INFORMATION TO USERS

This manuscript has been reproduced from the microfilm master. UMI films the text directly from the original or copy submitted. Thus, some thesis and dissertation copies are in typewriter face, while others may be from any type of computer printer.

The quality of this reproduction is dependent upon the quality of the copy submitted. Broken or indistinct print, colored or poor quality illustrations and photographs, print bleedthrough, substandard margins, and improper alignment can adversely affect reproduction.

In the unlikely event that the author did not send UMI a complete manuscript and there are missing pages, these will be noted. Also, if unauthorized copyright material had to be removed, a note will indicate the deletion.

Oversize materials (e.g., maps, drawings, charts) are reproduced by sectioning the original, beginning at the upper left-hand corner and continuing from left to right in equal sections with small overlaps.

Photographs included in the original manuscript have been reproduced xerographically in this copy. Higher quality 6" x 9" black and white photographic prints are available for any photographs or illustrations appearing in this copy for an additional charge. Contact UMI directly to order.

Bell & Howell Information and Learning
300 North Zeeb Road, Ann Arbor, MI 48106-1346 USA
800-521-0600

UMI®

MONETARY CRISIS AND INTEREST-BEARING CAPITAL:

A HISTORY OF THOUGHT PERSPECTIVE

by

Mark Lautzenheiser

A dissertation submitted to the faculty of
The University of Utah
in partial fulfillment of the requirements for the degree of

Doctor of Philosophy

Department of Economics

The University of Utah

August 2000

THE UNIVERSITY OF UTAH GRADUATE SCHOOL

SUPERVISORY COMMITTEE APPROVAL

of a dissertation submitted by

Mark Lautzenheiser

This dissertation has been read by each member of the following supervisory committee and by majority vote has been found to be satisfactory.

May 3, 2000 — Chair: E. K. Hunt

May 3, 2000 — Susan Chesteen

May 3, 2000 — Mark Glick

May 3, 2000 — Laura Linebarger

May 3, 2000 — Allen M. Sievers

THE UNIVERSITY OF UTAH GRADUATE SCHOOL

FINAL READING APPROVAL

To the Graduate Council of the University of Utah:

I have read the dissertation of Mark Lautzenheiser in its final form and have found that (1) its format, citations, and bibliographic style are consistent and acceptable; (2) its illustrative materials including figures, tables, and charts are in place; and (3) the final manuscript is satisfactory to the supervisory committee and is ready for submission to The Graduate School.

May 3, 2000
Date

E. K. Hunt
Chair, Supervisory Committee

Approved for the Major Department

E.K. Hunt
Chair/Dean

Approved for the Graduate Council

David S. Chapman
Dean of The Graduate School

ABSTRACT

The dissertation conducts historical and rational reconstructions of Karl Marx's monetary theory appearing in Part 5, Volume III of *Capital*. Part 5 constitutes Marx's attempt to formulate a monetary theory which encompasses economic categories such as the banking system, credit system, financial markets, bank money, bills of exchange, and interest rates. However, due to the incomplete nature of Part 5 this broadly defined monetary theory has been relatively ignored by economists. The reconstructions presented here contribute to Marxian economics as well as to the history of economic thought.

Three particular topics in the monetary theory of Part 5 are reconstructed. The first reconstruction concerns the relationship between the labor theory of value and interest-bearing capital. Contrary to the literature, the dissertation demonstrates that the labor theory of value is consistent with Marx's definition of the value of interest-bearing capital. This demonstration reveals the logical consistency within Marx's theoretical framework. The second reconstruction considers the reasons for Marx's rejection of the natural rate of interest and replacement with the average rate of interest. Three new reasons for Marx's rejection of the natural rate of interest are presented in the dissertation. It is also argued that Marx's use of an average rate of interest provides an important, but little studied, concept for interpreting his monetary theory. The third reconstruction attempts to establish the relationship between monetary theory and crisis theory. The

dissertation demonstrates that three possible interpretations can be formulated from Part 5 in order to specify the theoretical relationship: Keynesian perspective, realization of surplus-value perspective, and a modified saving-investment approach.

The reconstructions establish that Marx had the beginnings of a very advanced monetary theory. Furthermore, the reconstructions demonstrate that Marx's work represents a transition in the history of monetary theory between classical economics and the work of John Maynard Keynes. Far from being a weakness within Marx's work, the dissertation establishes that the monetary theory contained within Part 5 is an area of strength which deserves more attention from scholars.

TABLE OF CONTENTS

ABSTRACT iv

ACKNOWLEDGMENTS viii

1. INTRODUCTION 1

1.1 Objective and methodology 5
1.2 Three topics for reconstruction 8
1.2.1 Interest-bearing capital and the labor theory of value 9
1.2.2 Natural and average rate of interest 11
1.2.3 Relationship between monetary theory and crisis theory 12
1.3 Summary 15

2. INTEREST-BEARING CAPITAL 17

2.1 Methodology 18
2.2 Literature review 22
2.3 An alternative interpretation 37
2.3.1 Capital as capital 38
2.3.2 Value theory and price theory 43
2.3.3 Capital fetishism 56
2.4 Summary 58

3. FICTITIOUS CAPITAL 60

3.1 Literature review 60
3.2 Implications of fictitious capital 65
3.3 Marx on fictitious capital 78
3.4 Summary 86

4. MARX ON INTEREST 88

4.1 Origin of interest 89
4.2 The natural rate of interest 91
4.3 The monetary theory of distribution 94
4.4 Marx's rejection of the natural rate of interest 103
4.5 Marx's average rate of interest 115

4.6 Significance of the average rate of interest 120
4.6.1 Income distribution 120
4.6.2 Cycles and crises 122
4.6.3 Preliminary approach 127
4.7 Summary 131

5. CONTRADICTIONS AND RESOLUTIONS IN MONETARY THEORY 133

5.1 Literature review 134
5.2 Apparent contradictions 155
5.3 Keynesian perspective 160
5.4 Realization of surplus-value perspective 175
5.5 Summary 187

6. A MODIFIED SAVING-INVESTMENT APPROACH 190

6.1 Keynes's *Treatise on Money* 194
6.2 Marx's modified approach 203
6.3 Keynes's modified approach 223
6.4 Summary 231

7. CONCLUSION 233

REFERENCES 241

ACKNOWLEDGMENTS

Many people have made significant contributions to the dissertation. I would first like to acknowledge my appreciation to the committee members: Susan Chesteen, Mark Glick, Laura Linebarger, and Allen Sievers. Each member played an important role in the improvement of the overall substance and presentation of the dissertation. Several professors not serving on the committee also provided guidance and made indirect suggestions for the dissertation. Three of these professors are Cihan Bilginsoy, Hans Ehrbar, and Korkut Erturk. A special appreciation is due to the department of economics administrative staff, especially Ginger Alewine, for helping to organize the committee and seeing to the required paper work.

I owe a very special debt of gratitude to the chair of the dissertation committee, E.K. Hunt. Everything of value in the dissertation can be traced back in one way or another to the writings and lectures of Professor Hunt. His patience in reading the many draft papers which came to result in the dissertation and valuable insights he generously shared provided the needed inspiration to continue with the subject. Professor Hunt continues to inspire and challenge students in the economics graduate program to become economists with a deep concern for the welfare of society. I am enormously proud to be considered one of his students.

The dissertation has been improved by numerous discussions with fellow graduate students. Yavuz Yasar played a tremendously important role in the development of a

particular aspect of the dissertation. His willingness to take time away from his own work and force me to clarify parts of the dissertation was invaluable. For encouragement and friendship during the course of writing the dissertation I would like to thank Berhanie Abebe, Matt Chang, Justin Elardo, Mark Price, John Salvarakis, and Chace Steihl. I would also like to thank the Heterodox Economics Student Association for allowing me to present a significant portion of the dissertation in one of its seminars. The presentation allowed me to obtain questions and comments from a much wider audience than otherwise possible. In addition, I would like to acknowledge the Marriner S. Eccles Graduate Fellowship foundation for a year long fellowship enabling me to work exclusively on the dissertation.

My parents have been a constant source of support for me while writing the dissertation for which I am very grateful. A project such as this requires much time away from loved ones. I deeply regret missing time with my son, Johnathan. His understanding and patience in making the many required sacrifices helped to ease my mind while working. The dissertation for me will be judged a success if one day he deems it worth his many sacrifices. Above all, I would like to thank my wife, Tracy, for her patience, support, friendship, and love in this endeavor. Although she may not have always realized it, I simply could not have completed the dissertation without her. As a small gesture of my deep love and gratitude, I would like to dedicate the dissertation to her.

CHAPTER 1

INTRODUCTION

The economic writings of Karl Marx have been a constant source of scholarly examination for over a century. The examinations have been conducted by self-proclaimed Marxists as well as mainstream economists. The history of economic thought is replete with papers on Marx's economic writings. Therefore, another examination of this well trodden territory requires some explanation, if not a strong justification.

For many years, studies of Marx's theory of money began with statements on the lack of attention paid to this particular topic. However, the increase in papers and books appearing in recent years with a central objective of studying Marx's theory of money has now made such statements less valid. Marx's theory of money has now been studied to a fairly ample extent. A study directed at Marx's theory of money is no longer a strong justification for another analysis of Marx's writings. However, it is still true that Marx's theory of money has not been incorporated as an important part of the history of monetary theory. On the one hand, it would be difficult to find a history of economic thought text that does not contain a chapter on the writings of Karl Marx. On the other hand, it would be more difficult to find a text on monetary theory, even specifically the history of monetary theory, that contains more than passing reference to Marx.

The justification, therefore, is not strong for yet another work on Marx's writings even if directed at his monetary theory. However, the work on Marx's monetary theory

has remained on an abstract level. This growing literature has dealt with Marx's theory of money as presented in the first two volumes of *Capital*. Within these first two volumes, however, there are no banking system, credit system, financial markets, bank money, bills of exchange, and interest rates. With few notable exceptions, these topics are only introduced in Volume III of *Capital*, Part 5. When monetary theory is broadly defined to contain such topics the number of investigations of this well trodden territory severely declines.

The issue is not whether Marxist economists have studied monetary theory in this broad sense. Rather, the issue concerns whether economists have studied Marx's original writings in this area. For example, there are Marxist economists writing on the financial system, or monetary theory in general, who may receive inspiration from Marx's original writings. However, there are very few attempts to interpret Marx's original writings on this topic. Moreover, the historians of economic thought have not fared well in this area. The historians have given significant attention to the monetary theories developed by the great classical economists such as Adam Smith and David Ricardo, in addition to lesser known economists writing during this period such as Thomas Tooke. The historians of thought have generally continued to focus attention only upon Marx's monetary theory contained in the first two volumes of *Capital*.

