assume that the financial statements for Lillian's Bakery reveal that the bakery's fixed costs are \$49,000, and its variable costs per unit of production (loaf of raisin coffee cake) are \$.30.

Further assume that its sales revenue is \$1.00 per loaf. From this information, it can be determined that, after the \$.30 per loaf variable costs are covered, each loaf sold can contribute \$.70 toward covering fixed costs.

Dividing fixed costs by the contribution to those costs per unit of sales tells Lillian's Bakery at what level of sales it will break even. In this case: $\$49,000 / \$.70 =$

70,000 loaves.

As sales exceed 70,000 loaves, Lillian's Bakery earns a profit. Sales of less than 70,000 loaves produce a loss.

Lillian's Bakery can see that a 10,000 loaf increase in sales over the breakeven point to 80,000 loaves will produce a \$7,000 profit, and a 30,000 loaf increase to 100,000 will produce a \$21,000 profit. On the other hand, a decline in sales of 10,000 loaves from breakeven to 60,000 loaves will produce a loss of \$7,000, and a 30,000 decrease from the 70,000 breakeven point produces a \$21,000 loss.

In the example above, a 25 percent increase in sales from 80,000 loaves to 100,000 loaves would produce an increase in profits from \$7,000 to \$21,000. Similarly, a small drop in sales below breakeven would produce a substantial increase in loss. How is this explained? There is obviously more involved than simply trying to determine the breakeven point. In the next section, we'll show that the concept of operating leverage explains why the mix of fixed and variable costs can have a large effect on your profit levels, as your sales volume increases and decreases.

Here's a handy interactive calculator that'll do a breakeven computation for you.

Operating Leverage

Once you've determined your breakeven point, you can use it to examine the effects of increasing or decreasing the role of fixed costs in your operating structure.

The large increase in profits as a result of relatively modest increases in sales over the breakeven point, as well as the large increase in losses as a result of modest sales declines below the breakeven point, can be attributed to the degree to which fixed costs contributed to the sales.

The extent to which a business uses fixed costs (compared to variable costs) in its

operations is referred to as "operating leverage." The greater the use of operating leverage (fixed costs, often associated with fixed assets), the larger the increase in profits as sales rise and the larger the increase in loss as sales fall.



The employment of a high level of fixed assets (with fixed costs) at high volume increases the profit potential of a business. At low sales volume, however, losses multiply; and difficulty in meeting your fixed costs, such as payments for plant and equipment, may ensue.

For most small businesses, limiting downside risk is more important than increasing potential profits, so it's wise to keep your fixed costs low wherever possible.

A business often can choose between a high level of fixed assets and a lower level of fixed assets. For instance, some equipment items are substitutes for labor (and labor is commonly considered a variable cost). If labor is not replaced with equipment, fixed costs are held lower, and variable costs are higher. With a lower level of operating leverage, the business shows less growth in profits as sales rise, but faces less risk of loss as sales decline.



Joe's Carpentry Shop's fixed costs are \$28,000 and its variable costs per unit of production (bird call) or sales are \$.60. Its sales revenue is \$1.00 per bird call. Each bird call can contribute \$.40 toward covering fixed costs. Joe's breakeven point is the same as Lillian's Bakery in the previous example:
 $\$28,000 / \$.40 = 70,000$ units.

As with Lillian's Bakery, as sales exceed 70,000 bird calls, Joe's Carpentry Shop earns a profit. Sales of less than 70,000 bird calls produce a loss. Presented graphically, however, a picture emerges that is very different picture from that of [Lillian's Bakery](#):

Joe's Carpentry Shop can see that a 10,000 unit increase in sales over break-even to 80,000 bird calls will produce a \$4,000 profit, and a 30,000 unit increase to 100,000 bird calls will produce a \$12,000 profit. Similar losses occur as sales drop below break-even.

If we compare Lillian's Bakery in the first example and Joe's Carpentry Shop in the second example, it is apparent that Lillian's Bakery will benefit more from increased sales than will Joe's Shop. On the other hand, the higher degree of operating leverage in the

bakery will cause Lillian's to suffer greater losses on sales declines.



Breakeven analysis shows the effect of increased investments in fixed assets that lower variable costs but increase fixed costs. A decision to go with heavier investment in fixed assets and to increase operating leverage will, to a large extent, be determined by your perception of the economy and of the ability of your business to meet higher sales levels necessary to support the fixed costs. Also consider the degree to which sales expansion is practical. Increased volume can result in price weakness or higher-than-expected costs as you exceed your optimum levels of production.

DEFINITIONS

Variable unit cost

Cost associated with producing an additional unit.

Fixed cost

The sum of all costs required to produce any product. This amount does not change as production increases or decreases.

Expected unit sales

The number of units that are expected to be sold.

Price

Price you will be able to receive per unit.

Total variable costs

The product of units produced and variable unit cost (example 10 units at \$5 variable cost produces a total variable cost of \$50).

Total costs

Sum of fixed costs and variable costs.

Total revenue

Product of price and expected sale unit sales (example 10 units at \$10 equals \$100 total revenue).

Profit

Total revenue minus total costs.

Breakeven

Number of units required to sell to make a profit of zero.

Contribution Margins

One of the important, yet relatively simple, tools afforded by cost/volume/profit analysis is known as contribution margin analysis. Your company's contribution margin is simply the percentage of each sales dollar that remains after the variable costs are subtracted. When you know the contribution margin, you can make better decisions about whether to add or subtract a product line, about how to price your product or service, and about how to structure any sales commissions or bonuses.

How is your contribution margin computed? By using a special type of income statement that has been reformatted to group together your business's fixed and variable costs.

Here's an example of a contribution format income statement:

Beta Sales Company Contribution Format Income Statement For Year Ended December 31, 200X		
Sales	\$ 462,452	
Less Variable Costs:		
Cost of Goods Sold	\$ 230,934	
Sales Commissions	\$ 58,852	
Delivery Charges	\$ 13,984	
<i>Total Variable Costs</i>	\$ 303,770	
Contribution Margin	\$ 158,682	34%
Less: Fixed Costs:		
Advertising	\$ 1,850	
Depreciation	\$ 13,250	
Insurance	\$ 5,400	
Payroll Taxes	\$ 8,200	
Rent	\$ 9,600	
Utilities	\$ 17,801	

<i>Total Fixed Costs</i>	\$ 96,101	
Net Operating Income	\$ 62,581	

You can tell at a glance that the Beta Company's contribution margin for the year was 34 percent. This means that, for every dollar of sales, after the costs that were directly related to the sales were subtracted, 34 cents remained to contribute toward paying for the direct costs and for profit.

Contribution format income statements can be drawn up with data from more than one year's income statements, if you're interested in tracking your contribution margins over time. Perhaps even more usefully, they can be drawn up for each product line or service you offer. Here's an example, showing a breakdown of Beta's three main product lines:

	Line A	Line B	Line C
Sales	\$ 120,400	\$ 202,050	\$ 140,002
Less Variable Costs:			
Cost of Goods Sold	\$ 70,030	\$ 100,900	\$ 60,004
Sales Commissions	\$ 18,802	\$ 40,050	\$ 0
Delivery Charges	\$ 900	\$ 8,084	\$ 5,000
<i>Total Variable Costs</i>	\$ 89,732	\$ 149,034	\$ 65,004
Contribution Margin	\$ 30,668 (25%)	\$ 53,016 (26%)	\$ 74,998 (54%)

Although we've only shown the top half of the contribution format income statement, it's immediately apparent that Product Line C is Beta's most profitable one, even though Beta gets more sales revenue from Line B. It appears that Beta would do well by emphasizing Line C in its product mix. Moreover, the statement indicates that perhaps prices for line A and line B products are too low. This is information that can't be gleaned from the regular [income statements](#) that your accountant routinely draws up each period.

Fixed and Variable Costs

Before you can use cost/volume/profit analysis to help you evaluate your business's operations, you need to get a handle on the fixed costs of your business, as compared to your variable costs.

Virtually all of your business's costs will fall, more or less neatly, into one of two

categories:

- "Variable costs," which increase directly in proportion to the level of sales in dollars or units sold. Depending on your type of business, some examples would be cost of goods sold, sales commissions, shipping charges, delivery charges, costs of direct materials or supplies, wages of part-time or temporary employees, and sales or production bonuses.
- "Fixed costs," which remain the same regardless of your level of sales. Depending on your type of business, some typical examples would be rent, interest on debt, insurance, plant and equipment expenses, business licenses, and salary of permanent full-time workers.

Your accountant can help you determine which of your costs are fixed and which are variable, but here the key word is "help." In order to be accurate, the ultimate classification has to be done by someone who's intimately familiar with your business operations — which probably means you.

Combination costs. Some costs are a combination of fixed and variable: a certain minimum level will be incurred regardless of your sales levels, but the costs rise as your volume increases. As an analogy, think about your phone bill: you probably pay an access or line charge that is the same each month, and you probably also pay a charge based on the volume of calls you make. Strictly speaking, these costs should be separated into their fixed and variable components, but that may be more trouble than it's worth for a small business. To simplify things, just decide which type of cost (fixed or variable) is the most important for the particular item, and then classify the whole item according to the more important characteristic. For example, in a telemarketing business, if your phone call volume charges are normally greater than your line access charges, you'd classify the entire bill as variable.

Relevant range of activity. It's important to realize that fixed costs are "fixed" only within a certain range of activity or over a certain period of time. For example, your rent is a constant amount per month — until your landlord raises it at the end of the year — unless you go out of business completely, in which case it would drop to zero, or unless your sales increase to the point where you need to rent an additional workplace, in which case it might double. So CVP analysis is only valid within a certain range of sales (generally, this coincides with the range that could reasonably be expected for your business) — at the extreme high and extreme low ends of the range, or if enough time passes, all costs become variable.

Cost per unit or job. If you add up all your variable costs for the accounting period, and divide by the number of units sold, you will arrive at the cost per unit. This cost should remain constant, regardless of how few or how many units you sell. If yours is a service business, you may be able to divide your variable costs by the number of jobs performed (if the jobs are essentially similar) or by the hours spent on all jobs (if the jobs vary greatly in size).

Once you're comfortable with classifying costs as fixed or variable, you can apply this knowledge with two techniques: [contribution margin analysis](#) and [breakeven analysis](#).

Cost/Volume/Profit Analysis

To have a strong and successful business, you need to have a clear understanding of

the financial impact that your most basic business decisions may have.

For example, do you know what your most profitable products or services are, so that you (or your salespeople) can really push those? Do you know what will happen if your sales volume drops? How far can it drop before you really start to eat red ink? If you lower your prices in order to sell more, how much more will you have to sell? If you take out a loan and your fixed costs rise because of the interest on the loan, what sales volume will you need to cover those increased costs?

Cost/volume/profit analysis can help you answer these, and many more, questions about your business operations. CVP analysis, as it is sometimes known, is a way of examining the relationship between your [fixed and variable costs](#), your volume (in terms of units or in terms of dollars), and your profits.

