

Cambridge University Press

0521021928 - Money Capital in the Theory of the Firm: A Preliminary Analysis

Douglas Vickers

Frontmatter

[More information](#)

Money capital in the theory of the firm

Cambridge University Press

0521021928 - Money Capital in the Theory of the Firm: A Preliminary Analysis

Douglas Vickers

Frontmatter

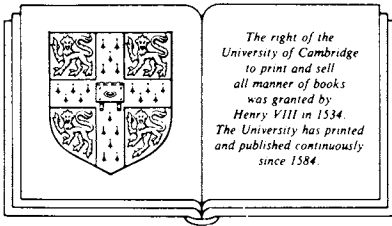
[More information](#)

Money capital in the theory of the firm

A preliminary analysis

DOUGLAS VICKERS

University of Massachusetts



CAMBRIDGE UNIVERSITY PRESS

Cambridge

London New York New Rochelle

Melbourne Sydney

Cambridge University Press

0521021928 - Money Capital in the Theory of the Firm: A Preliminary Analysis

Douglas Vickers

Frontmatter

[More information](#)

Published by the Press Syndicate of the University of Cambridge
The Pitt Building, Trumpington Street, Cambridge CB2 1RP
32 East 57th Street, New York, NY 10022, USA
10 Stamford Road, Oakleigh, Melbourne 3166, Australia

© Cambridge University Press 1987

First published 1987

Printed in the United States of America

Library of Congress Cataloging-in-Publication Data

Vickers, Douglas, 1924–

Money capital in the theory of the firm.

Bibliography: p.

1. Capital. 2. Business enterprises. I. Title.
HB501.V515 987 658.1'52 86–23232

British Library Cataloguing in Publication Data

Vickers, Douglas

Money capital in the theory of the firm :
a preliminary analysis.

1. Working capital

I. Title

658.1'5244 HG4028.W65

ISBN 0 521 32841 1

Contents

Preface *page ix*

PART I: Theoretical issues and analytic motivation

1	The firm in a monetary economy	3
	<i>Time</i>	4
	1 Real-time choice-decision point	7
	2 Production time period	9
	3 Real capital asset investment	9
	4 Liquid asset portfolio	10
	5 Debt capital financing	12
	6 Residual ownership investment in the firm	13
	<i>Uncertainty</i>	15
	<i>Money</i>	18
	<i>Plan of the book</i>	19
2	Assets, capital, and capitalization	22
	<i>Stocks and flows in economic theory</i>	23
	<i>Balance sheet, or economic position statement</i>	24
	<i>Transformation of assets and liabilities: dynamics of the balance sheet</i>	27
	<i>Income statement, or economic performance statement</i>	28
	<i>Operational and financial leverage</i>	31
	<i>Economic decisions in the firm: production, capital, and finance</i>	34
	<i>Economic decisions in the firm and economic position and performance statements</i>	37
	<i>Economic valuation, or capitalization of income streams</i>	38
3	The concept and relevance of economic value	41
	<i>Time value of money</i>	42
	<i>Present values of future expected series of money payments</i>	43
	<i>Application to the firm's investment decisions</i>	44
	<i>Economic value and the relevance of separation theorems</i>	50

