

Note

The figures that have been included in this volume are used strictly for educational purposes and take the place of visual materials that would be presented during a lecture. They are provided only for personal use by students of the Hellenic Open University (HOU), and are accompanied by a reference to their source and/or the person who created them. The figures have been reproduced at a size that facilitates comprehension of the words and symbols in them, as well as their content in general.

Reprinting or any other form of reproduction of this volume is prohibited. The volume is intended for the purposes of teaching and examination of HOU students. It is distributed free of charge only to those who created the teaching materials, to students enrolled at HOU, and to the relevant teaching personnel; it is not available for purchase.

FINANCIAL MANAGEMENT AND ACCOUNTING

Corporate Finance

Note

The Hellenic Open University is responsible for the editing of this publication and the development of the text in accordance with the Methodology of Distance Learning. The scientific accuracy and completeness of the written materials are the exclusive responsibility of the authors, scientific reviewers, and academic supervisors who undertook this project.

Copyright © 2005
For Greece and the world
HELLENIC OPEN UNIVERSITY
16, Sahtouri Str. & Ag. Andreou Str., 26222 Patras
Tel: (2610) 367336, 367355 / Fax: (2610) 361420

PREPARATION OF THE TEACHING MATERIAL
of the Volume
Corporate Finance

Academic Supervisor for the Development of the Program and the Textbooks
George Agiomirgianakis

Author	Scientific Reviewer
Dimitrios Vasiliou	Nikolaos Eriotis

Supervision of the Methodology of Distance Learning
Antonia-Maria Chartofylaka

Language Editing
Anthi Tamvaki

Artistic Layout
Artemis Petropoulou

Layout / Production
RED-T-POINT

Coordination of the development of the educational material
and overall supervision of the publications
HOU PROJECT TEAM /1997-2005

ISBN: 960-538-567-8

*In accordance with Law 2121/1993,
the partial or total republishing, or reproduction
by any means, of this book is prohibited
without the permission of the publisher.*



H E L L E N I C O P E N U N I V E R S I T Y

SCHOOL OF SOCIAL SCIENCES

PROGRAM OF STUDIES

Masters in Business Administration

MODULE

Financial Management and Accounting

VOLUME 1

CORPORATE FINANCE

PATRAS 2005

CONTENTS

Preface	15
----------------	-----------

CHAPTER 1

Introduction	17
---------------------	-----------

The Scope of the Chapter	17
--------------------------------	----

Learning Objectives	17
---------------------------	----

Key Words	17
-----------------	----

Introductory Comments	17
-----------------------------	----

1.1 Objectives of the firm	18
---	-----------

1.2 Main financial decisions	19
---	-----------

Synopsis	20
-----------------------	-----------

Bibliography	21
---------------------------	-----------

CHAPTER 2

Time value of money	23
----------------------------	-----------

The Scope of the Chapter	23
--------------------------------	----

Learning Objectives	23
---------------------------	----

Key Words	23
-----------------	----

Introductory Comments	23
-----------------------------	----

2.1 Simple interest	25
----------------------------------	-----------

2.2 Compound interest	28
2.2.1 Terminal value	28
2.2.2 Present value	30
2.2.3 Calculation of compound or discount interest rate	33
2.3 Annuities	34
2.3.1 General concepts	34
2.3.2 Finding the periodic rent	37
2.3.3 Finding the interest rate of an annuity	38
2.3.4 Annuity due	38
2.3.5 Deferred annuity	40
Synopsis	42
Answers to activities	44
Bibliography	48

CHAPTER 3

Cash flow analysis	49
The Scope of the Chapter	49
Learning Objectives	49
Key Words	49
Introductory Comments	49
3.1 Basic concepts	50
3.2 Finding the initial outlay	52
3.3 Finding the incremental annual cash flow	56
3.4 Calculation of the terminal cash flow	60
Synopsis	62
Answer to the activity	63
Bibliography	65

Capital budgeting	67
The Scope of the Chapter.....	67
Learning Objectives.....	67
Key Words	67
Introductory Comments.....	67
4.1 The concept of capital budgeting	69
4.2 Evaluation methods of investment projects	70
4.3 Average rate of return	71
4.4 Payback period.....	73
4.5 Net present value	75
4.6 Profitability index.....	78
4.7 Internal rate of return.....	80
4.8 Calculation of the internal rate of return	83
4.8.1 Constant cash flows	83
4.8.2 Uneven cash flows	84
4.9 Comparison of the methods of the net present value and the internal rate of return	87
4.10 Loan-type cash flows	90
4.11 Multiple internal rates of return	92
Synopsis	97
Answers to activities.....	98
Bibliography.....	102

CHAPTER 5

Risk and capital budgeting **103**

The Scope of the Chapter.....103
Learning Objectives.....103
Key Words.....103
Introductory Comments.....103