The relative lack of attention directed at Marx's monetary theory in spite of over a century of scholarly study in his other works requires some explanation. Two possible explanations immediately present themselves. First, Marx's writing in monetary theory could be lacking. This explanation needs to be separated in terms of lacking from a modern standpoint and lacking from a history of economic thought standpoint. Being

judged lacking from a modern standpoint might result from changes in the financial system. In other words, Marx's writings may provide no insights into an analysis of today's financial system. Alternatively, the writings could be judged lacking from a modern standpoint because of inherent logical difficulties. In Chapter 4, a model developed by Carlo Panico will be reviewed which endeavors to demonstrate certain internal logical difficulties in Marx's work. These difficulties are found by utilizing a Sraffian price model, which simply was not available at the time Marx was writing. There will be very little in the dissertation on the discussion of whether Marx's theory is lacking due to any changes in the financial system. There will be more on whether Marx's theory is lacking from inherent logical difficulties.

Marx's monetary theory, broadly defined, may receive little attention because it is lacking relative to the rest of the history of monetary theory. This is precisely Blaug's conclusion on Marx's monetary theory contained in Part 5. Blaug claims that Marx's monetary theory "even on its own reading, fares badly next to the best work of his predecessors" (Blaug 1995: 285). One underlying theme in the dissertation will be that Blaug's conclusion and this explanation for the inattention is not correct. It will be argued that Marx's monetary theory represents a particular point of transition within one strand of the history of monetary theory. The new line of transition runs from the classical economists to Marx to the work of John Maynard Keynes. This line of transition has recently begun to be developed. The development, however, has more to do with certain post-Keynesian economists rather than Marxists or historians of thought. This new transition requires further work on the place of Marx's writings within the history of economic thought.

The second explanation to the question of why so little has been done on Marx's monetary theory relies on the nature of the work itself. The explanation derives from Frederick Engels's preface to Volume III:

> It was Part Five that presented the major difficulty, and this was also the most important subject in the entire book. Marx was engaged in elaborating precisely the Part, when he was attacked by one of the serious illnesses referred to above. Here, therefore, we did not have a finished draft, or even an outline plan to be filled in, but simply the beginning of an elaboration which petered out more than once in a disordered jumble of notes, comments and extract material. (Marx 1894: 94-95)

Engels goes on to explain the state of Part 5 by chapters. The first half of Part 5 according to Engels did not pose significant editorial problems, especially the beginning Chapters 21 to 24. In any case, Volume I of *Capital* is the only volume Marx lived to see to publication. However, according to Engels Volume II of *Capital*, although "not an easy job to prepare," had at least "a large number of versions" with at least one manuscript ready for publication (Marx 1885: 83). The other parts in Volume III according to Engels again seemed to provide much more material to work with than Part 5. The second explanation then for why little work has been done on Marx's monetary theory is that much of it was contained precisely in this "disordered jumble of notes, comments, and extract material" constituting Part 5 of Volume III.[1] On the other hand, the lack of attention given to this part is inconsistent with Engels's judgement that it represented "the most important subject in the entire book."

---

[1]In the remainder of the dissertation Part 5 of Volume III will be referred to solely as Part 5.

1.1 Objective and methodology

The objective of the dissertation is to conduct a mostly historical reconstruction of Marx's monetary theory appearing in Part 5. Although useful, an entire reconstruction of Part 5 is beyond the scope of the dissertation. Therefore, only three particular topics in the monetary theory of Part 5 will be reconstructed. The explanation, and justification, for this undertaking relies upon the importance of the reconstruction for Marxian economics as well as the history of economic thought. The importance of the reconstruction for Marxian economics will be an interpretation of a largely ignored subject in Marx's writings. Marxist economists may either gain further insights from Marx's original work or choose to break away from it. The importance for the history of economic thought will be that the reconstruction contributes to a new line of transition in the history of monetary theory. The beginning of a new monetary theory within Part 5 will lay the basis for the incorporation of Marx as an important figure in this particular history.

The reconstruction of Part 5 is undertaken from a history of economic thought perspective. However, a reconstruction, intended as a true interpretation, of an unfinished manuscript presents a host of difficulties. Mark Blaug (1990, 1991, 1999) has made a useful distinction for methodology in the history of economic thought between historical reconstructions and rational reconstructions. A rational reconstruction has "the tendency to view history as a relentless march of progress from past errors to present truths. ... It appraises *their* [past thinkers] ideas in *our* terms in order to confirm the belief that there has been progress in intellectual history" (Blaug 1999: 213). For example, the Sraffian model extended by Carlo Panico mentioned above attempts to rationally reconstruct a

particular aspect of Marx's work. On the other hand, a historical reconstruction "attempts to recover the ideas of past thinkers in terms that they, and their contemporaries, would have recognized as a more or less faithful description of what they had set out to do; it tries to see the past as the past saw itself" (Blaug 1999: 213). A strict historical reconstruction is nearly impossible to adhere to consistently if for no other reason than that it requires the historian of thought to forget the knowledge of the present. In other words, historians are asked to transport themselves back to the time of the economist being studied.

The stated objective of the dissertation specifically included the terminology "mostly historical reconstruction" in order to incorporate Blaug's distinction. In this sense, the reconstruction will be conducted "in terms which these thinkers [i.e., Marx] would have accepted as a correct description of what they had done" (Blaug 1991: ix). However, since the reconstruction begins from a "disordered jumble of notes, comments, and extract material" the task is even more difficult. The reconstruction will thus assume the character of a rational reconstruction in certain parts of the dissertation. The parts which are rational reconstructions will attempt also to be "faithful historical reconstruction[s]" (Blaug 1999: 214). In order to accomplish this task other parts of Marx's writings will be covered in order to validate the rational reconstructions.

The reconstruction of Part 5 will focus upon three general topics: first, the relationship between the labor theory of value and interest-bearing capital, second, Marx's reasons for rejecting the natural rate of interest and replacement with the average rate of interest, and third, Marx's monetary theory in relation to crisis theory. Although these topics do not in any way exhaust those covered in Part 5, they seem particularly

relevant for a contribution to Marxian economics and the history of economic thought.

Although there are several ways to approach the history of monetary theory, the three topics for reconstruction listed above provide a general organizational method. Among the possible approaches, one may choose to begin by placing economists on the side of the quantity theory of money or its critics, such as Currency School versus Banking School. Alternatively, Axel Leijonhufvud (1981) has proceeded by characterizing economic theorists in terms of either employing a quantity theory of money or a saving-investment approach. Joseph Schumpeter's (1954) distinction between money theories of credit and credit theories of money represents another approach. In addition, Colin Rogers (1989), following Schumpeter, makes extensive use of the distinction between real analysis and monetary analysis. Finally, and related to the quantity theory of money and its critics, a distinction could be made between endogenous and exogenous theories of the money supply. The three topics for reconstruction represent points of connection to all of these alternative approaches in the history of monetary theory.

The reconstructions of the three topics not only constitute important aspects in the history of monetary theory, but also make an addition to recent interpretations in Marxian economics. It is still true that Marx's monetary theory, even narrowly defined, has received less attention by Marxist economists relative to other parts of his theory (De Brunhoff 1976, and Hilferding 1910 being notable exceptions). However, Marx's monetary theory received renewed interest during the 1980s from papers by Jim Crotty (1985, 1986, 1987), Peter Kenway (1980), Don Lavoie (1983, 1986), John Parson (1988),

John Roche (1985), and Steve Shuklian (1991).[2] This literature attempted to demonstrate the disequilibrium and crisis effects that money initiates. The theme of this literature is the connection between Marx's monetary theory and the possibility for crisis. Although the papers take a slightly different variation on this theme, each author builds his central argument around Marx's comments that money presents the possibility for crisis. Much of this literature remained at a high level of abstraction relying on interpretations of Marx's work presented prior to Volume III. The third topic for reconstruction extends this literature on the relationship between Marx's monetary and crisis theories by including an interpretation of Part 5.

During the 1990s there had been another attempt to investigate Marx's monetary theory, this time focusing on the financial system as found in Part 5. A recent publication edited by Riccardo Bellofiore (1998) having its origin in a conference on Volume III, along with the spring 1997 issue of the *International Journal of Political Economy* which devotes the entire issue to papers on Marx's monetary theory in Part 5, are indications that this work still holds out hope of being incorporated into the main body of Marxian economics. Although this literature correctly directs attention to the part of the theory in need of development, it remains incomplete. The first two topics for reconstruction represent a contribution to this literature.

1.2 Three topics for reconstruction

A brief introduction to the three topics for reconstruction is presented in this

[2]Gary Dymski (1990) provides a useful review of much of the literature on monetary theory within Marxian economics.

section. The topics will be discussed in terms of their importance and placement within the dissertation. In addition, this section attempts to make clear the issues involved when dealing with these topics within Marx's writings. It will be observed that these topics are interrelated. It is not, however, the objective of this dissertation to make these interrelations absolutely explicit. There exists a great deal of room within Marx's framework for various ways to bring together these topics.

1.2.1 Interest-bearing capital and the labor theory of value

Interest-bearing capital must be the starting point for a reconstruction of Marx's work on the financial system. Marx's basic unit of analysis for studying the financial system is interest-bearing capital. The main difficulty lies in making a clear connection between the labor theory of value, the foundation of Marx's economic theory, and interest-bearing capital, the unit of analysis of the financial system.

The literature on interest-bearing capital demonstrates the difficulty of analyzing the financial system within a framework built upon the labor theory of value. Within the labor theory of value, the value of an ordinary commodity is defined as abstract labor. Interest-bearing capital, however, represents a commodity not containing abstract labor. The literature has taken this to imply that interest-bearing capital is a commodity without value. Furthermore, price of interest-bearing capital has normally been stated as being determined in opposition to the labor theory of value. The result of this conception of interest-bearing capital has been a distinction within the theoretical framework used to study capitalism.

The conception of interest-bearing capital in the literature and the implications

drawn from it have created a disturbing tension within Marxian economics. The literature has maintained a distinction between interest-bearing capital and the labor theory of value. However, the literature has recognized a fundamental connection between the two. Marx was able to utilize the labor theory of value in order to uncover the origin of surplus-value. Once interest as an economic category is introduced surplus-value splits into interest and profit of enterprise. Therefore, the origin of interest is found within surplus-value and intimately tied to the labor theory of value. This tension within the literature is studied in Chapter 2.