There are three main tools offered by CVP analysis:

- [breakeven analysis](#), which tells you the sales volume you need to break even, under different price or cost scenarios
- [contribution margin analysis](#), which compares the profitability of different products, lines, or services you offer
- [operating leverage](#), which examines the degree to which your business uses fixed costs, which magnifies your profits as sales increase, but also magnifies your losses as sales drop.

Handout #9

Funds Flow and Operating Cycle

Excerpt from Analyzing Financial Statements, written by John E. McKinley, Robert L. Johnson, Gerald R. Downey, Jr., Charles S. Zimmerman and Michael D. Bloom, published by American Bankers Association.

CONCEPT OF FUNDS AND FUNDS FLOW

In the first part of this chapter, a firm was defined to be an organization that marshals economic resources or funds, and uses those funds in its operations to realize its objectives. To fully understand the nature of firms and the role of the banker, an understanding is needed of-

- what funds are;
- how funds are generated and how they are used in the operation; and
- what part the banker is expected to play in the provision and use of funds.

Definition of Funds

Although funds are economic resources, most people assume that funds and cash are one and the same, and for good reason. First, cash, or dollars, is the means by which economic value is almost always expressed. Second, cash in sufficient quantities will purchase wanted goods and services. And third, many business transactions involve, at some point, cash or cash equivalents.

Not all funds, however, are cash. Consider, for example:

- Trade credit. Many firms purchase goods on account, receiving the goods today in return for a promise to pay at some date in the future. The firm thus has the use of the supplier's economic resources, or funds, until payment is made.
- Contribution of assets. An asset such as a piece of equipment may be contributed rather than cash. A friend of a farmer, for example, may not have any cash that he can contribute to the operation, but may have a tractor that he is willing to lend. The farmer thus has the use of an economic resource other than cash.
- Accruals. Many economic resources are offered in the present for a promise to pay in the future. The farmer, for example, may hire labor to drive the tractor today in exchange for a promise to pay wages next week. The farmer thus has use of that economic resource (labor) for a specified period of time.

Therefore, the concept of funds should be expanded to include all measurable resources available to the firm for use in its operation. Those resources include:

1. cash and cash-equivalent assets;
2. other tangible resources or assets (inventory, machinery);and
3. intangible economic power such as the ability to incur debt or use specific economic resources for a period of time without paying for them.

One's concept of funds does depend, at least partly, on the individual. The banker deals with loans that are made and repaid in cash, so he has an interest in following the cash-to-cash cycle. The banker's corporate counterpart, the treasurer, must repay all of his company's obligations in cash. He will, therefore, have a concept of funds similar to that of the banker, including a comparable view of cash on hand and the ability to generate funds through other credit. Company management, by contrast, often measures performance by the return on all resources employed in the operation. The banker, by measuring both the amount of funds allocated and the efficiency of their use, can evaluate the quality of the firm's management and, thus, the risk associated with any future loans to the firm.

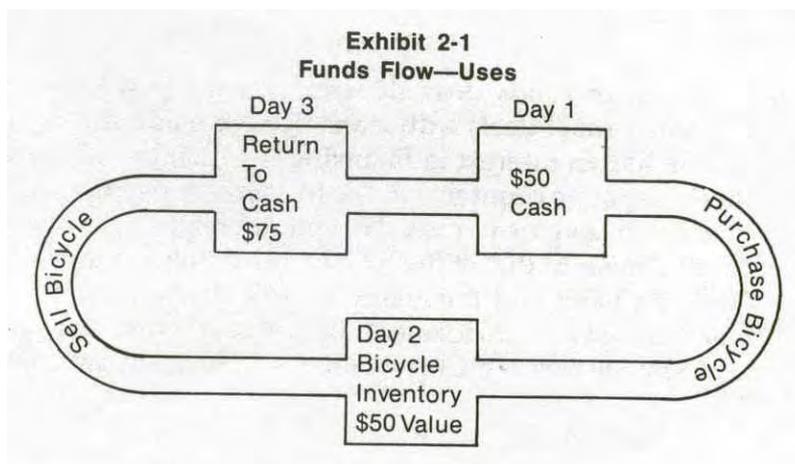
Funds Flow

An understanding of what funds are is incomplete without the concept of funds flow, that is, how funds are obtained, how they are deployed in the firm's operations, and how they are returned to the entities that provided them. Consideration of funds flow includes an understanding of-

- how firms generally operate;
- what requirements for funds are created through the operation of the firm;
- what the normal sources of funds are;
- what inappropriate uses and sources of funds can be developed; and
- what role the banker plays in the generation and repayment of funds.

Funds flow through a business in support of normal operations usually follows a pattern of being introduced as cash, converted into other resources such as inventory and accounts receivable, and returned to cash within one year. To illustrate this operating or working capital cycle, consider once again the ABC Firm, which is in the business of purchasing and reselling bicycles at a profit.

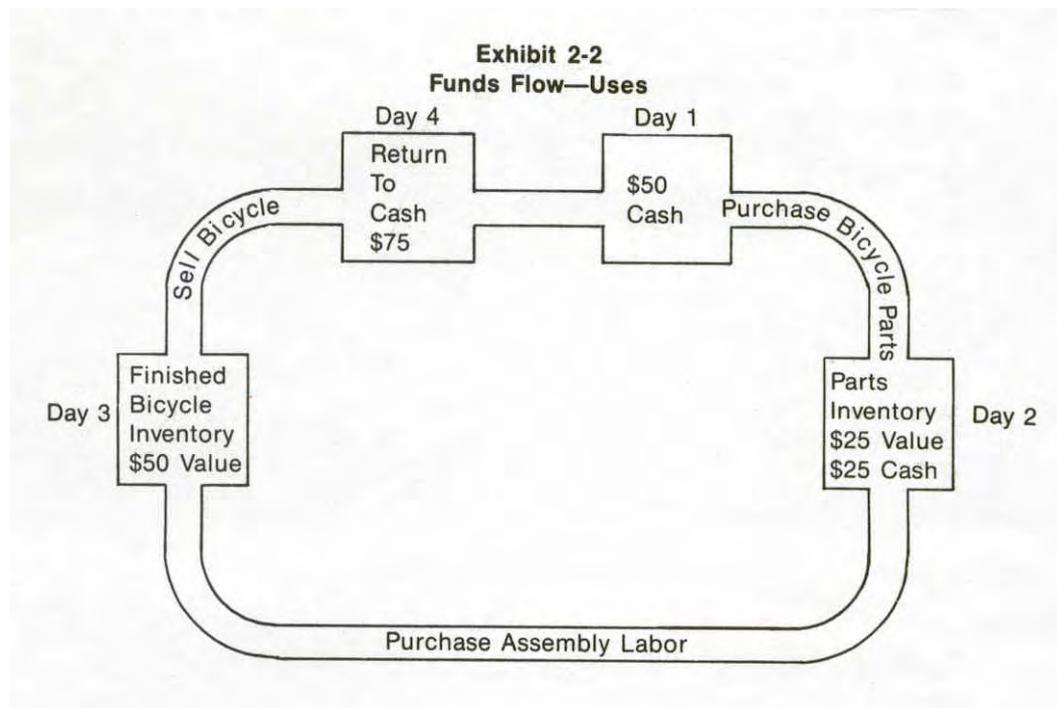
Consider the following scenario (Exhibit 2-1):



- A. Day one--ABC Firm has \$50 cash in its account.
- B. Day two--it purchases a bicycle from its wholesale supplier with the \$50.
- C. Day three--it sells the bicycle for \$75 cash.

What has happened? Funds--cash to begin with--were exchanged for another resource, bicycles, which were then exchanged for cash again via sale of the bicycles. The firm has accomplished its objective by using resources in its operation to create economic value, or profit. Consider the specifics of ABC Firm's operation. The total funds required were \$50. The operation was very simple, perhaps best described as a "single-item, non-integrated retailer selling on cash terms". Finally, the firm was successful by realizing a profit of \$25.

ABC Firm's funds flow cycle is more complex than simply purchasing and reselling a bicycle. The company buys unassembled bicycle parts, employs labor to assemble those parts, and then sells the constructed bicycle. The scenario now becomes (Exhibit 2-2);



- A. Day one--ABC Firm has \$50 cash.
- B. Day two--ABC Firm spends \$25 of that cash for bicycle parts.
- C. Day three--ABC Firm pays labor cost of \$25 to assemble the bicycle.
- D. Day four--the bicycle is sold for \$75 cash.

The firm has again accomplished the same objective, profit of \$25, using the same economic resources, \$50. It has, however, increased both the complexity of its operation and the length of its operating cycle. It is now a bicycle assembler and retailer selling on cash terms.

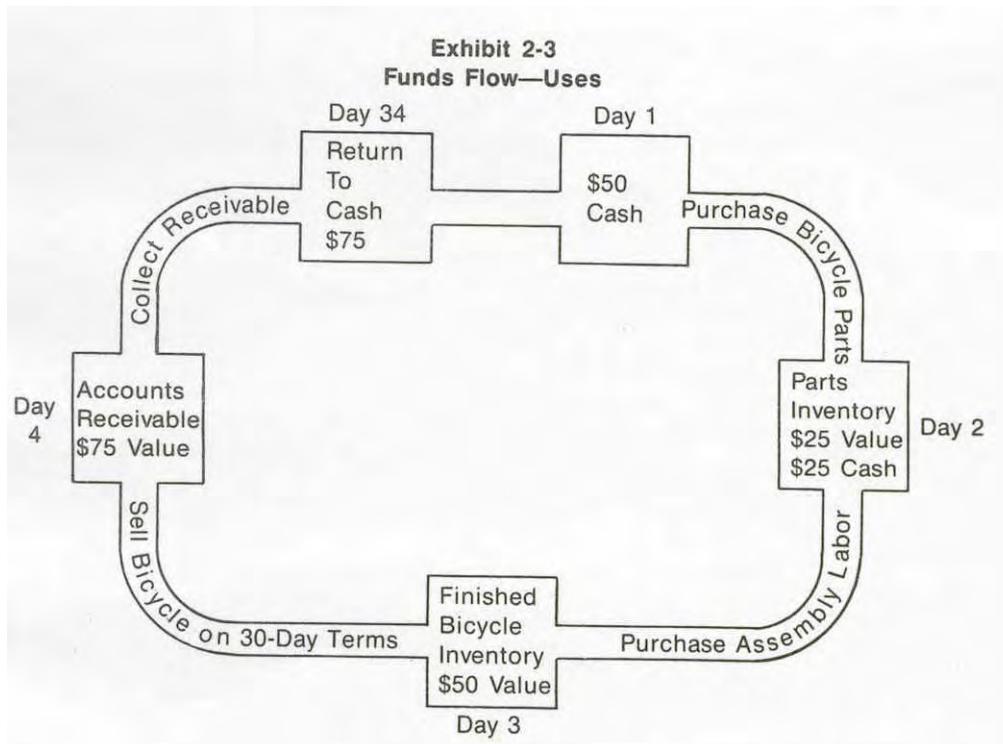
The complexity of the ABC Firm funds flow model is further increased by selling the assembled bicycle on credit (Exhibit 2-3):

- A. Day one--ABC Firm has \$50 cash.
- B. Day two--ABC Firm purchases bicycle parts for \$25.