**5.1 The risk of an investment project and the methods of its incorporation
in the capital budgeting105**

5.2 Certainty equivalent approach109

5.3 Risk-adjusted discount rate111

**5.4 Comparison of the certainty equivalent approach
and the risk-adjusted rate method113**

5.5 Sensitivity analysis115

5.6 Scenario analysis118

5.7 Simulation120

Synopsis121

Answer to the activity122

Bibliography.....123

CHAPTER 6

Cost of capital **125**

The Scope of the Chapter.....125
Learning Objectives.....125
Key Words.....125

Introductory Comments	125
6.1 Basic concepts	127
6.2 Determination of the cost of each source of finance	129
6.2.1 Cost of debt	129
6.2.2 Cost of preferred stock.....	132
6.2.3 Cost of retained earnings.....	132
6.2.3.1 The capital asset pricing model approach.....	133
6.2.3.2 The dividend discount model	134
6.2.3.3 Bond-yield-plus-risk premium approach.....	136
6.2.4 Cost of new common stock.....	137
6.3 Weighted average cost of capital.....	139
6.4 Marginal cost of capital	141
Synopsis	145
Answer to the activity	147
Bibliography.....	148

CHAPTER 7

Capital structure	149
The Scope of the Chapter.....	149
Learning Objectives.....	149
Key Words	149
Introductory Comments	150
7.1 Basic concepts	151
7.2 The approach of Modigliani - Miller (without taxes).....	152
7.3 The Modigliani - Miller approach with corporate taxes	154

7.4 Criticism of the two MM approaches	156
7.5 Financial distress	157
7.6 Agency costs.....	158
7.7 The trade-off model and the asymmetric information	159
7.8 Basic tools of capital structure management	162
7.8.1 The EBIT-EPS analysis.....	162
7.8.2 Financial ratios.....	165
7.9 Empirical studies for Greece.....	168
Synopsis	170
Answer to the activity	172
Bibliography.....	174

CHAPTER 8

Dividend policy	177
The Scope of the Chapter	177
Learning Objectives.....	177
Key Words.....	177
Introductory Comments.....	178
8.1 Basic concepts	179
8.2 The dividend irrelevance theory	181
8.3 The “bird-in-the-hand” theory.....	182
8.4 The theory of tax preference	183
8.5 Empirical investigation	184

8.6 The residual dividend theory	186
8.7 Various dividend policies	187
8.8 The stock dividend	189
8.9 The stock split	189
8.10 Reverse stock split	190
8.11 The stock repurchase	190
Synopsis	191
Bibliography.....	193
Appendix.....	195
Table 1. Future value of $_1$ at the end of n periods.....	196
Table 2. Present value of $_1$ due at the end of n periods	201
Table 3. Future value of an annuity of $_1$ per period for n periods.....	206
Table 4. Present value of an annuity of $_1$ per period for n periods.....	211

PREFACE

This book describes the theory and practice of corporate financial management. The understanding of finance theory is essential for the development and implementation of effective financial strategies. Financial managers learn in practice how to cope with financial tasks that arise every day. However, the real difference between a good financial manager and a better one is that the latter is able to quickly adapt to changes. To do this, experience is not enough; managers need to understand why these changes occur, why companies behave the way they do and how they should react to these changes. Put in another way, managers need to possess a theory of finance.

The theory presented in this book is, of course, not perfect or complete, as no theory is. Finance has been taught for over the last forty years and this book actually contains the author's collective understanding of finance. The theory of corporate financial management continues to evolve at a fast pace. The economic environment and the practice of finance are being changed on an every-day basis. To successfully deal with these changes financial managers need a conceptual understanding of any emerging situation.

By understanding rather than memorizing the principles of finance and financial management in turn, the reader will be able to cope with the unforeseen and inevitable changes and problems that he/she will encounter in the future. He/she will be able to take quick decisions and effectively cope with various tasks that arise in corporate financial management.

While writing this book the author tried to simultaneously achieve the following three goals: (a) to provide a book that would help the reader to understand financial principles, theories, procedures and techniques, (b) to motivate the reader to further cope with finance, and (c) to create a simple to understand text with several examples and activities, where necessary.

This book is divided into eight chapters, which cover the most important subjects that the financial manager has to deal with. The structure of the book is as follows: The first chapter is a short introduction to financial management. The second chapter refers to the time value of money. The third chapter describes the cash flows analysis. The fourth chapter deals with capital budgeting. The fifth chapter is about the capital budgeting under uncertainty. The sixth chapter examines the cost of capital. The seventh chapter provides an overview of the capital structure, and the eighth chapter covers the dividend policy. Finally, there is an appendix, which contains four financial tables.

Each chapter includes the scope of the chapter, the learning objectives, some key words, an introductory preview, and a synopsis. Additionally, in most of the chapters there are a number of examples with their answers, and various activities, whose answers are presented at the end of the chapter. Please note that the use of "he", "his" and so on, is only for the purpose of simplifying the exposition; it should be understood as including both sexes.