Chapter 2 presents a detailed discussion of interest-bearing capital. The discussion begins with a brief look at the methodology for economic theory employed by Marx. The methodological discussion will reenforce the consistency of the development of Marx's theory and open up an avenue to demonstrate the compatibility of the labor theory of value and interest-bearing capital. It will be demonstrated that contrary to the literature on interest-bearing capital, Marx consistently applied the labor theory of value to interest-bearing capital. The key to this application is to view the labor theory of value as a true definition within the rationalist tradition. Therefore, once Marx's definition of interest-bearing capital is made, the application of the labor theory of value follows consistently. The above tension within the literature is resolved by defining the value of interest-bearing capital within the labor theory of value.

Interest-bearing capital is a general category for various financial assets. This category encompasses other financial assets such as fictitious capital and banking capital. Fictitious capital is the subject of Chapter 3. The literature has been at odds in defining fictitious capital. Brief comments will be made on this definition. However, the main

objective of the chapter is to begin the study of the theoretical implications of incorporating fictitious capital within the overall theory.

The literature on fictitious capital has chosen to apply this concept to an analysis of crisis theory and the relationship between real and monetary accumulation. Various attempts to incorporate fictitious capital within crisis theory are reviewed in Chapter 3. Fictitious capital has been used to develop certain divergences which lead to crisis. The divergences caused by fictitious capital occur between price and value, production and circulation, or real and monetary accumulation. The incorporation of fictitious capital within crisis theory remains in the initial stages of development. This research, though promising, suffers from several weakness pointed out in Chapter 3.

1.2.2 Natural and average rate of interest

The value of interest-bearing capital leads to the study of the average rate of interest. Chapter 4 gathers together various comments by Marx in order to offer an explanation of the determination and significance of the average rate of interest. There exists a growing literature on Marx's determination of the average rate of interest. Recently, a particular approach loosely called the monetary theory of distribution has attempted to encapsulate the work of the classical economists, Marx and Keynes within a Sraffian framework. This approach is characterized by Carlo Panico (1980, 1988), Massimo Pivetti (1991), and Henryk Plasmeijer (1998). The average rate of interest establishes a point of commonality in the approaches of Marx and Keynes, in contrast to the classical theory. The beginnings of a new line of transition in the history of monetary theory can then be gleaned from this work on the average rate of interest.

Marx's use of an average rate of interest emerged directly from a rejection of the natural rate of interest. The natural rate of interest held an important position within the history of monetary theory. Marx's rejection of this concept further establishes his break from classical monetary theory and movement towards Keynes. The literature on Marx's rejection of the natural rate has relied closely on the idea that interest-bearing capital is not subject to the labor theory of value. This explanation then culminates in a rejection of the natural rate due to interest not having a center of gravitation. One of the objectives of Chapter 4 will be to demonstrate that the literature has missed important reasons for Marx's rejection of the natural rate of interest. Once these reasons are incorporated, Marx's monetary theory comes closer to that of Keynes.

The magnitude of the average rate of interest is determined by common opinion and institutional and social factors. The difficulty will be to explain the significance of this variable. In the literature, it soon becomes apparent that outside of the monetary theory of distribution the average rate of interest plays no significant role. In Chapter 4 a very brief literature review on this topic will be made which, when combined with the literature in Chapter 3, demonstrates the lack of any attempt to incorporate the average rate of interest into a broader theoretical framework. These critical remarks are aimed not so much at an actual incorporation, but rather at the absence of attempts to provide a framework for such an incorporation.

1.2.3 Relationship between monetary theory and crisis theory

In the dissertation the relationship between Marx's monetary theory, broadly defined, and his crisis theory will be studied. While developing the monetary theory in

Part 5, Marx presents numerous examples of periods of actual crisis. However, the theoretical development of this relation between monetary and crisis theory in Part 5 is left incomplete. Therefore, rational reconstructions are made in Chapters 5 and 6 to build the theoretical relationship between monetary and crisis theory. An important connection in Marx's writings can be made between Part 5 and the *Grundrisse*, *Theories of Surplus Value*, and Volumes I and II. These connections in Marx's writings will be utilized to demonstrate that the rational reconstructions are true historical reconstructions as well.

Many discussions in the literature on Marx's monetary theory are embedded within a crisis theory. However, for the most part, the literature has focused upon a particular type of crisis theory labeled possibility theory. This theory indicates that money introduces the possibility for crisis to occur. In many cases, this is as far as the literature has developed the relationship between Marx's monetary theory and crisis theory. It is argued in the dissertation that this particular research agenda has not developed further because Part 5 has not been incorporated.

In Chapter 5, two reconstructions will be offered in order to reconcile apparent contradictions in Marx's writings. Both formulations arise from a careful reading and reconstruction of Part 5. The first reconstruction leads in the direction of a Keynesian perspective being built upon the saving-investment relationship with the interest rate determined in the money market. The reconstruction places Marx as one of the few economists writing during the 19th century to formulate a saving-investment approach to monetary theory. The second reconstruction in Chapter 5 shifts the focus towards the realization of surplus-value. In presenting this reconstruction, it will be argued that, although related, the concern with *ex ante* versus *ex post* saving and investment obscures

the real question under consideration. An important area of study for Marx was the ultimate realization of the surplus-value. This reconstruction puts an emphasis on monetary hoards, as a stock variable, the expenditure pattern of the capitalist class, and makes a direct link to the study of the financial system.

In Chapter 6, a third reconstruction will be made under the label of a modified saving-investment approach. This reconstruction combines various aspects of the two reconstructions developed in Chapter 5. The work of Keynes in the *Treatise on Money* and the early drafts to the *General Theory of Employment, Interest and Money*[3] will be used as a mechanism to situate this reconstruction within the history of monetary theory. It is argued in Chapter 6 that in terms of methodology and dynamics the *Treatise* and early drafts provide a better means of linking the theories of Marx and Keynes. However, the method of the *Treatise* lies squarely within the traditional saving-investment approach. It will be seen that this approach cannot incorporate many of the economic aspects which Marx and Keynes wished to investigate. The modified saving-investment approach demonstrates that both Keynes and Marx laid the foundations for an alternative framework.

The reconstructions within Chapters 5 and 6 are labeled as rational reconstructions in Blaug's sense. Many of the concepts used, such as saving and investment or money demand and supply functions, may not correspond exactly to Marx's use. These concepts are developed in order to rationally reconstruct Part 5. However, these rational reconstructions are developed in the spirit of historical

---

[3]In the remainder of the dissertation the *Treatise on Money* will be referred to simply as the *Treatise*. *The General Theory of Employment, Interest, and Money* will be cited as the *General Theory*.

reconstructions in the sense that they aim at achieving results compatible with Marx's own theory. Chapters 5 and 6 incorporate some of Marx's writings on money and crisis outside of Part 5 in order to demonstrate the compatibility of the rational reconstructions with Marx's intentions.

1.3 Summary

The economic writings of Karl Marx have indeed been studied to a great extent. The monetary theory has received less attention relative to other aspects of Marx's theory. Even less attention has been directed at Part 5 containing much of Marx's monetary theory broadly defined to include the banking system, credit system, financial markets, bank money, bills of exchange, and interest rates. The objective of the dissertation is to present mostly historical reconstructions of three interrelated topics appearing in Part 5. In doing this, the dissertation makes a contribution to Marxian economics and the history of economic thought.

The three topics under reconstruction represent important features of Part 5, as well as important topics for Marxian economics and the history of economic thought. The first topic demonstrates that a consistent extension of the labor theory of value can be made to interest-bearing capital. The second topic demonstrates reasons for Marx's rejection of the natural rate of interest and its replacement with the average rate of interest. The average rate of interest can then be used to determine the value of interest-bearing capital consistent with the labor theory of value. The third topic studies the relationship between Marx's monetary theory and crisis theory. The dissertation

demonstrates that three rational reconstructions can be formulated as possible historical reconstructions of Marx's work in this area.

CHAPTER 2

INTEREST-BEARING CAPITAL

The current chapter examines interest-bearing capital from several perspectives. This particular type of capital is a general category referring to various financial assets. One of the difficulties faced when understanding Marx's analysis of interest-bearing capital is the apparent absence of a connection to the labor theory of value. The labor theory of value for Marx provided the scientific basis for the study of political economy. In this regard, the labor theory of value provided an essential foundation for economic theory. However, since financial assets do not contain embodied labor, a partition in the theory seems to be required. In simplest terms, one framework is used to build a theory explaining the production and circulation of commodities with embodied labor time. When the financial system is studied a separate framework could be developed in order to build a theory involving commodities (i.e., interest-bearing capital) without embodied labor. The current chapter will attempt to demonstrate that no such partition needs to be made. It will be seen that the labor theory of value can be used as the basis for studying both types of commodities.

The chapter begins with an introduction to the methodology of Marx's economic theory. A study of the methodology helps to place interest-bearing capital within its proper theoretical context. In Section 2.2 a literature review is conducted in order to determine how interest-bearing capital has traditionally been interpreted. In Section 2.3

an alternative interpretation is presented. The aim of Section 2.3 is to demonstrate the consistency between the labor theory of value and the determination of the value of interest-bearing capital. Finally, in Section 2.4 some concluding remarks are made.

2.1 Methodology

The general placement of interest-bearing capital as an economic category within *Capital* is consistent with Marx's stated methodology as discussed in the Introduction to the *Grundrisse*. Interest-bearing capital, like ground-rent and merchant capital, appears historically prior to the capitalist mode of production. However, within the capitalist mode of production interest-bearing capital undergoes qualitative changes. In Chapter 36 of Volume III, Marx explains that interest-bearing capital, in its capitalist form, and the credit system in general originated from the struggle against usury, usury being the precapitalist form of interest-bearing capital. This struggle against usury is simply the struggle between industrial and monied capitalists. Furthermore, this struggle is the "subordination" and "subjection" of interest-bearing capital to the needs of industrial capital and the dictates of the reproduction process (Marx 1894: 738).

Interest-bearing capital precedes the capitalist mode of production, although within *Capital* this category of capital appears rather late. This placement, however, is completely consistent with Marx's stated methodology. The most complete statement of economic methodology presented by Marx appears in the section of the *Introduction* labeled "The Method of Political Economy." E.K. Hunt (1991b) makes extensive use of this section to discuss the relation between history and theory in Marx's work. Hunt demonstrates that the methodology employed by Marx begins with the concrete

(complex), moves to the abstract (simple), and then through a combination of inductive and deductive reasoning returns step by step to the concrete (complex). Once completed, the theoretician is able to intellectually grasp the concrete (complex). The movement in theory from the abstract to the concrete need not, however, replicate the historical development of the categories. It is possible to observe both situations:

> ... thus, although the simpler category [e.g., money] may have existed historically before the more concrete, it can achieve its full (intensive and extensive) development precisely in a combined form of society, while the more concrete category was more fully developed in a less developed society. (Marx 1939: 103)

Although money appears historically prior to capitalism, this category becomes transformed with the new mode of production. This is exactly the point Marx makes in Chapter 36 of Volume III concerning interest-bearing capital.