C. Day three--ABC Firm pays labor \$25 to assemble bicycle.

D. Day four--ABC Firm sells completed bicycle for \$75 on thirty day terms, thus creating an account receivable.

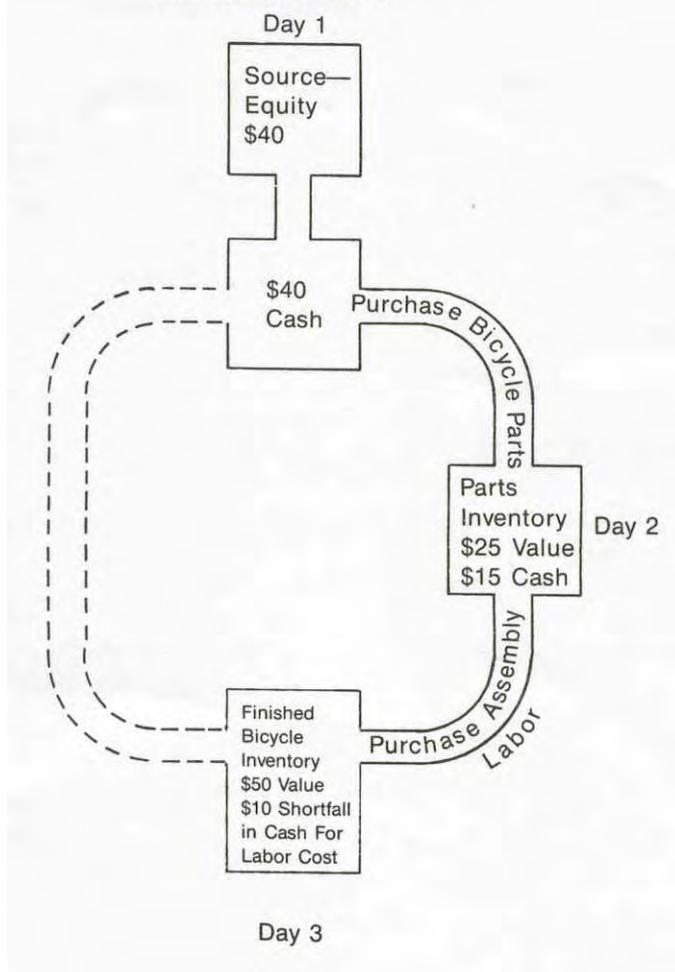
E. Day thirty-four--ABC Firm collects accounts receivable of \$75.



ABC Firm has again increased both the complexity and length of its funds flow cycle. These examples illustrate that different firms have different operational cycles and that the differences in cycles are directly related to the type of operation in which firms are engaged. For example, in the first example, ABC Firm was only a retailer and, thus, had a fairly simple funds cycle. In the second example, when the firm became an assembler as well as a retailer, that cycle increased in both length and complexity. The examples also illustrate that management decisions can change operating cycles. For example, the firm in the third example is considerably different from that in the two other examples because of a management decision to sell the bicycles on credit.

So far, only ABC Firm's use of funds in its operation has been considered, not the question of where those funds, or resources, came from. In the three examples, it was assumed that the bicycle firm had the cash to: 1) purchase the parts, 2) pay for the labor to assemble the parts, and 3) wait for thirty days to collect the proceeds of the sale. What happens if the firm does not have sufficient funds to sustain the entire funds usage cycle? First of all, where did the original \$50 come from? If one assumes that the firm's owner had that amount of money on hand to invest in the firm's operation, then that amount should be considered as invested equity, which is one of the most critical sources of funds available to firms. Consider, however, what might happen if the same bicycle firm had only \$40 worth of equity to begin with (Exhibit 2-4):

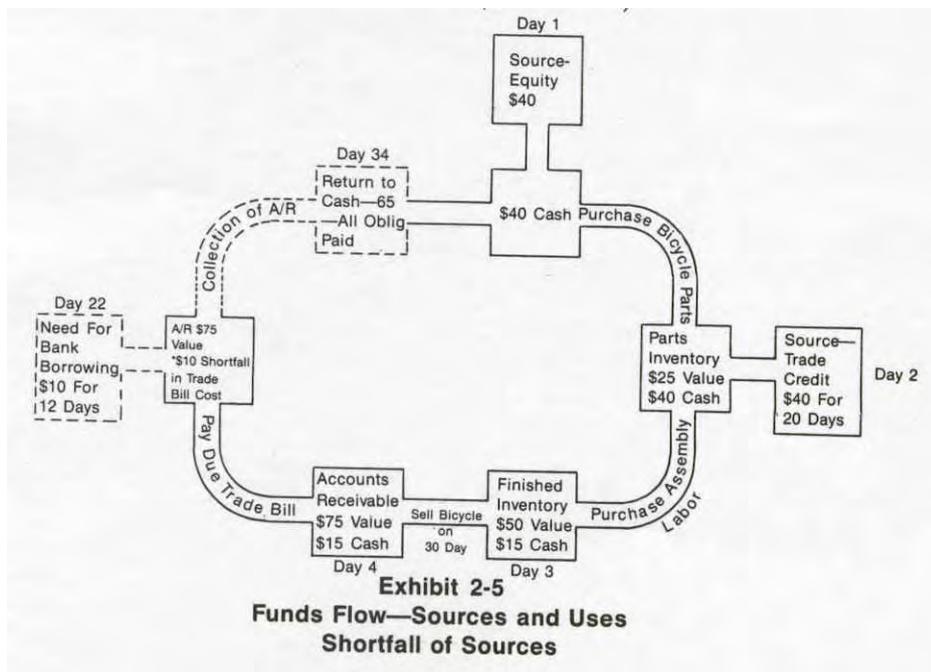
Exhibit 2-4
Funds Flow—Sources and Uses
Shortfall of Sources



- A. Day one--ABC Firm has \$40 in its account.
- B. Day two--ABC Firm spends \$25 on bicycle parts.
- C. Day three--ABC Firm only has \$15 cash left, while labor to assemble the bicycle is \$25.

At this point, ABC Firm has run into a classic business problem--shortage of funds. That shortfall is only \$10, which it needs to hire the assembly labor. Once constructed, the bike can be sold on thirty-day terms. After 30 days, ABC Firm's \$75 receivable is collected and the \$10 is repaid, with \$65 leftover. If it cannot, however, complete its cycle, the firm is out of business. How can the firm raise that amount of money? It could go to its bank and request a loan in that amount for that number of days. However, loans cost the firm interest and, thus, reduce profits. It might be advisable, therefore, for the firm to consider other sources of funds. They are:

- Trade credit. Just as the firm is selling on thirty-day terms, it might be able to negotiate terms of purchase with its supplier of bicycle parts. If ABC could persuade its supplier to give it twenty-day terms, for instance, the scenario would be (Exhibit 2-5):



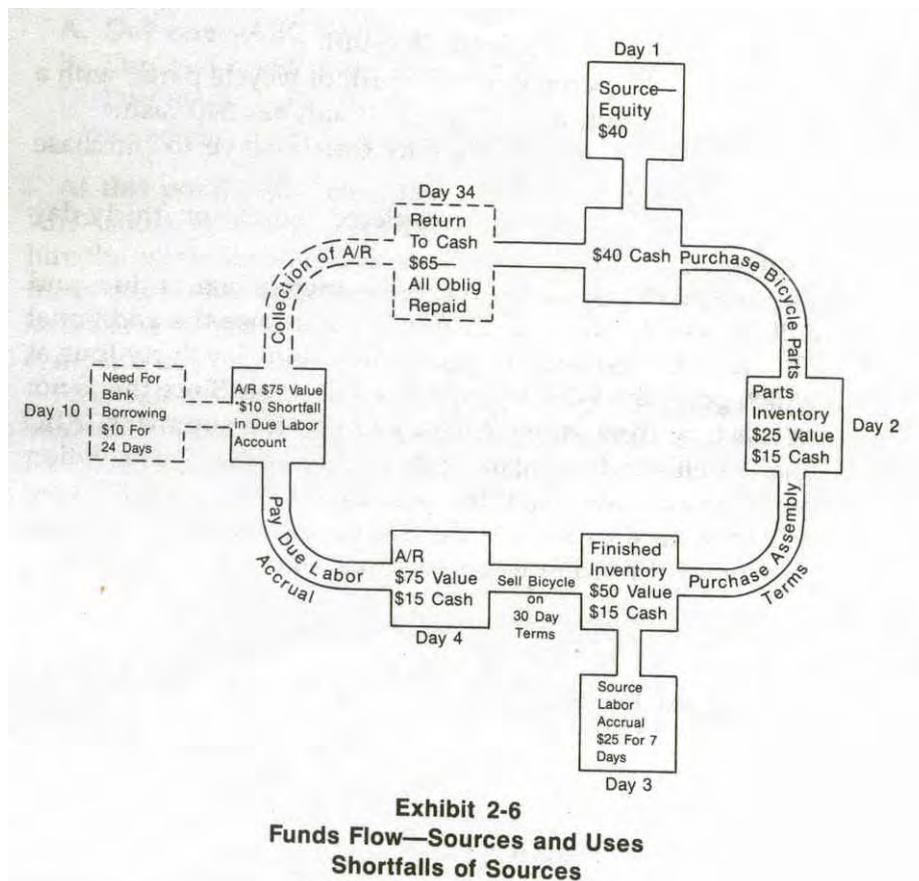
- A. Day one--ABC has \$40 in its account.
- B. Day two--ABC purchases \$25 worth of bicycle parts, with a promise to pay on day 22. Thus, it still has \$40 cash.
- C. Day three--ABC uses \$25 of its cash reserve to purchase assembly labor.
- D. Day four--ABC sells the completed bicycle on thirty-day terms.
- E. Day twenty-two--the bicycle parts invoice comes due, and ABC has a \$10 shortfall.

If ABC cannot raise the additional \$10, then its supplier will have to wait until day thirty-four, at which point the \$75 receivable becomes due. Since this is not satisfactory from either ABC's point or the supplier's, ABC might well wind up again at its banker's door. This solution is, however, better than the previous one in that ABC now will only have to borrow the \$10 for twelve days, whereas previously it needed to borrow that amount for 30 days.

- Accruals. If ABC's labor will agree to defer their paychecks for seven days, the scenario would be (Exhibit 2-6):
- A. Day one--ABC has \$40 in the bank.
 - B. Day two--ABC spends \$25 for bicycle parts.
 - C. Day three--ABC's labor assembles the bicycle.
 - D. Day four--ABC sells the bicycle on thirty-day terms.
 - E. Day ten--ABC must pay a \$25 labor expense. It is, at this point, again \$10 short.

This alternative would be better than the original scenario in that it involves borrowing for only twenty-four days rather than thirty days. It is, however, not as good a solution as negotiating trade credit terms as described in the second scenario.

- Reduction of sale terms. Although the funding sources developed in the second and third scenarios alleviate the funding problem created in the original scenario, they do not eliminate the need for ABC Firm to borrow from its bank.