Cambridge University Press

0521021928 - Money Capital in the Theory of the Firm: A Preliminary Analysis

Douglas Vickers

Frontmatter

[More information](#)vi **Contents****PART II: The neoclassical tradition**

4	Production, pricing, investment, and financing interdependence in the firm	59
	<i>Notation employed in the model</i>	60
	<i>Preliminary comments on elements of the model</i>	61
	1 Costs of debt and equity capital	61
	2 Revenue function	62
	3 Operating flow costs of factor inputs	62
	4 Money capital requirement coefficients	65
	5 Net working capital asset requirements	66
	6 Money capital requirement function	67
	7 Money capital availability constraint	67
	<i>Initial approximation to the constrained optimization model</i>	68
	<i>Marginal productivity of money capital</i>	70
	<i>Effective cost and product contours and factor substitution</i>	71
	<i>Constrained objective function and economic valuation of the ownership of the firm</i>	73
	<i>Expansion of equity investment</i>	77
	<i>A further approximation to money capital optimization</i>	79
5	Probability, risk, and economic decisions	82
	<i>Probability and probability distributions</i>	82
	<i>Asset combinations and covariance between asset returns</i>	88
	<i>Correlation between random variables</i>	91
	<i>Linear combinations of random variables: expected values, variances, and covariances</i>	93
	<i>Covariance matrix</i>	96
	<i>Covariance matrix of a weighted sum of random variables</i>	97
	<i>Variance of a weighted sum of random variables</i>	102
	<i>Application of probability and risk: two-asset portfolio opportunity locus</i>	103
6	Utility, uncertainty, and the theory of choice	108
	<i>Utility function</i>	108
	<i>Utility and probability: investor's risk-aversion utility function</i>	112
	<i>Axiomatic basis of stochastic utility</i>	119
	<i>Construction of the utility function</i>	122
	<i>Example of a derived utility function</i>	124
	<i>Uniqueness of the utility function</i>	127
	<i>The firm's choice of output under selling price uncertainty</i>	129

Cambridge University Press

0521021928 - Money Capital in the Theory of the Firm: A Preliminary Analysis

Douglas Vickers

Frontmatter

[More information](#)

Contents	vii
7 Financial asset markets and the cost of money capital	133
<i>Assumption content of the equilibrium theory of financial asset prices</i>	133
<i>Portfolio asset choice</i>	136
<i>Risk-free asset opportunity</i>	139
<i>Asset market equilibrium condition</i>	143
<i>Nonstandard results of the equilibrium asset pricing theory</i>	147
<i>A utility-theoretic interpretation</i>	150
<i>Wealth allocation separation theorem</i>	151
<i>The cost of money capital</i>	153
8 The cost of money capital: further analysis and controversy	156
<i>Illustration of the full marginal cost of relaxing the money capital availability constraint</i>	156
<i>Weighted average cost of capital</i>	160
<i>The question of business risk</i>	162
<i>Modigliani–Miller hypotheses: weighted average cost of capital revisited</i>	164
<i>Adjustment for the firm's tax liability</i>	171
<i>Entity theory of the firm's capital structure and the equilibrium theory of financial asset markets</i>	172
<i>Growth of the firm and the cost of equity capital</i>	175
<i>Variable growth rates and the cost of equity capital</i>	177
<i>Comparison of equity capital costs</i>	178
9 The investment expenditure project	180
<i>Investment decision criterion</i>	180
<i>Relevant cost of capital</i>	181
<i>Investment project expected cash inflows</i>	184
<i>Probabilistically reducible risk and investment decisions</i>	185
 PART III: Postclassical perspectives	
10 Neoclassicism and an alternative perspective	191
<i>Production and factor employment</i>	191
<i>Output markets and competitive conditions</i>	193
<i>Theory of utility</i>	193
<i>Logic of constrained optimization</i>	194
<i>Historic time, uncertainty, and knowledge</i>	194
<i>General equilibrium postulates</i>	195
<i>An alternative theory of money capital investment</i>	196
<i>Uncertainty and potential surprise</i>	196

Cambridge University Press

0521021928 - Money Capital in the Theory of the Firm: A Preliminary Analysis

Douglas Vickers

Frontmatter

[More information](#)

viii	Contents	
11	Production and the place of money capital	197
	<i>Operating characteristics of the firm</i>	201
	<i>Money capital employment decision</i>	205
	<i>The firm's optimum-structure decisions</i>	210
12	Uncertainty and decisions in the firm	212
	<i>Possibility and economic decisions</i>	213
	<i>Potential-surprise function</i>	215
	<i>Investment decision criterion</i>	219
	<i>Interpretation of economic value</i>	225
	<i>The possibility of project reversal</i>	226
	<i>Utility reappraised</i>	227
	<i>A final note on probability</i>	228
	<i>Further applications and the place of economic judgment</i>	230
	<i>References</i>	232
	<i>Index</i>	239

Cambridge University Press

0521021928 - Money Capital in the Theory of the Firm: A Preliminary Analysis

Douglas Vickers

Frontmatter

[More information](#)

Preface

The place of money capital in the theory of the firm is interdependent with the analysis of production, pricing, and capital investment. In this book I have examined those areas of economic theory that bear most directly on that analytical interdependence. In doing so, I have had principally in mind the needs of advanced students, including those who are making an initial approach to the subject at both undergraduate and graduate levels. I hope that my professional colleagues will be interested eavesdroppers, and that in those areas in which some novelty is proposed it might be thought that prospects exist for a meaningful reconstruction and new advances in the theory of the firm.