Marx's methodology implies that economic categories need not be derived from their historical development. Marx uses ground rent as a case in point.

> For example, nothing seems more natural than to begin with ground rent, with landed property, since this is bound up with the earth, the source of all production and of all being, and with the first form of production of all more or less settled societies – agriculture. But nothing would be more erroneous. In all forms of society there is one specific kind of production which predominates over the rest, whose relations thus assign rank and influence to the others. (Marx 1939: 106-107)

This point is further clarified by Marx along with the specific kind of production which dominates under capitalism in the following manner:

> Ground rent cannot be understood without capital. But capital can certainly be understood without ground rent. Capital is the all-dominating economic power of bourgeois society. It must form the starting-point as well as the finishing point, and must be dealt with before landed property. ... It would therefore be unfeasible and wrong to let the economic categories follow one another in the same sequence as that in which they were historically decisive. Their sequence is determined, rather, by their

> relation to one another in modern bourgeois society, which is precisely the opposite of that which seems to be their natural order or which corresponds to historical development. The point is not the historic position of the economic relations in the succession of different forms of society. (Marx 1939: 107)

The development of economic categories expresses their importance within the specific mode of production being studied. This is one reason why interest-bearing capital, although dating prior to capitalism, is introduced late within *Capital*. In short, interest-bearing capital does not constitute a defining characteristic of capitalism, such as the capital/wage-labor relation. This should not be mistaken for contending it is an unimportant concept in understanding certain features of the capitalist system. The question being addressed concerns the development of the theory.

A particularly difficult methodological point that might prove useful in understanding some of the rather unusual terminology used in this chapter is Marx's distinction between capital in general and many capitals. This distinction will not be covered extensively.[4] However, it does provide an insight into what interest-bearing capital actually represented for Marx. Capital in general was an abstraction used by Marx for the development of his theory of surplus-value. This abstraction allowed him to concentrate on the creation of surplus-value while ignoring its distribution and to some degree competition between various capitals. In the *Grundrisse*, Marx defined capital in general in terms of the specific mode of production:

> *Capital in general*, as distinct from the particular capitals, does indeed appear (1) *only as an abstraction*; not an arbitrary abstraction, but an abstraction which grasps the specific characteristics which distinguish

[4]An enlightening debate on the importance and difficulties of this distinction can be seen in Burkett (1991) and Heinrich (1989). Our brief discussion on this point closely follows the side that Burkett (1991) presents.

> capital from all other forms of wealth - or modes in which (social) production develops. (Marx 1939: 449)

The abstraction is thus not arbitrary but rather defines the essential elements of capital which differentiates the capitalist mode of production from all others. A similar type of methodology has been pointed out by E.K. Hunt when discussing the labor theory of value (see Section 2.3.2).

Capital in general is an abstraction, not an arbitrary one, but also has a real existence. It finds this real existence in interest-bearing capital. However, interest-bearing capital could not be introduced prior to Volume III because many capitals had to be developed first. In other words, the origin of surplus-value had to found and analyzed, and then its distribution could be studied. This is the procedure described in the following quotation:

> In regard to *interest*, two things are to be examined: *Firstly*, the division of *profit* into interest and profit. ... The difference becomes perceptible, tangible as soon as a class of monied capitalists comes to confront a class of industrial capitalists. *Secondly*: *Capital* itself becomes a commodity, or the commodity (money) is sold as capital. ... Monied capitalists and industrial capitalists can form two particular classes only because profit is capable of separating off into two branches of revenue. The two kinds of capitlists only express this fact; but the split has to be there, the separation of profit into two particular forms of revenue, for two particular classes of capitalists to be able to grow up on it. (Marx 1939: 851)

The division of surplus-value, along with the division within the capitalist class, creates the real existence of capital in general. The second aspect which Marx was leading to in the next to last quotation is the following:

> ... (2) however, capital in general, as *distinct* from the particular real capitals, is itself a *real* existence. This is recognized by ordinary economics, even if it is not *understood*, and forms a very important moment of its doctrine of equilibrations etc. For example, capital in this *general form*, although belonging to individual capitalists, in its *elemental*

> *form* as capital, forms the capital which accumulates in the banks or is distributed through them, and, as Ricardo says, so admirably distributes itself in accordance with the needs of production. ... While the general is therefore on the one hand only a mental mark of distinction, it is at the same time a *particular* real form alongside the form of the particular and individual. (Marx 1939: 449-450)

Capital in general takes on a real existence in the form of loanable capital (or, as termed in Volume III interest-bearing capital). It is the definition of capital which will become important for the discussion of value. In anticipation of this, the following quotation demonstrates Marx's impatience with economists such as P.J. Proudhon who have not grasped the definition of capital.

> The demand raised by Mr Proudhon, that capital should not be loaned out and should bear no interest, but should be sold like a commodity for its equivalent, amounts at bottom to no more than the demand that exchange value should never become capital, but always remain simple exchange value; that *capital* should *not exist as capital*. (Marx 1939: 319)

2.2 Literature review

The objective of this section is to review the secondary literature on Marx's concept of interest-bearing capital. As stated in Chapter 1, interest-bearing capital has received very little attention from the interpreters of Marx. Section 2.1 indicates that the lack of attention may have resulted from not appreciating Marx's methodology. Although clearly there is a lack of attention given to this concept relative to others in Marx's work, there have been various attempts in the secondary literature to offer an interpretation. The same situation arises for more concrete categories of interest-bearing capital such as fictitious capital and banking capital (see Chapter 3).

The literature review focuses on work by Ben Fine (1975), Suzanne De Brunhoff (1998), Costas Lapavitsas (1997), and Laurence Harris (1976). The first two authors

works appear fairly consistent with each other and make little advance beyond a restatement of Marx's work in Part 5. The work by Lapavitsas stands out as a unique interpretation and criticism of Marx. Harris attempts to extend Marx's work on interest-bearing capital to the relationship between capitalists and workers. A short discussion of Paul Sweezy's paper (1994) will be included as an accompaniment to De Brunhoff. Most of the secondary literature is not at odds in their interpretation of interest-bearing capital, but rather chooses to focus upon particular aspects. The alternative interpretation presented in Section 2.3 makes only a slight variation on the traditional interpretation. However, the slight variation makes possible a more explicit connection between the labor theory of value and interest-bearing capital.

In *Marx's Capital* (1975), Ben Fine devotes a short chapter to "Banking Capital and the Theory of Interest." Fine presents similar statements of this theme in his (1985-86) and (1988) papers. Fine makes an important distinction between capital in the sphere of exchange and capital in the sphere of production. Capital in the sphere of production is dealt with in Volume I and much of the literature. Capital in the sphere of exchange may take the form of merchant capital and interest-bearing capital, subjects in Volume III. Merchant capital itself, as opposed to industrial capital, contains two forms of capital, commercial and money-dealing capital. Another distinction that Fine points out exists between money as money and money as capital. In simplest terms, money as money acts as a medium of exchange and forms the characteristic circuit as C-M-C'. Money as capital on the other hand is advanced as capital in order to produce and realize surplus-value and has the form M-C-M'. Fine argues that it is money as capital which forms the basis for interest-bearing capital. Interest-bearing capital is a form of capital that

"becomes a commodity *sui generis* which provides the use-value of self-expansion both for lender and borrower" (Fine 1975: 84). Fine further argues that the price of interest-bearing capital is irrational because "the level of the rate of interest bears no relation to any underlying production conditions" (Fine 1975: 84-5). The second assertion reappears often in the literature. The assertion implying that since interest-bearing capital does not contain embodied labor, it therefore does not exist as a value.

Interest-bearing capital for Fine must be used by the borrower as money capital to begin the circuit of capital. The role of the borrower as an industrial capitalist is stressed when developing interest-bearing capital as an economic category. Furthermore, interest-bearing capital actually is a result of capitalist production. First, interest-bearing capital derives from the formation of monetary hoards arising at the end of the production process. The monetary hoard then stands outside of the mass of commodities as the expression of value. Second, interest-bearing capital arises from money as potential capital with a use-value to create the average profit. This is a particularly interesting point which will be the basis of Lapivitsas's (1997) and Weeks's (1981) interpretations.

Fine outlines four ways in which interest-bearing capital is related to real accumulation. This is a point which Marx attempted to make clear, but presented in a rather confused way. Furthermore, the relation between interest-bearing capital and real accumulation will be important for De Brunhoff's critique of Sweezy's proposition that finance has come to dominate industry. One relation that Fine locates is the competition among industrial capitalists over access to interest-bearing capital. Access to interest-bearing capital allows industrial capitalists to expand the size of their operations and thus increase productivity. A second relation occurs in "the structural separation between

control of money capital and control of productive capital" (Fine 1975: 86). Anticipating the discussion in Chapter 4, Fine states that this separation implies the rejection of any natural rate of interest. There exists a qualitative difference between the competition that occurs among industrial capitalists leading to the equalization of profit rates and that among monied capitalists. The competition between monied capitalists is supposedly weaker than between industrialist capitalist. The competition among monied capitalists not only causes the equalization of interest rates but the level of the interest rate itself. A third relation exists in the division of the capitalist class between suppliers, or holders, of interest-bearing capital and demanders, or borrowers, that will use it productively. A final relation which is supposed to "clarify certain aspects of the financial system" (Fine 1975: 86) is that in the stage of theory where Marx writes about the movement of the interest rate, the movements are not supposed to be empirically observable but only indicate "tendencies that reflect the more abstract balance between the fractions of the classes" (Fine 1975: 87).

The work by Fine is an attempt to provide a coherent interpretation of Marx's theory concerning the financial system in general and interest-bearing capital in particular. Suzanne De Brunhoff (1998) on the other hand attempts to use interest-bearing capital in her analysis of the relationship between spheres of finance and production, a point which also concerned Fine. De Brunhoff represents one of the few Marxist economists to give Marx's theory of money a prominent place in her interpretation. Her book *Marx on Money* (1976) is one of the classic works on Marx's theory of money. However, the review will focus on De Brunhoff's paper, "Money, Interest and Finance in Marx's Capital" (1998), since it provides a fairly detailed analysis

of interest-bearing capital. The paper was written as a reply to Marxist economists arguing that the current phase of capitalism is characterized by the dominance of finance over production. The main theme of the paper is that those who argue for a position of dominance of finance or production have misinterpreted Marx. It will be noted in Chapter 5 that Jim Crotty has made a similar point with an alternative reading of Marx's methodology. The views that De Brunhoff expresses concerning interest-bearing capital are very close to the interpretation given in this dissertation. However, Section 2.3 demonstrates an important exception. The exception occurs in contrast to De Brunhoff's determination of the value of interest-bearing capital being opposed to the labor theory of value.