Consider, then, what might happen if the firm combined its negotiation of trade credit (scenario #2) with a reduction in its own credit terms from thirty days to eighteen days. The funds flow would be (Exhibit 2-7):

- Day one--ABC Firm has \$40 in its account.
- Day two--ABC Firm purchases \$25 of bicycle parts, promising to pay on day twenty-two (twenty-day terms).
- Day three--ABC Firm pays \$25 for assembly labor.
- Day four--ABC Firm sells bicycle for \$75 on eighteen-day terms .
- Day twenty-two--both the \$25 parts obligation and the \$75 sales receivable mature, ABC is able to pay its obligation, and it has realized a profit on its original investment.

The foregoing examples illustrate both the funding needs of the working capital cycle of the hypothetical firm and its various funding sources.

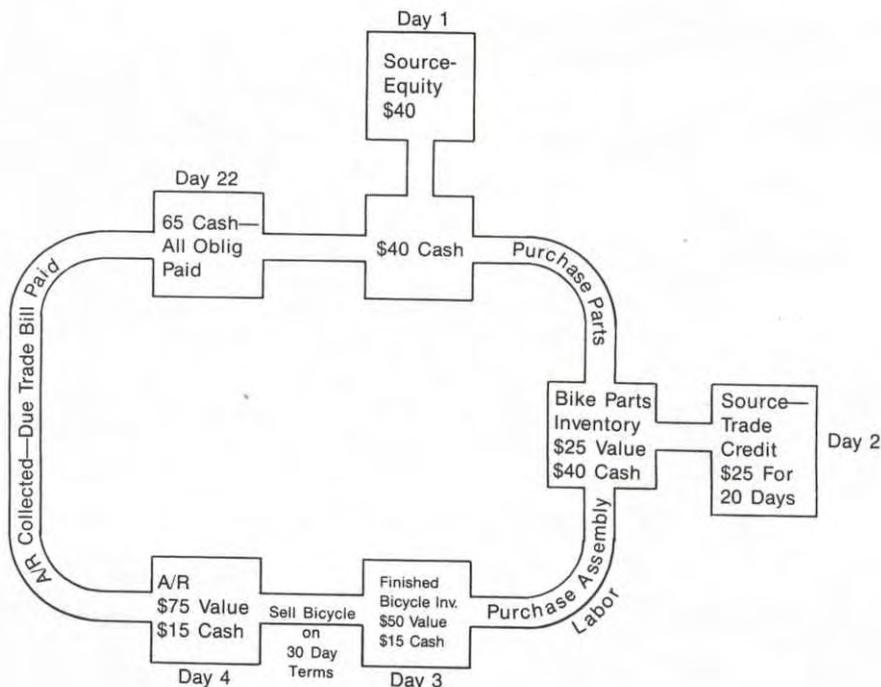


Exhibit 2-7
Funds Flow—Sources and Uses
Balance of Sources and Uses

The examples also illustrate that-

- the level of the owner's investment and the funding demands of the operation determine how much funding is needed and when it should be available; and
- the terms management grants to its customers or receives from its suppliers of goods and services partly determine what the available funding needs and sources will be.

The bank will frequently be asked to bridge the shortfall in funding. Both the size and duration of the bank's participation are directly affected by the level of the owner's investment. In all of the examples, it was assumed that ABC Firm began with cash, initiated its operating cycle, and carried that cycle through before initiating debt again. That single item cycle resulted in all of the funding sources except equity only being called on for a short, or temporary, period. In the previous examples, the period of funding requirements during the thirty-four-day cycle was:

**Table 2-8
Repetitive Funds Flow Cycle**

Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Beginning Funds	50	50	50	50	50	50	50	50	50	50	25	0	(25)	(50)	(75)	(100)	(125)
Amount Collected	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Amount Disbursed Parts	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Amount Disbursed Labor	0	0	0	0	0	0	0	0	0	25	25	25	25	25	25	25	25
Net Funds* Available	50	50	50	50	50	50	50	50	50	25	-0-	(25)	(50)	(75)	(100)	(125)	(150)
A/R Level	0	0	0	75	150	225	300	375	450	525	600	675	750	825	900	975	1,050
Accruals	0	0	25	50	75	100	125	150	175	175	175	175	175	175	175	175	175
A/P Level	0	25	50	75	100	125	150	175	200	225	250	275	300	325	350	375	400

*This category, when negative, depicts borrowing needs.

**Table 2-8
Repetitive Funds Flow Cycle (continued)**

Day	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
Beginning Funds	(150)	(175)	(200)	(225)	(250)	(300)	(350)	(400)	(450)	(500)	(550)	(600)	(650)	(700)	(750)	(800)	(850)
Amount Collected	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	75
Amount Disbursed Parts	0	0	0	0	25	25	25	25	25	25	25	25	25	25	25	25	25
Amounts Disbursed Labor	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
Net Funds* Available	(175)	(200)	(225)	(250)	(300)	(350)	(400)	(450)	(500)	(550)	(600)	(650)	(700)	(750)	(800)	(850)	(825)
A/R Level	1,125	1,200	1,275	1,350	1,425	1,500	1,575	1,650	1,725	1,800	1,875	1,950	2,025	2,100	2,175	2,250	2,250
Accruals	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175	175
A/P Level	425	450	475	500	500	500	500	500	500	500	500	500	500	500	500	500	500

*This category, when negative, depicts borrowing needs.

1. Labor accrual--seven days
2. Trade credit--twenty days
3. Bank credit--zero to thirty-one days

It is unlikely; however, that ABC Firm could survive and prosper by selling only one bicycle every thirty-five days at a \$25 profit. The firm, instead, will repeatedly initiate that cycle. Consider ABC Firm's operation if they begin their cycle once each day (Table 2-8):

- A. Day one--ABC Firm has \$50 in its account.
- B. Day two--ABC Firm purchases \$25 of bicycle parts, promising to pay on day twenty-two (twenty-day terms).
- C. Day three--ABC Firm's labor assembles the bike in exchange for ABC's promise to pay on day ten (weekly payment). Also, ABC Firm purchases a second \$25 of bicycle parts, promising to pay on day twenty-three.
- D. Day four--ABC Firm sells bicycle number one for \$75 on thirty-day terms. Its labor assembles bicycle parts number two in exchange for ABC's promise to pay on day eleven. It buys a third set of bicycle parts for \$25, promising to pay on day twenty-four.
- E. Days five through nine--on each of these days, ABC Firm sells one bicycle on thirty-day terms, assembles one bicycle with a promise to pay the labor in seven days, and purchases parts for one bicycle with the promise to pay in twenty days.
- F. Day ten--ABC Firm pays its labor expense from day three of \$25. It repeats all of the other transactions cited above.
- G. Day eleven--ABC Firm repeats day ten's transactions.
- H. Day twelve--ABC Firm owes its labor expense for day five of \$25, but has no cash and, therefore, cannot pay unless it borrows (presumably from the bank). All of the other transactions of previous days are again repeated.
- I. Days thirteen through twenty-one--on each of these days, ABC Firm owes \$25 for previously incurred labor expense, which it cannot pay without borrowing. It continues to repeat all of the other transactions.
- J. Day twenty-two--the transactions on this day resemble those on days thirteen through twenty-two, except that ABC Firm now owes an additional \$25 for the bicycle parts that it purchased on day two. Again, it cannot pay this obligation unless it borrows.
- K. Days twenty-three through thirty-three--all of the transactions on these days are the same as those on day 22.
- L. Day thirty-four--ABC Firm collects the receivable of \$75 that was created on day four.

It is now able to pay its \$25 labor obligation and \$25 parts obligation maturing that day. It is also able to begin to pay back its obligation to the bank that was created on days twelve through thirty-three. Consider what has happened. ABC Firm began with equity of \$50 and used its other sources, trade and accruals, but still came up with a funds shortfall that began

at \$25 on day 12 and grew to \$850 by day 33. The following conclusions can be drawn from this ongoing operation scenario:

1. The ongoing operation requires considerably more funding than the original single product cycle. In the single cycle case, for example, labor accrual never exceeded \$25. In the on-going operation case, labor accrual reached a high of \$175. In general, the larger an operation is, the larger its funding requirements. The example also illustrates that funding requirements grow as an operation grows.
2. Funding requirements in ongoing or repetitive operations become permanent. In the single cycle, trade credit was initiated on day two and repaid on day twenty-two. In the on-going cycle, trade credit was initiated every day. Cumulative trade credit grew each day until day 22, when it leveled off for each successive day's new trade payable of \$25, there was a \$25 payment. Bank debt is also more permanent in that, in this case, it cannot and will not be paid back within a short period in one lump sum. In general, not only do funding requirements vary with size and increase with growth, but also become permanent instead of temporary in repetitive operations.
3. Repetitive operations generate funds as well as use them. In the original single cycle, the \$25 profit generated on day thirty-four was of little immediate consequence insofar as the firm also had its original \$50 back and had no funds needs at that time for the additional \$25. In the repetitive cycle, however, by day thirty-three the firm has incurred \$850 of permanent bank debt that it would do well to begin repaying.

Assuming that all other facets of the operation continue as before, that \$25 worth of profit per day would become available to begin amortizing that bank debt. So the firm now has another, and in the long run, most important source of funds--funds generated by the operation itself. If an operation cannot generate its own funds, then it cannot hope to create value in excess of value expended. Also, the credit sources of funds such as trade and bank debt limit their credit extensions to a particular operation without a commensurate increase in equity funding. Therefore, the ability of the firm to generate funds will usually determine the willingness of those credit sources further finance the firm. This means that the firm's internal funds generation will be a major determinant, along with a few other factors, of the firm's growth.

SUMMARY OF THE WORKING CAPITAL CYCLE

In summarizing this look at the working capital cycle, the analyst should now answer the original five questions.

- *How do firms generally operate?* Normal operations will begin with cash, and convert that cash into a succession of working assets such as inventory and purchased economic value such as labor to create economic value greater than that expended. Companies are distinguished by the complexity of their operation (number of steps), the timing of those steps, and the practices typically associated with that business or industry (trade terms, manufacturing methods, marketing practices, etc.). It was also

learned that business practices are not always dictated by the type of business or industry, but may be influenced by management's strategies--offering accounts receivable terms on bicycle purchases to encourage sales, for example.