I have not set out, however, to construct a theory of the firm in its entirety. I have addressed the main issues of the relation between the firm's employment of real capital and money capital, and I have examined the linkage of those questions to the cost and availability of finance and relevant decision making in the firm. My perception of the needs of the student has determined the method and level of exposition. I have found, for example, that students have benefited from a reasonably painstaking exposition of the statistical foundations of probability theory and from a good degree of motivation for the mathematical development of such advanced topics as the utility function defined over stochastic arguments, the equilibrium theory of financial asset prices and yields, the cost of money capital, and investment decision criteria. A large number of more advanced treatments of these issues are referred to in the course of the argument and are noted in the list of references, but they are not all developed to the degree that might have been desirable if different objectives had been in view.

In the neoclassical tradition, the theory of the firm has not provided a rigorous working out of the analytical interrelations I have in view. As Boulding has lamented, the firm "as generally presented in the textbooks . . . is a strange bloodless creature." It is usually examined without any recognition of the place and significance of money capital. No serious attention has generally been given to sorting out the conceptual distinctions between, and the mutual dependence of, real capital and money capital. A lack of clarity exists as to the meaning and interpretation of capital as a factor of production whose cost may or may not be coordinate with that of factors of production in general. The need exists to reconsider the timeless, static, certainty or certainty-

Cambridge University Press

0521021928 - Money Capital in the Theory of the Firm: A Preliminary Analysis

Douglas Vickers

Frontmatter

[More information](#)x **Preface**

equivalent analysis of the firm to which our absorption with the general equilibrium apparatus has directed us.

The manner in which that need is addressed is indicated in more detail in the outline of the plan of the book in Chapter 1, which makes extensive prefatory observations unnecessary. After a preliminary sorting out of basic ideas and areas of analysis in the three chapters of Part I, I have arranged the main body of the work under the headings of “The neoclassical tradition” in Part II and “Postclassical perspectives” in Part III. The six chapters of Part II refurbish and expand the neoclassical theory of the firm in such a way as to approach, from that perspective, the possibility of an analytical integration of the kind I have referred to.

In Part III the argument is relieved of the weight of the conventional neoclassical assumptions. The chapters of that final part present an alternative view of the firm’s pricing, production, investment, and financing interdependence in which, however, certain aspects of the preceding analysis are seen in a different guise and are accorded a different analytical significance. In the final chapter a new analysis is given of the firm’s decision problems in the context of the uncertainties and ignorance in which economic action is bound. The neoclassical apparatus of the probability calculus and stochastic utility of Part II is replaced by potential surprise and a new Decision Index in Part III.

Parts of the book are unavoidably influenced by my previous writing on this subject, and that is referred to where appropriate. I am grateful to the University of Pennsylvania Press for permission to reproduce in amended form part of the argument contained in my *Financial Markets in the Capitalist Process*. My heavy indebtedness to the architects of the neoclassical theory will be clear from the chapters of Part II, and I have endeavored to make full acknowledgment to all those scholars whose work has formed my impressions and understanding in these areas. I am indebted also to those who have preceded me in the task of erecting a new and hopefully more satisfying and relevant body of theory, and I trust again that my acknowledgment of that debt will be clear in the argument of the book.

My thanks are due also to my colleagues, Professors Donald W. Katzner and Randall Bausor, with whom I have discussed many of the ideas contained in the book, and who gave me the benefit of their critical evaluation at earlier stages of the work. I absolve them, however, from responsibility for the blemishes that remain. I happily record my deepest thanks to Ann Hopkins, who undertook responsibility for the word processing and the production of the manuscript.