Interest-bearing capital achieves the highest form of fetishism. According to De Brunhoff, interest-bearing capital is a form of fetishism precisely because its origin in surplus-value appears lost. This type of fetishism arises as it did for money and commodities by viewing money capital solely from its circulation perspective. De Brunhoff concentrates on the fetishism that characterizes the individual capitalist's calculation using the interest rate in order to capitalize the value of a future stream of income. This focus is in opposition to understanding fetishism from a broader social perspective. The individual calculation process conceals the origin of this stream of income in the exploitation of labor which produces surplus-value. The "rate of interest is an unambiguous social fact" (De Brunhoff 1998:183), thereby further concealing the competition that occurs over the division of the total surplus-value.

In her argument against the dominance of finance, De Brunhoff explains that interest-bearing capital, and money capital in general, "cannot be self-reproducing and

self expanding without production value" (De Brunhoff 1998:187). Thus, interest-bearing capital as a component of the financial sphere is not independent of actual production. Here De Brunhoff begins to directly attack Paul Sweezy's (1994) proposition that finance capital has risen to a dominate position over industrial capital. De Brunhoff sees this proposition as being mistaken since the financial sphere cannot become independent of actual production. Sweezy's argument will be reviewed because he presents a historical account of the relation between finance, e.g., interest-bearing capital, and productive accumulation. This basic relation, as noted for Fine (1975), represents a recurring theme underlying much of the debate on the theoretical implications of the financial system.

Sweezy (1994) proposes that finance has risen to a dominant position over industry. This proposition is based on the historical transformation of capitalism, especially within the United States. Historically the role of finance capital was to be a helper in the process of accumulation. Sweezy argues that qualitative changes took place at the end of the 19th century and beginning of the 20th century. These changes took the form of trusts and cartels, i.e., the concentration and centralization of capital, forming in order to gain control over price and output decisions. The emerging oligopolies replaced the cut throat competition of capitalism. Finance played a very specific but passive role in this transformation. The two functions of banks and money capital in the late 19th century provided on the one hand "the short term credit needed to keep the wheels of industry and trade turning, and on the other hand catering to the long term requirements of governments, utilities whether private or public, and large insurance companies" (Sweezy 1994: 4). However, it is the transformation in industrial capital during this

period that "set the stage for the ultimate triumph of financial capital" (Sweezy 1994: 5).

The period of the 1950s and 1960s is characterized as being extremely compatible for the accumulation of capital. Sweezy sees this compatible environment for the accumulation process as continually creating the conditions for its own slow down. The basic argument appears to be one of underconsumption in that accumulation grows beyond its realization conditions unless a source of external demand appears. The 1970s mark the beginning of this slowdown in accumulation. Furthermore, this is precisely the time that finance capital begins its rise to dominance. Sweezy points out that historically finance capital has gained strength during periods of strong accumulation rather than the weak accumulation accompanying the 1970s. Even if this may have taken place in the past, Sweezy is convinced that the inverted relation between the financial and the real sectors of the economy is the key to understanding the new trends in the world (Sweezy 1994: 8).

In order to understand this peculiar rise in finance, Sweezy proposes to look back at the transformation that took place at the turn of the century. For Sweezy, the oligopolies have been able to generate profits by keeping output and capacity restricted. This means that their profits cannot be continually reinvested in productive capital, but as capitalists they cannot consume all of their profits either. The logical solution then is that these profits have been invested in financial assets on an increasing scale. Sweezy, following many Marxists, is emphasizing a particular view of the relationship between finance and industry. This view, which will find a developed expression in the work of Lapivitsas (1997), sees monetary hoards necessarily arising from the capitalist reproduction process. This particular conception, for Sweezy, led to "the process which

during the next two decades resulted in the triumph of financial capital" (Sweezy 1994: 9). The rise of finance capital has meant that control of the economy has shifted from the boardrooms of a few oligopolies to finance capital existing in the financial markets.

The review of Sweezy's position demonstrates that understanding the link between finance and industry, alternatively labeled money accumulation and real accumulation, is a difficult process. The relation can be viewed from different perspectives, with each needing to be adjusted for the particular historical period. As stated in Chapter 1, by reconstructing Part 5 it is possible to uncover a basic framework that Marx may have been building in order to handle this relation. In order to begin to fully grasp this relationship, the category of interest-bearing capital must first be further developed. Lapavitsas (1997) will be used to provide an example of an interpretation of interest-bearing capital based within the framework of economic reproduction. The particular view has links to the writings of Ben Fine (1975), John Weeks (1981), Peter Kenway (1980), and John Roche (1985).

Lapavitsas (1997) investigates how to approach the concept of interest-bearing capital at a very fundamental level. He sees two approaches to interest-bearing capital. The first approach is to view interest-bearing capital with Marx's distinction between functioning and monied capitalists. The second approach is to use the reproduction of capital from Volume II to show how idle money gets created within the reproduction process. In his paper, Lapavitsas argues that although the first approach has been the one traditionally taken, it is insufficient in several ways and should be replaced with the second approach.

The first approach arises from Marx's explanation that interest as an economic

category originates from the division that occurs within the capitalist class. The capitalist class is divided into functioning and monied capitalists. The functioning capitalists are those that have a business plan, or potential investment opportunity, and require money in order to undertake their plan. The monied capitalists own property in the form of money but do not have a productive investment project.

Lapavitsas argues on three grounds that the first, and traditional, approach to the understanding of interest-bearing capital should not be used. First, the division itself is an ideally abstract assumption, as opposed to what might be called a real abstract assumption. In other words, a pure functioning capitalist does not actually exist and therefore the division is only ideal. In contrast to Lapavitsas, Marx addresses this type of criticism in Part 5 by arguing that once interest has developed then every functioning capitalists whether using borrowed money or not makes this division within himself. Second, industrial and merchant capitalists obtain revenue from interest, and therefore it cannot be the basis of a separate social class. This criticism does have some merit since Marx does not develop a class analysis from the source of income. Third, interest-bearing capital exists in precapitalist societies. Therefore, this approach has difficulty in demonstrating the qualitative differences interest-bearing capital undergoes within capitalist society. As demonstrated in Section 2.1, Marx recognizes the precapitalist form of interest-bearing capital in Chapter 36 of Part 5 which does not appear to deviate from his stated methodology. In contrast to Lapavitsas, Marx's methodology allows one to understand the previous forms of particular concepts, such as interest-bearing capital, by studying their present position. As noted earlier, this interpretation of Marx's methodology is based on work by Hunt (1991b).

In addition to the three criticisms, Lapavitsas also points out that it is difficult to reconcile the first approach to interest-bearing capital with Marx's continued assumption that the profit rate is normally above the interest rate. The use-value of money capital, according to Marx, is its ability to produce the average rate of profit. Lapavitsas questions then why the monied capitalist would not realize this use-value, choosing instead to be content with receiving only interest. Accepting the first approach would lead to the tendency of equalization between the interest rate and profit rate. Instead, Lapavitsas seems to be moving towards a liquidity preference approach by claiming that the monied capitalist does not alienate his use-value but rather simply parts with his property as money and receives interest as a reward. This ability to part with property, however, is again not specific to capitalism and thus tends to move toward an alternative approach.

The second approach, the one endorsed by Lapavitsas, is based in the reproduction of capital. Within the process of the reproduction of the total social capital, value is constantly being realized in the form of money. Lapavitsas argues that this money lies idle in the formation of hoards. Furthermore, the monetary hoards are an essential part of the capitalist reproduction process. The hoard formation can be thought of as value leakages in the reproduction process. However, these leakages are very different from the Keynesian type leakages in a circular flow diagram. These leakages need not be associated with a subjective desire to save on the part of functioning capitalists. In this way, Lapavitsas is attempting to differentiate Marx's ideas from Keynes's liquidity preference theory. Hoarding for Marx "takes place as capital traverses the circuit for objective reasons pertaining to the circuit itself." Furthermore, the "leaks

from the circuit do not imply the shrinking of the flow of value immediately and necessarily" (Lapavitsas 1997: 93). In contrast to the Keynesian circular flow, value must be discharged from the process in order for reproduction to occur on a normal basis.

Lapavitsas identifies four types of hoards that necessarily result from the capitalist reproduction process. First, in the initial stage of the circuit of capital (i.e., M-C), capitalists must hold precautionary hoards of money in order to meet any unforeseen expenditures which may arise. This type of hoard forms the reserve fund of the capitalist. Second, hoards associated with production must exist. This type of hoard arises from the nature of fixed capital releasing its value over time. This depreciation fund will grow slowly until it reaches a certain minimum size. Third, related to the depreciation fund and part of the production process, a money hoard forms when surplus-value is realized in the form of profits and becomes available for investment. The accumulated profits, like the depreciation funds, will remain in the form of a hoard until they reach the minimum size necessary for reinvestment dictated by the material conditions of production. Fourth, there are hoards associated with the unity of production and circulation. Marx devotes much of Volume II discussing the timing of the turnover of capital. In order to ensure the smoothness of the turnover process capitalists must have money hoards available for more than one turnover period.

The four types of hoards result from the particular characteristics of capitalist production and form the basis of interest-bearing capital. Therefore, the second approach uses the concept of interest-bearing capital as it pertains specifically to the capitalist mode of production. It is observed that "interest-bearing capital does not remain permanently within the circuit of the total social capital. Rather, it is systematically

formed outside the circuit and continually enters and exits the latter" (Lapavitsas 1997: 96). Interest-bearing capital thus forms the basis of the credit system. Lapavitsas identifies four strengths to this second approach. First, the approach provides "a structured analysis of the credit system as a set of social mechanisms that form interest-bearing capital in a capitalist society" (Lapavitsas 1997: 92). Second, the approach can analyze lending to various classes, rather than solely the functioning capitalist. Third, it is able to incorporate the obvious fact that capitalist firms do earn substantial amounts from lending their idle money. Fourth, the approach is able to handle real conditions that occur when borrowers fail to repay due to unrealized surplus-value. This is possible because the approach views interest as a reward for parting with property, rather than as the use-value of capital. One may question some of Lapavitsas's assertions based on the level of analysis. He appears to view interest from an individual perspective and hoard formation from a social perspective. However, interest as part of surplus-value requires a social perspective.