- *What are the funds requirements that are created through the operation?* It was learned that business operations create a number of funds requirements--purchase of inventory, payment of labor, payment of due bills, etc. In examining all of these uses, it was found that they are all related to either the creation of an asset--for example, inventory (including the labor cost to assemble it)--or a reduction of a liability through payment of due obligations. This points out a cardinal rule of funds flow analysis, which is that all funds uses involve the creation of assets or the reduction of liabilities.
- *What normal funds sources can be used?* The examples demonstrated what sources ABC Firm could draw on--trade credit, bank credit, accruals, the reduction of assets (for example, shortening the accounts receivable terms given). They pointed out a second cardinal rule of funds flow analysis, which is that all funds sources involve either the creation of obligations (whether to creditors or equity owners) or the reduction of assets.
- *What abnormal or inappropriate uses and sources of funds can occur?* The analysis illustrated inappropriate sources through a look at funds shortfall. IF ABC Firm is unable to repay its trade or labor at the agreed-upon time, then those obligations continue to function as sources, and are inappropriate in that they are involuntary sources and may cause problems such as legal action by creditors. Another inappropriate source might involve asset conversion that is detrimental to the operation. ABC Firm might, for instance, decide for liquidity purposes on day three to resell its bicycle parts at a loss in order to generate cash. While this transaction provides funds, it is inappropriate in that it eliminates the possibility of completion of the cycle, and, thus, realization of a profit. Although these scenarios do not illustrate inappropriate uses, one can readily come up with examples. Purchase of more inventory than it can use, for example, is inappropriate for ABC Firm because the funds used for that purpose could be applied to reduce debt.
- *What role does the banker play in the generation and repayment of funds?* The examples have shown some of the roles that the banker is asked to play. In the fourth example, the funds uses of ABC Firm exceeded, for a period, both its original sources (equity) and its ability to generate other sources of funds (accruals, trade payables). Because of this funds shortfall, then, the bank was asked to provide working capital funding. This need was temporary in that it was only required for a short period until the working asset, accounts receivable, could be converted to cash. It was subsequently pointed out that the single cycle illustrated in the examples was unrealistic, and that in repetitive cycles funds sources needed to be permanent rather than temporary.

Does this mean that the bank's role is always one of permanent instead of temporary funding? No. The fact that repetitive cycles vary over time (for example, twenty-five bicycles this month vs. thirty last month) results in temporary needs being created within repetitive cycles. The classic example of this phenomenon from the banker's viewpoint is that of a firm's seasonal build-up of inventory and receivables in response to seasonal demand (for instance, increased demand for bicycles at Christmas). The bank provides the funding for the shortfall between the level of build-up (funds usage) and the support of that build-up (funds available), and then is repaid at once or over a short period when the level of build-up is reduced or liquidated.

The concept of the bank's role as a provider of permanent funds was previously mentioned. Is it implied by permanent funds that the banker will never be repaid? No. What is meant is that the bank's funds support continuing needs, and the bank cannot look to the reduction or elimination of that need over a short period in order to be repaid. It must look, instead, to the firm's ability to generate, over time, funds in excess of those expended that can be made available to repay debt. In other words, the firm must replace the bank as a source with another source--equity. This excess generation has been referred to as profits. The discussion will continue to do so even though it will be seen in later chapters that firms can internally generate funds other than profits.

Directly related to the banker's provision of permanent funds is that of his role in the growth of a company. The repetitive example clearly illustrates that as the size of the firm's operation grows so does its need for funding sources, including bank debt. In the last example, funds required from the bank went from \$0 to \$850 as the firm's operation grew. That need for bank debt only leveled off when 1) the size of the operation itself leveled off and 2) the operation began to generate its own funds.

It can be said, in general, that the size and importance of the bank's role depends on at least four factors:

- rate of growth of the operation,
- characteristics of funds usage, for example, is inventory held for twenty-four days or only for two days,
- availability of other external funding sources such as trade credit or accruals, and
- ability of the firm to internally generate its own funds.

The analyst needs to understand that the firm's operation does not have to grow to increase funding needs. Management can inadvertently or by design cause funding needs of the operation to increase. Management may, for example, unintentionally allow inventories to build beyond levels necessary to meet expected demand. Or, it may intentionally increase credit sales terms in response to competition or in an attempt to increase its own competitive edge.

To reiterate, the role of the bank is determined largely by the funding requirements of the firm. It is, therefore, critical that the banking student understand those flows and requirements and their implications. Specific techniques available for analyzing funds flows are discussed in Chapter 5,

THE FIXED ASSET CYCLE

The discussion of funds flow has thus far been concerned with the working capital cycle--the conversion of assets into working assets and then back into cash within a short period. That conversion process does not take place in a vacuum. The firm needs a facility to house its operation and tools to perform its task. Our bicycle firm, for example, might need-

- a facility for housing its sales and administrative staff and its assembly process, and a warehouse for its inventory;
- direct production equipment, such as drill presses, paint spray guns, and a variety of hand tools to use in the assembly process; and
- other equipment, which depending on the firm's distribution process, might include delivery vans and automobiles.

Assets needed to support the firm's operation are referred to as fixed assets or capital assets. Their acquisition, funding, use, and replacement are typically referred to as the fixed asset cycle or long cycle because the assets are used again and again through a number of working cycles rather than being expended or converted in a single cycle. The fixed assets are eventually expended through their repeated use in the production process. This wearing-out process is referred to as depreciation.

The fixed asset cycle, like the working capital cycle, begins with the expenditure of cash to acquire or create an asset. The acquired fixed asset is not, however, then converted back into cash in a short period. A drill press, for instance, is not sold to create an account receivable that is collected to produce cash. Despite this, the fixed assets play a critical part in the cash generation cycle in that-

- the working capital cycle's products and services, and thus the cash they generate when sold, cannot be created or delivered without the support of the fixed asset (the drill press, for example, is used in the bicycle assembly process); and
- the depreciation of the fixed asset results from its use in the working capital cycle to create products and services (for example, the drill press will eventually wear out through use).

Thus, the original cash expenditure for the fixed asset is recovered, but only over time and only through the sale of the products that it helps create.

FUNDING OF THE FIXED ASSET CYCLE

The firm must have the right combination of fixed assets to drive its working capital cycle. Also, the funding of those fixed assets must be structured so that the firm's operation is not disrupted. Funding for fixed assets could come from three possible sources--excess cash, equity contribution, or debt. Equity and cash are typically not available except at inception of the firm. Consequently, debt is the most common funding source. The funds to repay debt are generated through the working capital cycle. However, the analyst must remember that funds generated through that cycle must first be used to replenish the operating assets--inventory, receivables, etc. Only the excess cash, or profits, would be available to service debt. Therefore, a loan for the acquisition of fixed assets should be structured such that it can be repaid with profits that the firm expects to generate through the use of the fixed asset in the operating cycle.

In summary, the working capital cycle and fixed asset cycle are the two primary cycles, and comprise all funds movement related to a firm's basic operation. Those cycles must

generate sufficient funds to replenish working capital, provide for growth, and fund the repayment of debt incurred to acquire fixed assets. Any other funds movements would be extraneous to the firm's operation and should be considered only after the funding requirements of the two primary cycles have been adequately provided for.

Hand out # 10
Hand out # 10 - 1 Solutions # 3

Operating Expenses				
Sales and Marketing	5,000	0.8%		
G and A	26,000	4.3%		
Total Operating Expenses	31,000	5.2%		
Net Operating Income	69,600	11.6%		
Interest Expense	3,600	0.6%		
Net Profit before Taxes	66,000	11.0%		
Income Taxes	16,500	2.8%		
Net Profit after Taxes	49,500	8.3%		
Current Assets			Current Liabilities	
Cash	88,400		AP	16,274
Accounts Receivable	98,630		Bank Loan	143,989
Inventory	66,000			
Total CA	253,030		Total CA	160,263
			LTD	
Fixed Assets			Total Liabilities	
Vehicles	15,000			
Office Equipment	5,000		Contributed Capital	50,000
Plant Equipment	35,000		Retained Earnings	84,167
Less Accum Depr	-13,600		Total Equity	134,167
Net FA	41,400			
Total Assets	294,430		Total Liab + Equity	294,430

Hand Out # 10 – 2
Income Solution

Statement Instructions for Constructing a Proforma Income Statement
New Slovenian Company- 2007

1. Calculate projected Sales _____ €
- Based on percentage increase or decrease or remaining the same as previous year
 - Based on number of items sold at projected sales price per unit.
- Record the amount in the € column for Sales

GIVEN AMOUNT(600.000€)

2. Calculate Direct Labor. _____ €
- Based on number of employees working in production x hourly/daily/weekly/monthly rate of pay.
- Record the amount in the € column for Direct Labor

6 workers x 1.000 € x 12 months = 72.000 €

3. Calculate cost of Materials (also referred to as Raw Materials) _____ €
- Based on cost per unit/quantity.
 - Cost of inventory purchased to be resold (trading companies) or cost of raw materials (manufacturing and processing companies).
- Record the amount in the € column for Materials

Given: 66% of Sales (0,66 x 600,000 = 396,000 €)

4. Calculate Other Direct Costs. _____ €
- Include costs directly related to the purchase of a product to be resold (trading companies) or production of a product to be sold (manufacturing and processing companies)
 - Include costs such as transportation of materials, utility costs and rent for production facility
- Record the amount in the € column for Other Direct Costs

<i>Delivery / Transport costs</i>	<i>10,000 €</i>
<i>Rent (500 € per month)</i>	<i>6,000 €</i>
<i>Utilities (400 € per month)</i>	<i>4,800€</i>
<i>Subtotal</i>	<i>20,800 €</i>

5. Calculate Depreciation
- Based on tax laws
- Record the amount in the € column for Depreciation

Given 10,600 €

6. Calculate total Cost of Goods Sold
- Direct Labor + Material + Other Direct Costs + Depreciation
- Record the amount in the € column for Total Cost of Goods Sold

$$72.000 + 396.000 + 10.000 + 10.800 + 10.600 = 499.400$$

7. Calculate Gross Profit
- Sales – Total Cost of Goods Sold
- Record the amount in the € column for Gross Profit

$$600.000 - 499.400 = 100.600 \text{ €}$$

8. Calculate Sales and Marketing Expenses

- _____ €
- Salaries, commissions, bonuses paid to sales personnel
 - Travel and entertainment expenses of sales personnel
 - Marketing brochures and promotional items and material
 - Advertising
 - Participation in trade fairs
- Record the amount in the € column for Sales and Marketing Expenses

Marketing campaign 5,000 €

9. Calculate General and Administrative Expenses _____ €
- Salaries of director and office employees
 - Office supplies
 - Office rent and utilities
 - All other expenses that are not included in Cost of Goods Sold or Sales and Marketing Expenses

Record the amount in the € column for General and Administrative Expenses

Mr. Horvat's Salary 2,000 € per month x 12 moths 24.000 €

Office supplies 200 € per quarter x 4 q. 800 €

Utilities 100 € per month x 12 moths _____ 1,200 €

Subtotal: 26.000 €

10. Calculate Total Operating Expenses
- Sales and Marketing Expenses + General and Administrative Expenses
- Record the amount in the € column for Total Operating Expenses

Sales & Mkt Expences 5.000 €

General & Admin. 26.000 €

Subtotal 31.000 €

11. Calculate Net Operating Income
- Gross Profit – Total Operating Expenses
- Record the amount in the € column for Net Operating Income

$$100.600 - 31.000 = 69.600 \text{ €}$$

12. Calculate Depreciation/Amortization _____ €
- Based on tax laws.
- Record the amount in the € column for Depreciation

In Cost of Goods Sold

13. Calculate Other Income and Other Expense _____ €
- Income derived from a source other than the normal operation of the business, such as sale of a piece of equipment for more than its book value (cost – depreciation).
 - Expense incurred other than in the normal operation of the business, such as sale of a piece of equipment for less than its book value (cost – depreciation).
- Record the amounts in the € columns for Other Income and Other Expense

None

14. Calculate Interest Expense _____ €
- Reflected in loan amortization schedule.
 - Based on average debt outstanding x interest rate
- Record the amount in the € column for Interest Expense

Cannot calculate until BS is completed to determine if a bank loan will be required

15. Calculate Total Other Income (Expense)
- Other Income – Other Expense – Interest Expense
- Record the amount in the € column for Total Other Income (Expense)

$$0-0-0 = 0$$

16. Calculate Net Income before Income Taxes
- Net Operating Income – Depreciation – Total Other Income (Expense)
- Record the amount in the € column for Net Income before Income Taxes

$$69.600 - 0 - 0 = 69.600 \text{ €}$$

17. Calculate Income Taxes _____ €
- Based on tax laws
- Record the amount in the € column for Income Taxes

$$25\% * 69.600 = 17.400 \text{ €}$$

18. Calculate Net Income (Loss)
- Net Income before Income Taxes – Income Taxes
- Record the amount in the € column for Net Income after Income Taxes

$$69.600 - 17.400 = 52.200 \text{ €}$$

19. Calculate each amount as a percentage of Sales.

- Divide each amount by the amount of Sales

Record the amount in the % column next to the € amount.

Name of Company: **New Slovenian Company**

Proforma Income Statement

Period Covered: For Year Ending 31 December, 2007

	€	% of Sales
SALES		
Cost of Goods Sold		
Direct Labor		
Materials		
Other Direct Costs		
Total Cost of Goods Sold		
Gross Profit		
Operating Expenses		
Sales & Marketing Expenses		
General & Administrative Expenses		
Total Operating Expenses		
Net Operating Income		
Depreciation/Amortization		
Other Income (Expense)		
Other Income		
Other Expense		
Interest Expense		
Total Other Income (Expense)		
Net Income Before Income Taxes		
Income Taxes		
Net Income (Loss)		

Handout # 10-3

Instructions for Constructing a Proforma Balance Sheet New Slovenian Company 2007

1. Calculate Contributed Capital. _____ €
- Represents only the amount owners contributed.
 - Will be the same as that on previous Balance Sheet unless owners have contributed additional capital.
- Record the amount in the € column for Contributed Capital

TRANSFER FROM 2006: 50,000 €

2. Calculate Retained Earnings. _____ €
- Total of Net Income during the life of the company less any dividends paid
 - Retained Earnings on Balance Sheet for end of the previous fiscal period + Net Income for this fiscal period – Dividends paid during this fiscal period
- Record the amount in the € column for Retained Capital
- | | |
|--|-----------------------|
| <i>Profit after tax for 2006</i> | <i>34.677 €</i> |
| <i>Projected Profit after Tax for 2007</i> | <i><u>52.200€</u></i> |
| <i>Projected Retained Earnings</i> | <i>86.877€</i> |

3. Calculate Total Equity
- Contributed Capital + Retained Earnings
- Record the amount in the € column for Total Equity
- $$50.000 + 86.877 = 136,877 \text{ €}$$

4. Calculate Current Portion Long-term Debt (CPLTD) _____ €
- Amount of principal to be paid in the next 12 months
 - Amount of principal to be paid each month x 12
 - Amount of principal to be paid each quarter x 4
- Record the amount in the € column for Current Portion Long-term Debt

THERE ARE NO LOANS

5. Calculate Long-term Debt (LTD) _____ €
- Amount of principal owed – CPLTD
- Record the amount in the € column for Long-term Debt
- There are no loans*

6. Calculate Short-term Loan

- Principal amount owed to bank or other lender from whom company borrowed money with the agreement to repay it within 12 months.

Record the amount in the € column for Short-term Loan

There are no loans

7. Total Accounts Payable _____ €

- Total owed to suppliers of material, other forms of inventory.
- Based upon how many days company will take to pay its debts after they are incurred.
- $(\text{Material costs}/365 \text{ days in the year}) \times \text{projected Accounts Payable Pay Period}$
- If cost of materials is not known, use total Cost of Goods Sold

Record the amount in the € column for Accounts Payable

A/P days (given) 15 days

Material costs for 2007 = 396.000€

Calculation: $(396.000 / 365) \times 15 = 16.274 \text{ €}$

8. Calculate Accrued Liabilities _____ €

- Total owed to all individuals, businesses, associations and government agencies other than that included in Accounts Payable, CPLTD and LTD.
- Includes such expenses as unpaid salaries, income taxes, interest, suppliers of office supplies, office rent, office utilities. Based upon how many days company will take to pay its debts after they are incurred
- $(\text{Total Operating Expenses}/365 \text{ days in the year}) \times \text{projected Accrued Liabilities Pay Period}$

Record the amount in the € column for Accrued Liabilities

THERE ARE NONE.

9. Calculate Total Current Liabilities

- Accounts Payable + Accrued Liabilities + Short-term Loan + CPLTD

Record the amount in the € column for Total Current Liabilities

$16.274 + 0 + 0 = 16.274 \text{ €}$

10. Calculate Total Liabilities

- Total Current Liabilities + Long-term Debt

Record the amount in the € column for Total Liabilities

$16.274 + 0 = 16.274 \text{ €}$

11. Calculate Total Liabilities + Equity

- Total Liabilities + Equity

Record the amount in the € column for Total Liabilities + Equity

$16.274 + 86.877 = 103.151 \text{ €}$

12. Calculate Accounts Receivable

- Total customers owe the company + amounts any other individuals, businesses, associations or government agencies owe the company.
- Based on Accounts Receivable Average Collection Time
- $(\text{Sales}/365 \text{ days in the year}) \times \text{Accounts Receivable Average Collection Time} + \text{other amounts owed to the company}$

Record the amount in the € column for Accounts Receivable

Average A/R days (given): 60 days

$$(600,000/365) \times 60 = 98.630 \text{ €}$$

13. Calculate Inventory _____ €

- Based on Inventory Turnover
- Materials / Projected Inventory Turnover
- May be based on cost of number of units to be in inventory.
- If Materials cost is not known, use Total Cost of Goods Sold

Record the amount in the € column for Inventory

To keep two months supply of materials in inventory

Materials costs for 2007 = 396.000 €

$$(396.000,000/12) \times 2 \text{ months} = 66.000 \text{ €}$$

14. Calculate Vehicles _____ €

- Recorded at original cost
- Will be the same as the amount on the previous Balance Sheet unless additional vehicles were purchased or vehicles were sold.

Record the amount in the € column for Vehicles.

Transfer from 2006 BS (15,000 €)

15. Calculate Office Equipment _____ €

- Recorded at original cost
- Will be the same as the amount on the previous Balance Sheet unless additional office equipment was purchased or office equipment was sold

Record the amount in the € column for Office Equipment.

Transfer from 2006 BS (5,000 €)

16. Calculate Plant Equipment _____ €

- Recorded at original cost
- Will be the same as the amount on the previous Balance Sheet unless additional plant equipment was purchased or plant equipment was sold.

Record the amount in the € column for Plant Equipment.

TRANSFER FROM 2006 BS: 25,000 €

New Computer: 10,000 €

Subtotal 35,000 €

17. Calculate Furniture & Fixtures _____ €
- Recorded at original cost
 - Will be the same as the amount on the previous Balance Sheet unless additional furniture and fixtures were purchased or furniture and fixtures were sold.
- Record the amount in the € column for Furniture & Fixtures.

TRANSFER FROM 2006 BS: 0

18. Calculate Buildings _____ €
- Recorded at original cost
 - Will be the same as the amount on the previous Balance Sheet unless additional buildings were purchased or constructed or additions/improvements to existing buildings were made or buildings were sold or destroyed.
- Record the amount in the € column for Buildings.

Transfer from 2006 BS: 0

19. Calculate Land _____ €
- Recorded at original cost
 - Will be the same as the amount on the previous Balance Sheet unless additional land was purchased or land was sold.
- Record the amount in the € column for Land.

Transfer from 2006 BS: 0

20. Calculate Accumulated Depreciation _____ €
- Determined by tax laws.
- Record the amount in the € column for Accumulated Depreciation.

TRANSFER FROM 2006 BS:	3,000 €
<i>From 2007 IS:</i>	<u>10,600 €</u>
SUBTOTAL	13,600 €

21. Calculate Net Fixed Assets
- Vehicles + Office Equipment + Plant Equipment + Furniture & Fixtures + Buildings + Land – Depreciation
- Record the amount in the € column for Total Fixed Assets

$$15,000+0+5,000+35,000+0 -13,600=41,400 \text{ €}$$

22. Calculate Cash _____ €
- Total Liabilities + Equity – Total Fixed Assets – Accounts Receivable – Inventory
- If the amount is positive, record it in the € column for Cash and proceed with #23 -24.
- If amount is negative, proceed to #25 - 31.

*Minimum amount = 2 months Cost of Goods Sold + 2 months Operating Expenses =
(499.400 + 31.000) / 6 = 88.400 €*

23. Calculate Total Current Assets _____ €

- Cash + Accounts Receivable + Inventory
- Record the amount in the € column for Total Current Assets.

$$88.400 + 98.630 + 66.000 = 253.030$$

24. Calculate Total Assets _____ €

- Total Current Assets + Total Fixed Assets
 - Must equal Total Liabilities + Equity
- Record the amount in the € column for Total Assets

$$253.030 + 41,400 = 294.430 €$$

25. Calculate amount of bank loan needed to fund assets. _____ €

- Total Assets – Total Liabilities – Equity
- Record the amount in the € column for Bank Loan

$$294.430 - 16.274 - 50.000 - 86.877 = 141,279$$

26. Recalculate Current Liabilities _____ €

- Record the amount in the € column for Current Liabilities

$$16.274 + 141.279 = 157.553€$$

27. Recalculate Total Liabilities _____ €

- Record the amount in the € column for Total Liabilities

$$157.553 + 0 = 157.553$$

28. Recalculate Total Liabilities + Equity _____ €

- Must equal Total Assets
- Record the amount in the € column for Total Liabilities + Equity

$$157.553 + 136.877 = 294.430$$

29. Calculate Interest Expense

- Without a monthly cash budget, can only estimate average debt outstanding.
- Record in the IS

$$141.279 / 2 * ,05 = 3.532$$

30. Adjust Net Income Before Taxes

31. Recalculate Taxes

32. Recalculate Net Income After Taxes

33. Recalculate Retained Earnings

34. Recalculate Bank Loan to make BS balance.

NEW SLOVENIAN COMPANYBalance Sheet
December 31, 2007

ASSETS	€	Liabilities	€
Current Assets		Current Liabilities	
Cash		Accounts Payable	
Accounts Receivable		Accrued Liabilities	
Inventory		Bank Loan	
Total Current Assets		Current Portion LTD	
Fixed Assets		Total Current Liabilities	
Vehicles		Long-term Liabilities	
Office Equipment		Total Liabilities	
Plant Equipment		Equity	
Land & Building		Private Capital	
Less: Accumulated Depr.		Retained Earnings	
Net Fixed Assets		Total Equity	
Total Assets		Total Liabilities + Equity	