Lapavitsas's second approach to interest-bearing capital appeared in much of the earlier literature. However, Lapavitsas's work provides a more systematic presentation of this particular view of interest-bearing capital. This view of interest-bearing capital arising from the particular form of capitalist reproduction seems partially correct. However, the view misses a fundamental idea underlying the value of interest-bearing capital. Once this idea is incorporated in Section 2.3, it will gain greater strength. Prior to moving ahead to an alternative approach, it is useful to review particular parts of a paper by Laurence Harris (1976). The paper attempts to analyze one of Lapavitsas's strengths in the second approach (i.e., the credit relations between the capitalist and

working classes).

Laurence Harris (1976) presents an interpretation and extension of Marx's work on interest-bearing capital within Marx's problematic (i.e., historical materialism). Harris describes Marx's method of one of beginning with the most abstract concepts in Volume I and proceeding to the more complex concepts in Volume III. Thus, the concepts of profit of enterprise, interest, and rent are arrived at in Volume III as deriving from surplus-value developed in Volume I. The purpose of Volume III is to investigate how these complex categories are related to surplus-value, along with their particular movements within capitalism. Marx rejects the individual as the unit of analysis, or "the individual as subject" (Harris 1976: 155) throughout *Capital*. Marx's analysis utilizes a structure of concepts rather than a subject. The dominant concept is capital. With this framework in mind, interest-bearing capital and money capital are analyzed as concepts in order to demonstrate that the source of interest is surplus-value. Interest-bearing capital is capital in the sense that it is advanced by the lender as self-expanding value as a result of the social relations that exist within the circuit of capital as a whole (Harris 1976: 147). Although interest-bearing capital exists only within the sphere of exchange, the social relations that are established by interest-bearing capital allows it to become capital as self-expanding value. Section 2.3 will expand upon this suggestion by Harris.

The extension of Marx's work is made by Harris when attempting to extend the credit relations between capitalists to the relations that develop between workers and capitalists. This extension would seem invalid from Fine's perspective, but consistent with Lapavitsas's second approach. In Fine (1975), interest-bearing capital must be used by the borrower as money capital to begin the circuit of capital. This idea can be derived

from viewing the use-value of interest-bearing capital as the ability to generate an average profit. On the other hand, Lapivitsas has argued that his approach to interest-bearing capital allows one to analyze lending to various classes. It is possible to view Harris's extension and Lapavitsas's second approach as compatible attempts to extend interest-bearing capital to the relation between capitalists and workers. Marx himself did not analyze the credit relations between workers and capitalists because they did not form the basis of pure capitalism. However, Marx did make side comments referring to the role of the pawnshops, for example, that might lead one to believe he would see the validity in the extension. Harris argues that this type of relationship takes on a greater significance in modern day monopoly capitalism. Harris's aim is to find out "how interest payments affect the appropriation of surplus-value by capital" (Harris 1976: 158).

Harris begins with credit extended from capitalists to workers. There are three possible methods to investigate this relationship. First, workers could be assumed to receive wages that are systematically above the value of labor-power. In this method, workers are actually able to appropriate some of the surplus-value they create. Second, wages could be equal to the value of labor-power, but the value of labor-power could include a credit commodity whose value enters into the socially determined value of labor-power. In this method, workers do not appropriate surplus-value. The third method, that favored by Harris, continues to assume that wages and the value of labor-power are equal. The introduction of credit to workers is treated in a manner similar to merchant capital in that prices for commodities normally bought by workers on credit are below their values, or prices of production. The credit price is equal to the price of production of the commodities purchased on credit by workers. In this method, it is the

nature of the commodity itself that determines the credit relations. The advantage of this method is that it does not rely on a transfer of surplus-value from capitalists to workers.

The case of credit extended from workers to capitalists is also analyzed by Harris. In this case, Harris is interested in observing what happens to the appropriation of surplus-value once workers are allowed to save. Harris's solution relies on investigating the meaning of the value of labor-power, or the reproduction of labor-power. The value of labor-power must allow for more than just the reproduction of the worker for a defined period of time. This value must also include the reproduction of the class of workers and further generations. Harris goes further than this by arguing that the value of labor-power must take into account the periods when workers leave the labor force and enter the ranks of the unemployed or retired. In this case the "wage revenue out of which these savings are deducted and any real interest which accumulates on these savings are simply equal to the value of labour power" (Harris 1976: 164). Thus, there is no transfer of surplus-value from capitalists to workers when interest payments are made. The question of credit relations between workers and capitalists is interesting. However, the topic is complicated and does not relate directly to the objectives of the dissertation. Throughout the dissertation, it will be assumed that credit relations only exist within the capitalist class.

This section has reviewed some of the secondary literature on interest-bearing capital. A couple of points are worth recapping prior to moving ahead to Section 2.3. First, it is clear that most interpreters of Marx view interest-bearing capital as existing outside of the production sphere. The implication would seem to be that the value of interest-bearing capital cannot be tied to the labor theory of value. Second, it is difficult

to pin-point the exact relationship between finance and industry. Alternatively, the relationship can be stated in Marx's terms as money accumulation and real accumulation. In this regard, De Brunhoff disagrees with Sweezy's attempt to identify a dominance of one of these over the other. However, one useful way to approach interest-bearing capital and also begin to deal with this relation has been offered by Lapavitsas. In the following section, an alternative interpretation of Marx on interest-bearing capital will be developed. This alternative does not reject the secondary literature. However, it does make the connection between the value of interest-bearing capital and the labor theory of value. In doing this, the alternative may open up new avenues for studying the relationship between finance and industry (or, money accumulation and real accumulation).

2.3 An alternative interpretation

The current section proposes that Part 5 extends the labor theory of value to interest-bearing capital. The extension is formulated early in Part 5, i.e., Chapters 21-24, with implications extending throughout the remainder. The secondary literature reviewed in the previous section indicated that Marx formulated the category of interest-bearing capital in opposition to the labor theory of value. Furthermore, the secondary literature consistently interprets Marx as deriving the value of interest-bearing capital from discounting the anticipated future stream of revenue. In this section, it will be argued that what has been missing is the fundamental distinction between price theory and value theory. In other words, that Marx had a theory of value explaining the nature and existence of the price of these financial assets has not been developed. This is all the

more surprising since neoclassical theory relies on a very similar practice of finding the price of interest-bearing capital, but also has a theory of the nature and existence of this price.

In Chapter 1 of Volume I Marx analyzed the commodity in minute detail. This analysis at times appears elementary, commonplace, metaphysical, and excruciating in its development. The style of presentation of the first chapter has probably caused many to loose interest without understanding fully its importance for the rest of Marx's theory. There is an interesting correspondence between the tone of that chapter and the first four chapters of Part 5. This should not be surprising since Marx is introducing a new and special commodity, i.e., interest-bearing capital. Here again, he spends much time analyzing the new commodity by turning it over and viewing it from different angles. This analysis also appears elementary and metaphysical in parts. However, Marx appears to be conducting this exercise in order to clear the path for the analysis of the financial system. Just as the "individual commodity appears as its [capitalist mode of production] elementary form" (Marx 1867: 126), interest-bearing capital appears as the elementary form of the financial system. Thus, Marx partakes of a detailed analysis of this particular commodity. Marx's development of this special commodity will be reviewed in order to demonstrate that the correspondence between the first chapter in Volume I and Part 5 reveals much more than has been appreciated.

2.3.1 Capital as capital

Interest-bearing capital is a commodity studied in detail in Part 5. Marx demonstrates that interest-bearing capital can be viewed as being similar to an ordinary

commodity, but on the other hand having very unique properties. Interest-bearing capital, like ordinary commodities, has a use-value which is alienated in exchange. However, this exchange is not conducted in terms of buying and selling, but rather takes the form of lending and borrowing. In the act of selling a commodity the original owner is said to alienate its use-value, but not its value. The value is kept intact because the buyer pays the seller with an equivalent value. Contrary to Lapavitsas's approach, Marx does contend that the use-value of interest-bearing capital is its ability to earn the average rate of profit. It is this use-value which the lender alienates, just as the seller alienates the use-value of his commodity. Furthermore, similar to the seller of an ordinary commodity, the lender retains the value of his commodity (i.e., interest-bearing capital). It is then clear why the principal is returned to the lender at the time of repayment. However, it is not clear why the repayment includes an additional part in the form of interest. This question would seem to contradict equal exchange, or the similarities to a regular commodity. The comparison to an ordinary commodity will be modified in order to resolve this issue.

The comparison of interest-bearing capital with an ordinary commodity can be summarized at this point with two results. First, in the transaction between lender (monied capitalist) and borrower (industrial capitalist) "value [is] transferred from one hand to another." Second, "one party alienates a real use-value, and the other party receives and uses it" (Marx 1894: 473). However, the use-value of interest-bearing capital is very peculiar and marks a point of differentiation from an ordinary commodity. The use-value of interest-bearing capital is "itself a value, i.e., the excess of the value that results from the use of the money as capital over its original magnitude. The profit is

thus use-value" (Marx 1894: 473). Therefore, the consumption of the commodity interest-bearing capital does not destroy the use-value as with ordinary commodities. The distinction between the use-value and value (or, exchange-value) of interest-bearing capital will be important for the alternative interpretation.

Interest-bearing capital for Marx is a form of capital and a commodity. Succinctly stated, interest-bearing capital is capital as capital which becomes a commodity. This is an extremely difficult and important idea that gets developed in the first few chapters of Part 5. Marx discusses in Chapter 21 of Part 5 why money capital and commodity capital do not exist in the form of capital as capital. In the circuit of capital, capital changes form as money capital, productive capital, and commodity capital. However, none of these forms turns capital as capital, or capital as such, into a commodity. In the form of money capital, capital functions only as money, e.g., as means of purchase in beginning the circuit. Moreover, money acts only as capital for its owner, in this case the capitalist. In the form of commodity capital, capital is functioning only as a commodity that must be put on the market in order to be realized. Thus, we have capital as money and capital as commodity, but not capital as capital.

Money capital and commodity capital as moments of the circuit of capital do not serve as capital but rather as money and commodity respectively. Money and commodity are objectively capital only when viewed from the vantage point of the entire circuit. Otherwise, money and commodity are capital, subjectively, for the capitalist owner. The money that is advanced for means of production and labor-power is not capital for the seller but only for the buyer. The commodity capital at the end of the circuit is capital, subjectively, for the owner but is not capital for the buyer. In their ideal, the money and

commodity within circulation may exist as capital but only subjectively for their capitalist owner. Marx summarizes these ideas in the following manner:

> Commodity and money are capital here not because commodities are turned into money and money into commodities, not in their actual relationships to buyers or sellers, but simply in their ideal relationships, either to the capitalist himself (considered subjectively) or as moments of the reproduction process (considering it objectively). (Marx 1894: 464)

The case is different for interest-bearing capital. Interest-bearing capital is a commodity existing solely in the circulation sphere. Moreover, it is capital for its owner and borrower. Interest-bearing capital is "a commodity as capital; as capital not only for himself but also for others" (Marx 1894: 464). Looked at in isolation from the reproduction process, interest-bearing capital is still capital. This is precisely the form it takes in the circuit M-M'. In the movement of this commodity, it is capital itself that is being sold and purchased (or, lent and borrowed to be more precise). Interest-bearing capital is a commodity that exists as capital both objectively and subjectively for the owner and nonowner. Interest-bearing capital is <u>capital as capital</u> which becomes a commodity and never loses its property as capital.

The strange terminology (i.e., <u>capital as capital</u>) used to define interest-bearing capital has a correspondence in Volume I. In Chapter 3 of Volume I Marx discusses money and its various functions. Prior to Chapter 3, Marx undertakes the logical development of money. Once Chapter 3 is reached the various functions of money are developed in a particular order. According to Don Lavoie (1983), Marx is able to develop each function of money (i.e., measure of value, means of circulation, money as money) from the previous function and therefore establish the unity of these functions. Marx's theory is unique, especially compared to Keynesian theory, because money

necessarily embodies the ability to perform all three functions (the unity of these functions).

Lapavitsas (1994), similar to Lavoie (1983), observes that the functions of money developed by Marx appear as logically interdependent. Money as measure of value and medium of circulation can be thought of as internal to the market. Each of these functions operate within the sphere of circulation. However, in order for the process to proceed smoothly, money must be able to impact the sphere from outside. In other words, money must be able to exit and enter the sphere of circulation in order to adjust to any disequilibrium. It is the third function of money, i.e., money as money, that operates as external to the market. The third function of money consists of means of payment, store of value, and world money. Focusing on domestic circulation, thus ignoring world money, money as means of payment and store of value operate on circulation from the outside. As means of payment, money enters circulation in order to cancel any debts remaining. As store of value, money flows in and out of hoards in order for circulation to proceed smoothly. Furthermore, it is this third function of money, especially as means of payment, which gives rise to credit money (i.e., deposits in the banking system). Marx's method of assuming metallic money is given credence once the path of circulation is investigated. Metallic money appears to move randomly within the sphere of circulation. However, credit money has a cyclical path of circulation. For example, banknotes must always conclude their path at the point of issue. Therefore, a qualitative difference exists between metallic and credit money which must always be taken into account. Arie Arnon (1984) presents a detailed study of how Marx's presentation of money as money changes during the course of writing the *Grundrisse*, *Contribution to the Critique of Political*

Economy, and *Capital*. Arnon contends that the change in presentation of money as money is due to Marx having reread the writings of Thomas Tooke, the classical monetary theorist.

Lipietz (1982, 1985) has been one of the most ardent supporters of emphasizing the consequences of money as money for the development of credit money. According to Lipietz, it is only the third function of money which "implies the social form characteristic of real money" (Lipietz 1982: 52). Real money simply implies the ability "to socially validate private production without having to be validated itself" (Lipietz 1982: 52). Money as money, whether as means of payment or store of value, resides outside the circulation process while still representing social value. In summary, there exists a direct correspondence between the terminology used to describe the third function of money and interest-bearing capital. These are commodities, existing as or representing social value, that can in a sense stand alone. For example, money in its function of money as money is not contingent upon its place in the circulation process. Likewise, interest-bearing capital is a commodity that exists as capital even while residing outside of production.

2.3.2 Value theory and price theory

A significant implication of defining interest-bearing capital as capital as capital which becomes a commodity is the extension that occurs to the labor theory of value. The labor theory of value has traditionally been applied only to those commodities produced by labor. The value of a commodity is defined as the sum of new and past labor, the implication being that any commodity not produced by labor does not

constitute a value. Interest-bearing capital would then appear to be a commodity without a corresponding value. This section will demonstrate that the standard interpretation is not correct. The demonstration requires only the understanding of the particular characteristics of the commodity under consideration.

The previous section attempted to make clear the basic difference between interest-bearing capital and an ordinary commodity. Interest-bearing capital is capital as capital as opposed to capital as money and capital as commodity. Its value then must be stated in a slightly modified form. The value of capital is defined in terms of profit (or interest) generated.[5] There are several explicit statements which Marx makes that help to reenforce this interpretation. Two of the strongest statements that promote this interpretation are the following:

> The value of money or commodities as capital is not determined by their value as money or commodities but rather by the quantity of surplus value that they produce for their possessor. The product of capital is profit. (Marx 1894: 477)

> In so far as these commodities figure as capital, they express their value as capital, as distinct from their value as commodities, in the profit that is made from their productive or commercial use. (Marx 1894: 548)

The quotations explicitly make the distinction between the definition of value when applied to a commodity and capital. In addition, it seems quite clear that capital does have a value, although defined in a modified form. Far from being an arbitrary definition of value, it will be argued that it is the proper definition of value when applied to capital. That is, value is defined to capture the essential characteristic of a commodity existing as

---

[5]Whether the value of interest-bearing capital is stated in terms of profit or interest is a matter of confusion in Marx's writings. The confusion is not crucial at this point since both originate from surplus-value.

capital.

The previous section noted Marx's distinction between commodities and money existing as capital as opposed to ordinary commodities and money. Money as capital has a use-value and a value. The use-value of money as capital is "the capacity to produce the average profit," and it is this use-value that "the money capitalist alienates to the industrial capitalist for the period during which he gives him control of the capital loaned" (Marx 1894: 473). The seller of a commodity alienates the use-value of his commodity but not the value since this simply changes form. Similarly, the monied capitalist alienates the commodity's use-value but retains its value. Since the monied capitalist alienates not just any commodity but a commodity as capital then its value is determined as the value of capital (i.e., profit or interest). Thus, the repayment will be made as a return on capital. The commodity as capital is peculiar because "the consumption of its use-value not only maintains its value and use-value but in fact increases it" (Marx 1894: 473). This gives credence to the alternative interpretation that value has now been defined to describe the true nature of capital (e.g., self-expansion). The labor theory of value is extended to include the special commodity existing as capital. The theory could then be interpreted as describing the true nature of capital as self-expanding value. In this interpretation, value again explains what lies behind the price of capital, or the nature of the price of capital.

The traditional interpretation determines the value of money and commodities by the labor theory of value. The traditional interpretation goes on to argue that the value of capital, or interest-bearing capital specifically, is opposed to the labor theory of value. Fictitious capital, as one form of interest-bearing capital, will be used to illustrate this

interpretation. De Brunhoff (1998) for instance writes that the notion of fictitious capital "suggests a principle of evaluation that is opposed to that based on labour value" (1998:183). Ferdinando Meacci (1998) in the same volume of papers suggests a definition of fictitious capital in which capital is fictitious "because its value is formed *in contrast with* the principles of the labour theory of value" (1998: 195). Meacci then makes a very clear statement of the difference between the value of a title to an asset (such as interest-bearing capital) and a commodity:

> the value of the title being determined by different principles (discounting) than the value of the commodity (labour embodied) - the movement of the former is determined by different rules than the movement of the latter. (1998: 196)

Shuklian (1991) offers another variation on this theme by stating that "bonds, securities and shares have no intrinsic value" (1991: 200). When discussing the theory of interest, Shuklian states that "unlike other commodities...money-capital has a market price but requires no socially necessary labor time to produce" (1991: 205). In the literature the value of capital (interest-bearing capital, fictitious capital, money capital) is clearly not determined by the labor theory of value. The traditional explanation is to rely on the discounting of the anticipated revenue in order to determine the value of capital.

The type of reasoning given above by De Brunhoff, Meacci, and Shuklian appears common among the interpreters of Marx. However, the traditional interpretation identifies the value of this type of commodity with its price. The distinction that is made between the price and value of an ordinary commodity is not made for capital under this interpretation. The discounting calculation is essentially finding the price of this particular commodity. Fundamentally, both Marxists and neoclassicals find the price of a

financial asset by discounting the expected income by the interest rate. The two approaches are therefore essentially the same for finding the price. Important questions then arise concerning the nature and significance of this price calculation. For example, the classical economists, such as Adam Smith and David Ricardo, agreed that supply and demand determined price. However, these economists attempted to develop a value theory which would explain what lay behind prices and the nature and significance of these prices.

The discussion of the classical economists above can be extended to the Marxian and neoclassical schools of thought. In terms of ordinary commodities, E.K. Hunt (1983) has demonstrated convincingly that Marxists and neoclassicals have the same type of calculation for prices. The price of a commodity is formed by taking costs plus some markup. However, the questions of why the price of a commodity exists and its nature leads to value theory as opposed to price theory. In brief, the utility theory of value (neoclassical) argues that subjective utility calculations lie behind prices. The nature of these prices allows given resources to be reallocated until a Pareto optimum is reached. On the other hand, by starting from a social perspective, the labor theory of value (Marxian) views value as describing the process of private labor becoming social labor. Prices exist because private labor becomes social labor by realizing the price of a commodity. The point of this comparison has been to demonstrate that although Marxists and neoclassicals may agree on the way to calculate prices, they can disagree on the nature of these prices.

When it comes to <u>capital as capital</u> the derivation of the price is essentially the same for Marxists and neoclassicals. The question of what lies behind this price, or the

nature of this price, leads to value theory. Neoclassical theory clearly has linked price theory to value theory. In at least some cases, the nature of this type of price is derived from an intertemporal utility maximization problem. In other words, neoclassical theory posits that individuals have a time preference for their consumption patterns. The intertemporal preferences explain why the price calculation takes the particular form of discounting the future stream of income. Furthermore, the price of capital is linked to the intertemporal allocation of resources. In almost every respect, the fundamental theory of value used to explain the price of an ordinary commodity is simply extended to incorporate the special characteristics of interest-bearing capital. Finally, the individualistic methodology is still employed when analyzing the particular commodity existing as capital.

The traditional Marxist view of the nature of the price of interest-bearing capital focuses on interest originating from surplus-value. Marx's achievement of finding the origin of surplus-value in the exploitation of labor leads to the view that profit of enterprise, interest, and rent are all derived from the division of surplus-value. It might be recalled that Harris (1976) stated that the objective of Volume III was understanding the connection between these three separate categories of surplus-value. The division of the capitalist class into two fractions (industrial and monied capitalists) then leads to the category of the interest rate. The industrial capitalists receive surplus-value in the form of profit of enterprise, whereas the monied capitalists receive it in the form of interest. The key is that this approach views interest originating as part of the production process. Thus, the price of capital (interest-bearing capital and fictitious capital) expresses its origin in the division of surplus-value. This traditional line of explanation, although quite

correct, seems to be lacking something in its answer to the existence and nature of the price of capital.