Handout # 10-4
Solutions for Cash Budget

Jan	Feb	Mar	Apr	May	June	July	August	Sept	Oct	Nov	Dec	
€ 50,000	€ 50,000	€ 50,000	€ 50,000	€ 50,000	€ 50,000	€ 50,000	€ 50,000	€ 50,000	€ 50,000	€ 50,000	€ 50,000	€ 600,000
€ 33,000	€ 33,000	€ 33,000	€ 33,000	€ 33,000	€ 33,000	€ 33,000	€ 33,000	€ 33,000	€ 33,000	€ 33,000	€ 33,000	€ 396,000
€ 16,100	€ 88,400	€ 88,400	€ 88,400	€ 88,400	€ 88,400	€ 88,400	€ 88,400	€ 88,400	€ 88,400	€ 88,400	€ 88,400	
€ 37,500	€ 37,500	€ 50,000	€ 50,000	€ 50,000	€ 50,000	€ 50,000	€ 50,000	€ 50,000	€ 50,000	€ 50,000	€ 50,000	€ 575,000
€ 40,433	€ 33,000	€ 33,000	€ 33,000	€ 33,000	€ 33,000	€ 33,000	€ 33,000	€ 33,000	€ 33,000	€ 33,000	€ 33,000	€ 403,433
€ 6,000	€ 6,000	€ 6,000	€ 6,000	€ 6,000	€ 6,000	€ 6,000	€ 6,000	€ 6,000	€ 6,000	€ 6,000	€ 6,000	€ 72,000
€ 833	€ 833	€ 833	€ 833	€ 833	€ 833	€ 833	€ 833	€ 833	€ 833	€ 833	€ 833	€ 10,000
€ 900	€ 900	€ 900	€ 900	€ 900	€ 900	€ 900	€ 900	€ 900	€ 900	€ 900	€ 900	€ 10,800
€ 2,583	€ 2,583	€ 2,583	€ 2,583	€ 2,583	€ 2,583	€ 2,583	€ 2,583	€ 2,583	€ 2,583	€ 2,583	€ 2,583	€ 31,000

Jan	Feb	Mar	Apr	May	June	July	August	Sept	Oct	Nov	Dec	
€ 1,375	€ 1,375	€ 1,375	€ 1,375	€ 1,375	€ 1,375	€ 1,375	€ 1,375	€ 1,375	€ 1,375	€ 1,375	€ 1,375	€ 16,500
€ 333	€ 696	€ 728	€ 709	€ 690	€ 671	€ 652	€ 632	€ 613	€ 593	€ 573	€ 554	€ 7,444
€ 1,142	€ 80,513	€ 92,980	€ 92,999	€ 93,018	€ 93,037	€ 93,057	€ 93,076	€ 93,096	€ 93,115	€ 93,135	€ 93,155	
€ 88,400	€ 88,400	€ 88,400	€ 88,400	€ 88,400	€ 88,400	€ 88,400	€ 88,400	€ 88,400	€ 88,400	€ 88,400	€ 88,400	
-€ 87,258	-€ 7,887	€ 4,580	€ 4,599	€ 4,618	€ 4,637	€ 4,657	€ 4,676	€ 4,696	€ 4,715	€ 4,735	€ 4,755	
€ 80,000	€ 166,925	€ 174,812	€ 170,232	€ 165,633	€ 161,015	€ 156,378	€ 151,721	€ 147,045	€ 142,349	€ 137,634	€ 132,899	
€ 86,925	€ 7,887	-€ 4,580	-€ 4,599	-€ 4,618	-€ 4,637	-€ 4,657	-€ 4,676	-€ 4,696	-€ 4,715	-€ 4,735	-€ 4,755	
€ 166,925	€ 174,812	€ 170,232	€ 165,633	€ 161,015	€ 156,378	€ 151,721	€ 147,045	€ 142,349	€ 137,634	€ 132,899	€ 128,144	

**Handout #10-5
Case Study for Proforma Analysis**

Proforma Analysis

New Slovenian Company – to better understand the concepts and timeframes below, the reader must assume that reference to '2006' actually means '2008', and references to '2007' actually means '2009'.

On June 1, 2006, Mr. Horvat decided to start a printing shop. He contributed 50.000€ to the new company on that date. During June, the New Slovenian Company purchased printing equipment that cost 15.000€ and paid cash for it when it was delivered. The Company also purchased 5.000€ of supplies during June and was given 30 days to pay for them. Below is the Company's Balance Sheet as of June 30, 2006.

**New Slovenian Company
Balance Sheet
June 30, 2006**

Assets	€	Liabilities	€
Current Assets		Current Liabilities	
Cash	35.000	Accounts Payable	5.000
Accounts Receivable		Bank Loan	
Inventory	5.000	CPLTD	
Total Current Assets	40.000	Total Current Liabilities	5.000
Fixed Assets		Long-term Debt	
Vehicles		TOTAL LIABILITIES	5.000
Office Equipment			
Plant Equipment	15.000	Equity	
Land and Buildings		Private Capital	50.000
Less: Accumulated Depr		Retained Earnings	
Total Net Fixed Assets	15.000	TOTAL EQUITY	50.000
TOTAL ASSETS	55.000	TOTAL LIABILITIES + EQUITY	

During the fourth quarter of 2006, the Company's business grew. Because the customers demanded delivery service, the Company purchased a used van. It also purchased additional printing equipment and a computer for the office. An additional employee was required to fill all the orders. Because Mr. Horvat was well known to your bank, you approved a revolving line of credit for the Company in the total amount of 85.000 €. The line

has been used actively for the last three months of the year. Interest is at the rate of 5% per annum.

Following are the Company's

- Income Statement for the six months ended December, 31, 2006
- Balance Sheet as of December 31, 2006

New Slovenian Company
Income Statement
For six months ended December 31, 2006

	€	%
Sales	250.000	100,0
Cost of Goods Sold		
Direct Labor	22.000	8,8
Material	162.300	64,9
Delivery Costs	3.000	1,2
Other Direct Costs	4.200	1,7
Total Cost of Goods Sold	191.500	76,6
Gross Profit	58.500	23,4
Operating Expenses		
Sales and Marketing Expense	2.500	1,0
General and Administrative Expense	5.700	2,3
Total Operating Expenses	8.200	3,3
Net Operating Income	50.300	20,1
Depreciation/Amortization	3.000	1,2
Other Income/Expense		
Other Income		
Other Expense		
Net Other Income (Expense)		
Interest Expense	1.065	,4
Net Income Before Taxes	46.235	18,5
Income Taxes	11.558	4,6
Net Profit	34.677	13,9

New Slovenian Company
Balance Sheet
December 31, 2006

Assets	€	Liabilities	€
Current Assets		Current Liabilities	
Cash	16.100	Accounts Payable	23.933
Accounts Receivable	75.000	Bank Loan	80.000
Inventory	55.500	CPLTD	
Total Current Assets	146.600	Total Current Liabilities	103.933
Fixed Assets		Long-term Debt	
Vehicles	15.000	TOTAL LIABILITIES	
Office Equipment	5.000		
Plant Equipment	25.000	Equity	
Land and Buildings		Private Capital	50.000
Less: Accumulated Depr	3.000	Retained Earnings	34.667
Total Net Fixed Assets	42.000	TOTAL EQUITY	84.667
TOTAL ASSETS	188.600	TOTAL LIABILITIES + EQUITY	188.600

Prepare Proforma Income Statement, Balance Sheet and Funds Flow Statement for 2007 based on the following assumptions which Mr. Horvat has given us.

- Based on the steady increase in orders which the Company has received each month, Mr. Horvat anticipates having total sales of 600.000 € for the year 2007.
- He will have to hire 2 additional employees bringing the direct labor force to 6. Total labor costs per employee per month will be 1.000€.
- Material costs are expected to increase to 66% of sales.
- With the increase in the cost of petrol, delivery costs are expected to increase to 10.000€.
- Rent will remain at 500 € per month. This expense should be included in Other Direct Costs
- Utilities have increased because of the increased production and are projected to be 500€ per month, of which 400€ per month should be allocated to Other Direct Costs and 100€ per month to General and Administrative.
- Depreciation Expense on production equipment will be 10.600€ for the year.
- He is planning to spend 5.000€ on a marketing campaign.
- His salary of 2.000€ per month will be included in General & Administrative Expenses.
- Office supplies cost 200€ per quarter.
- It is anticipated that there will be a 25% income tax.
- Customers are taking 60 days in which to pay for their orders

- All salaries and invoices except those from suppliers of materials are paid every Friday so there are no Accrued Liabilities
- Mr. Horvat wants to maintain a 2-month supply of materials in inventory.
- Suppliers are not willing to allow more than 15 days to pay for materials because this is a new company.
- Mr. Horvat has ordered another printer that will cost 10.000€. It is to be delivered in February, 2007 and must be paid for upon delivery.
- Minimum cash balance should be equal to 2 months Cost of Goods Sold + 2 months Total Operating Expenses

New Slovenian Company
Proforma Balance Sheet
December 31, 2007

ASSETS	€	Liabilities	€
Current Assets		Current Liabilities	
Cash		Accounts Payable	
Accounts Receivable		Accrued Liabilities	
Inventory		Bank Loan	
Total Current Assets		Current Portion LTD	
Fixed Assets		Total Current Liabilities	
Vehicles		Long-term Liabilities	
Office Equipment		Total Liabilities	
Plant Equipment		Equity	
Land & Building		Private Capital	
Less: Accumulated Depr.		Retained Earnings	
Total Net Fixed Assets		Total Equity	
Total Assets		Total Liabilities + Equity	

Handout #10- 6
Instructions

Instructions for Constructing a Pro forma Income Statement

Company Name _____

Period Covered _____

20. Calculate projected Sales _____ €
▪ Based on percentage increase or decrease or remaining the same as previous year
▪ Based on number of items sold at projected sales price per unit.
Record the amount in the € column for Sales
21. Calculate Direct Labor. _____ €
▪ Based on number of employees working in production x hourly/daily/weekly/monthly rate of pay.
Record the amount in the € column for Direct Labor
22. Calculate cost of Materials (also referred to as Raw Materials) _____ €
▪ Based on cost per unit/quantity.
▪ Cost of inventory purchased to be resold (trading companies) or cost of raw materials (manufacturing and processing companies).
Record the amount in the € column for Materials
23. Calculate Other Direct Costs. _____ €
▪ Include costs directly related to the purchase of a product to be resold (trading companies) or production of a product to be sold (manufacturing and processing companies)
▪ Include costs such as transportation of materials, utility costs and rent for production facility
Record the amount in the € column for Other Direct Costs
24. Calculate Depreciation/Amortization _____ €
▪ Based on tax laws.
Record the amount in the € column for Depreciation
25. Calculate total Cost of Goods Sold _____ €
▪ Direct Labor + Material + Other Direct Costs + Depreciation
Record the amount in the € column for Total Cost of Goods Sold
26. Calculate Gross Profit _____ €
▪ Sales – Total Cost of Goods Sold
Record the amount in the € column for Gross Profit

27. Calculate Sales and Marketing Expenses

- _____ €
- Salaries, commissions, bonuses paid to sales personnel
 - Travel and entertainment expenses of sales personnel
 - Marketing brochures and promotional items and material
 - Advertising
 - Participation in trade fairs

Record the amount in the € column for Sales and Marketing Expenses

28. Calculate General and Administrative Expenses

- _____ €
- Salaries of director and office employees
 - Office supplies
 - Office rent and utilities
 - All other expenses that are not included in Cost of Goods Sold or Sales and Marketing Expenses

Record the amount in the € column for General and Administrative Expenses

29. Calculate Total Operating Expenses

- _____ €
- Sales and Marketing Expenses + General and Administrative Expenses

Record the amount in the € column for Total Operating Expenses

30. Calculate Net Operating Income

- _____ €
- Gross Profit – Total Operating Expenses

Record the amount in the € column for Net Operating Income

31. Calculate Other Income and Other Expense

- _____ €
- Income derived from a source other than the normal operation of the business, such as sale of a piece of equipment for more than its book value (cost – depreciation).
 - Expense incurred other than in the normal operation of the business, such as sale of a piece of equipment for less than its book value (cost – depreciation).

Record the amounts in the € columns for Other Income and Other Expense

32. Calculate Interest Expense

- _____ €
- Reflected in loan amortization schedule.
 - Based on average debt outstanding x interest rate

Record the amount in the € column for Interest Expense

33. Calculate Total Other Income (Expense)

- _____ €
- Other Income – Other Expense – Interest Expense

Record the amount in the € column for Total Other Income (Expense)

34. Calculate Net Income before Income Taxes

- _____ €
- Net Operating Income – Depreciation – Total Other Income (Expense)

Record the amount in the € column for Net Income before Income Taxes

35. Calculate Income Taxes _____ €
▪ Based on tax laws
Record the amount in the € column for Income Taxes

36. Calculate Net Income (Loss) _____ €
▪ Net Income before Income Taxes – Income Taxes
Record the amount in the € column for Net Income after Income Taxes

37. Calculate each amount as a percentage of Sales.
▪ Divide each amount by the amount of Sales
Record the amount in the % column next to the € amount.

Name of Company: **New Slovenian Company**

Proforma Income Statement

Period Covered: For Year Ending 31 December, 2007

	€	% of Sales
SALES		
Cost of Goods Sold		
Direct Labor		
Materials		
Other Direct Costs		
Total Cost of Goods Sold		
Gross Profit		
Operating Expenses		
Sales & Marketing Expenses		
General & Administrative Expenses		
Total Operating Expenses		
Net Operating Income		
Depreciation/Amortization		
Other Income (Expense)		
Other Income		
Other Expense		
Interest Expense		
Total Other Income (Expense)		
Net Income Before Income Taxes		
Income Taxes		
Net Income (Loss)		

Instructions for Constructing a Pro forma Balance Sheet

Company Name _____

Date: _____

35. Calculate Contributed Capital. _____ €
- Represents only the amount owners contributed.
 - Will be the same as that on previous Balance Sheet unless owners have contributed additional capital.
- Record the amount in the € column for Contributed Capital
36. Calculate Retained Earnings. _____ €
- Total of Net Income during the life of the company less any dividends paid
 - Retained Earnings on Balance Sheet for end of the previous fiscal period + Net Income for this fiscal period – Dividends paid during this fiscal period
- Record the amount in the € column for Retained Capital
37. Calculate Total Equity
- Contributed Capital + Retained Earnings
- Record the amount in the € column for Total Equity
38. Calculate Current Portion Long-term Debt (CPLTD) _____ €
- Amount of principal to be paid in the next 12 months
 - Amount of principal to be paid each month x 12
 - Amount of principal to be paid each quarter x 4
- Record the amount in the € column for Current Portion Long-term Debt
39. Calculate Long-term Debt (LTD) _____ €
- Amount of principal owed – CPLTD
- Record the amount in the € column for Long-term Debt
40. Calculate Short-term Loan
- Principal amount owed to bank or other lender from whom company borrowed money with the agreement to repay it within 12 months.
- Record the amount in the € column for Short-term Loan
41. Total Accounts Payable _____ €
- Total owed to suppliers of material, other forms of inventory.
 - Based upon how many days company will take to pay its debts after they are incurred.
 - $(\text{Material costs}/365 \text{ days in the year}) \times \text{projected Accounts Payable Pay Period}$
 - If cost of materials is not known, use Total Cost of Goods Sold
- Record the amount in the € column for Accounts Payable

42. Calculate Accrued Liabilities _____ €
- Total owed to all individuals, businesses, associations and government agencies other than that included in Accounts Payable, CPLTD and LTD.
 - Includes such expenses as unpaid salaries, income taxes, interest, suppliers of office supplies, office rent, office utilities. Based upon how many days company will take to pay its debts after they are incurred
 - $(\text{Total Operating Expenses}/365 \text{ days in the year}) \times \text{projected Accrued Liabilities Pay Period}$
- Record the amount in the € column for Accrued Liabilities
43. Calculate Total Current Liabilities
- Accounts Payable + Accrued Liabilities + Short-term Loan + CPLTD
- Record the amount in the € column for Total Current Liabilities
44. Calculate Total Liabilities
- Total Current Liabilities + Long-term Debt
- Record the amount in the € column for Total Liabilities
45. Calculate Total Liabilities + Equity
- Total Liabilities + Equity
- Record the amount in the € column for Total Liabilities + Equity
46. Calculate Accounts Receivable
- Total customers owe the company + amounts any other individuals, businesses, associations or government agencies owe the company.
 - Based on Accounts Receivable Average Collection Time
 - $(\text{Sales}/365 \text{ days in the year}) \times \text{Accounts Receivable Average Collection Time} + \text{other amounts owed to the company}$
- Record the amount in the € column for Accounts Receivable
47. Calculate Inventory _____ €
- Based on Inventory Turnover
 - $\text{Material costs} / \text{Projected Inventory Turnover}$
 - May be based on cost of number of units to be in inventory.
- Record the amount in the € column for Inventory
- If material costs are not known, use Total Cost of Goods Sold
48. Calculate Vehicles _____ €
- Recorded at original cost
 - Will be the same as the amount on the previous Balance Sheet unless additional vehicles were purchased or vehicles were sold.
- Record the amount in the € column for Vehicles.

49. Calculate Office Equipment _____ €
- Recorded at original cost
 - Will be the same as the amount on the previous Balance Sheet unless additional office equipment was purchased or office equipment was sold
- Record the amount in the € column for Office Equipment.
50. Calculate Plant Equipment _____ €
- Recorded at original cost
 - Will be the same as the amount on the previous Balance Sheet unless additional plant equipment was purchased or plant equipment was sold.
- Record the amount in the € column for Plant Equipment.
51. Calculate Furniture & Fixtures _____ €
- Recorded at original cost
 - Will be the same as the amount on the previous Balance Sheet unless additional furniture and fixtures were purchased or furniture and fixtures were sold.
- Record the amount in the € column for Furniture & Fixtures.
52. Calculate Buildings _____ €
- Recorded at original cost
 - Will be the same as the amount on the previous Balance Sheet unless additional buildings were purchased or constructed or additions/improvements to existing buildings were made or buildings were sold or destroyed.
- Record the amount in the € column for Buildings.
53. Calculate Land _____ €
- Recorded at original cost
 - Will be the same as the amount on the previous Balance Sheet unless additional land was purchased or land was sold.
- Record the amount in the € column for Land.
54. Calculate Accumulated Depreciation _____ €
- Determined by tax laws.
- Record the amount in the € column for Accumulated Depreciation.
55. Calculate Total Fixed Assets
- Vehicles + Office Equipment + Plant Equipment + Furniture & Fixtures + Buildings + Land – Depreciation
- Record the amount in the € column for Total Fixed Assets
56. Calculate Cash _____ €
- Total Liabilities + Equity – Total Fixed Assets – Accounts Receivable – Inventory
- If the amount is positive, record it in the € column for Cash and proceed with #23 -24.
- If amount is negative, proceed to #25 - 31.

57. Calculate Total Current Assets

- Cash + Accounts Receivable + Inventory

Record the amount in the € column for Total Current Assets.

58. Calculate Total Assets

- Total Current Assets + Total Fixed Assets
- Must equal Total Liabilities + Equity

Record the amount in the € column for Total Assets

59. Calculate minimum Cash required.

_____€

- Based on assumption of minimum cash requirement.
- Example: 2 months operating requirements = (Total Cost of Goods Sold + Total Operating Expenses)/6

Record the amount in the € column for Cash.

60. Calculate Total Current Assets

- Cash + Accounts Receivable + Inventory

Record the amount in the € column for Total Current Assets.

61. Calculate Total Assets

- Total Current Assets + Total Fixed Assets

Record the amount in the € column for Total Assets

62. Calculate Short-term Loan

- Total Assets – (Total Liabilities + Equity) as calculated in #11.

Record the amount in the € column for Short-term Loan

63. Recalculate Total Current Liabilities

- Accounts Payable + Accrued Liabilities + Short-term Loan + CPLTD

Record the amount in the € column for Total Current Liabilities.

64. Recalculate Total Liabilities

- Total Current Liabilities + Long-term Debt

Record the amount in the € column for Total Liabilities

65. Recalculate Total Liabilities + Equity

- Total Liabilities + Total Equity
- Must equal Total Assets

Record the amount in the € column for Total Liabilities + Equity

Name of Company _____

Balance Sheet

Date _____

ASSETS	€	Liabilities	€
Current Assets		Current Liabilities	
Cash		Accounts Payable	
Accounts Receivable		Accrued Liabilities	
Inventory		Short-term Loan	
Total Current Assets		Current Portion LTD	
Fixed Assets		Total Current Liabilities	
Vehicles		Long-term Liabilities	
Furniture & Fixtures		Total Liabilities	
Office Equipment			
Plant Equipment		Equity	
Land & Building		Contributed Capital	
Less: Accumulated Depr.		Retained Earnings	
Total Fixed Assets		Total Equity	
Total Assets		Total Liabilities + Equity	

Handout 10-7
Sensitively Analysis

Operating Expenses				
Sales and Marketing	5,000	0.8%		
G and A	26,000	4.3%		
Total Operating Expenses	31,000	5.2%		
Net Operating Income	69,600	11.6%		
Interest Expense	3,600	0.6%		
Net Profit before Taxes	66,000	11.0%		
Income Taxes	16,500	2.8%		
Net Profit after Taxes	49,500	8.3%		
Current Assets			Current Liabilities	
Cash	88,400		AP	16,274
Accounts Receivable	98,630		Bank Loan	143,989
Inventory	66,000			
Total CA	253,030		Total CA	160,263
			LTD	
Fixed Assets			Total Liabilities	
Vehicles	15,000			
Office Equipment	5,000		Contributed Capital	50,000
Plant Equipment	35,000		Retained Earnings	84,167
Less Accum Depr	-13,600		Total Equity	134,167
Net FA	41,400			
Total Assets	294,430		Total Liab + Equity	294,430

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