An alternative interpretation, which encompasses the traditional one, can be formulated to address the existence and nature of the price of capital in Marx's writings. The interpretation here does not deny that interest has its origin in surplus-value. Rather, the interpretation extends these ideas by retracing the development of the value of interest-bearing capital found in the initial chapters of Part 5. Marx gives a warning in Chapter 21 of Part 5:

> It must never be forgotten that capital as capital is a commodity here, and that the commodity we are dealing with is capital. All the relationships that appear here, therefore, would be irrational from the standpoint of the simple commodity, or even from the standpoint of capital in so far as it functions as commodity capital in its reproduction process. Lending and borrowing, instead of selling and buying, is here a distinction proceeding from the specific nature of the commodity of capital. (Marx 1894: 474)

The traditional interpretation seems to ignore this warning by Marx. Furthermore, in the above quotation, the distinctions from what occurred when dealing with money and commodity arise from the specific nature of <u>capital as capital</u>.

The alternative interpretation takes into account the specific nature of capital. In addition to the above quotation, a few pages earlier in the same chapter Marx makes a very similar statement concerning the nature of this commodity:

> But because money advanced as capital has the property of returning to the person advancing it, to whoever spends it as capital, because M-C-M' is the immanent form of the capital movement, for this very reason the owner of money can lend it as capital, as something which possesses the property of returning to its point of departure and of maintaining and increasing itself in the movement it undergoes. (Marx 1894: 471)

In the above quotation, Marx answers the question concerning why the return to the

lender includes an interest payment. In Section 2.3.1, it initially appeared that the interest payment would violate the assumption of equal exchange. However, it is now clear that the return payment must include interest because of the specific nature of capital. Marx is therefore explaining why a commodity like interest-bearing capital receives a price at all. These commodities receive the kind of price they do precisely because they are capital. It is the nature of capital as a self-expanding value that leads to the price of these commodities. Marx comes back to the nature of this commodity repeatedly in these first few chapters of Part 5. Referring to the lending out of money as capital, Marx discusses its return:

> The reflexive relationship in which capital presents itself when we view the capitalist production process as a whole and a unity, and in which capital appears as money breeding money, is here simply embodied in it as its character, its capacity, without the intervening mediating movement. And it is in this capacity that it is alienated, when it is lent out as money capital. (Marx 1894: 466)

It is the inherent capacity, i.e., the nature of capital, which is advanced in the form of interest-bearing capital. It is also clear that although Marx assumes the money will be used in the process of capital, the nature of interest-bearing capital is not negated if it is not.

> Interest-bearing capital proves itself as such only in so far as the money lent really is transformed into capital and produces a surplus, of which interest is one part. This does not by itself rule out that interest-bearing might be its inherent property, independent of the production process. Labour-power, for instance, proves its value-creating property only if it is activated and realized in the labour process; but this does not exclude it being potentially in itself already value-creating activity as a capacity, and as such it does not just arise from the process but is rather presupposed by it. (Marx 1894: 505)

This quotation addresses the difference between Lapavitsas and Fine noted previously.

Marx is addressing the nature of this commodity. Whether or not it actually fulfills its nature in every instance is of no real consequence. It is therefore the nature of the commodity that tells us why the price of capital takes the form that it does. The nature of capital expresses "itself as capital by its valorization" (Marx 1894: 476). Finally, once capital becomes a commodity it no longer is a simple quantity:

> It is a *relation* of quantities, a ratio between the principal as a given value, and itself as self-valorizing value, as a principal that has produced a surplus-value. And as we have seen capital presents itself in this way, as this directly self-valorizing value, for all active capitalists, whether they function with their own capital or with borrowed capital. (Marx 1894: 514)

The idea that the inherent nature of capital plays a role in the pricing of financial claims can be found in John Weeks's *Capital and Exploitation* (1981). The origin of fictitious capital, and financial markets in general, Weeks argues, has been reversed by neoclassical theory. Just as in Lapivitsas's second approach, Weeks claims that idle money in the form of hoards is generated as a consequence of capitalist reproduction. The financial markets are the mechanisms by which this idle money becomes potential capital. The existence of money hoards as capital then requires that they earn a rate of return. Fictitious capital, or interest-bearing capital more generally, arises from the necessary formation of money hoards and the fact that these hoards are capital. Neoclassical theory, Weeks argues, maintains that the interest rate entices individuals to hold money idle in the form of financial claims. As noted previously, the enticement is necessary because neoclassical theory extends the utility theory of value to financial assets by positing a time preference for consumption. According to Weeks, the function of the credit system and fictitious capital is to redistribute capital as neoclassical theory

asserts. However, the things that are redistributed are claims to future surplus value, not real capital (i.e., productive resources). Weeks argues that neoclassical theory does not explain correctly the existence of the financial transactions. The existence of the transactions arises from the necessity of money hoards in the process of capitalist reproduction, rather than the time preference for consumption.

Returning specifically to the value of interest-bearing capital, the quotations from the early chapters of Part 5 express Marx's attempts to explain the specific nature of capital. Furthermore, the quotations set the groundwork for an explanation of why the calculations used to determine the price of interest-bearing capital take a particular form. These calculations are used only in the price theory of capital, not the value theory. The alternative interpretation being developed here addresses only the value theory of interest-bearing capital. Two quotations from Marx previously cited indicated that the value of capital as capital, in opposition to the value of capital as money and commodities, is interest (or, profit). A discussion has already been made concerning the use-value and value of interest-bearing capital. However, it is necessary to make clear that the determination of value by interest does not confuse the value of capital with its use-value. In a footnote on this issue Marx points out the confusion this commodity has caused for Thomas Tooke.

> 'The ambiguity of the term "value of money" or "of the currency", when employed indiscriminately as it is, to signify both value in exchange for commodities and value in use of capital, is a constant source of confusion' (Tooke, *Inquiry into the Currency Principle*, p. 77). [now Marx] The major confusion here (which in fact lies in the thing itself), i.e. that value as such (interest) comes to be the use-value of capital, is something that Tooke does not see. (Marx 1894: 476)

The use-value and value of capital have merged in Marx's theory. The use-value of

capital has nothing to do with utility as the case for neoclassical theory or an ordinary commodity in Marx's theory. The use-value becomes the value of capital, i.e., the nature of self-expanding value.

A comparison can be made between interest-bearing capital and labor-power, another special commodity, in order to make the discussion clearer. The commodity labor-power provided Marx with a significant insight in his quest for the origin of surplus-value. This new commodity allowed Marx to see that labor was not the commodity being exchanged in the market, but rather the capacity to perform labor. It is the capacity to perform labor that Marx calls labor-power. The comparison between interest-bearing capital and labor-power is made by Marx in several places in Part 5, especially the early chapters. For example, in the following quotation, the consumption of the use-value of labor-power maintains and increases its value:

> The use-value of labour-power for the industrial capitalist is that of producing more value (profit) in its use than it possesses and costs itself. This excess value is its use-value for the industrial capitalist. And the use-value of the loaned money capital similarly appears as a capacity to represent and increase value. (Marx 1894: 473)

Labor-power has the ability to create value when activated or consumed. The same can be said of interest-bearing capital in that the consumption of its use-value maintains and increases its value. Furthermore, interest-bearing capital, like labor-power, has the ability to create value.

> The commodity of capital, on the other hand, has the peculiar property that the consumption of its use-value not only maintains its value and use-value but in fact increases it. (Marx 1894: 473)

> As in the case of labour-power, here the use value of money is that of creating value, a greater value than is contained in itself. Money as such is already potentially self-valorizing value, and it is as such that it is

> lent, this being the form of sale for this particular commodity. Thus it becomes as completely the property of money to create value, to yield interest, as it is the property of a pear tree to bear pears. And it is as this interest-bearing thing that the money lender sells his money. (Marx 1894: 516)

In this interpretation the first few chapters of Part 5 lies the groundwork for an extension of the labor theory of value. The extension applies to a particular commodity, i.e., capital, which exists only in the sphere of circulation. In the later chapters of Part 5, Marx develops the price theory of this commodity. A subtle difference in Marx's approach to the discounting procedure reenforces the division within Part 5. In the later chapters the discounting calculations are described in the typical fashion for finding present value. However, in the first few chapters of Part 5 Marx states the value of capital in terms of future value:

> If £1,000 is lent out by a capitalist, for example, and the interest rate is 5 per cent, the value of the £1,000 as capital for one year is C+Ci, where C is the capital and i the rate of interest. ... The value of £1,000 as capital is £1,050. (Marx 1894: 515)

In terms of price theory, the calculation should be that the price of an asset paying $1,050 one year from now is $1,000 today. However, the value theory is described in terms of the interest the sum will create.

The labor theory of value is not a theory in the usual sense (on this point see Hunt 1977, 1981, 1982, 1983, 1986, 1991a). The labor theory of value is a true definition in the rationalist sense. Hunt stresses that this "definition is not arbitrary. It is rather a name for a real process that Marx sees as the essential nature of social interdependence in capitalism" (Hunt 1991a: 47). This essential feature of capitalism is that private labor becomes social labor. Value, for Marx, expressed "a social attribute of (or a social

abstraction symbolized by the physical existence or use value of) a commodity" (Hunt, 1991a: 47). In Part 5, Marx defines the value of interest-bearing capital as interest. Similar to an ordinary commodity, the definition of the value of interest-bearing capital is not arbitrary, but rather expresses an essential feature of the particular commodity within capitalism. Within capitalism, capital is a self-expanding value. This essential attribute of capital must be taken into account when defining its value. This is why, even if interest-bearing capital somehow embodied labor, its value could not be defined in the usual way. Interest, as the value of capital, is the "social abstraction" of the essential nature of capital "symbolized" by interest-bearing capital. It will be demonstrated in the next section that this raises commodity fetishism to the highest level.

Marx utilizes the extension of the labor theory of value to interest-bearing capital in several places, but most notably in Chapter 26 of Part 5. In Chapter 26, Marx criticizes the economists' and bankers' version of capital as characterized by George Warde Norman and Samuel Jones Loyd Overstone.[6] Norman uses the concept of capital to refer to the commodities used in production. Marx calls this "a vulgar conception of capital" (Marx 1894: 548). On the following page, Marx quotes Overstone's explanation that the scarcity of capital led to a rise in the interest rate. Marx sarcastically replies:

> Superb! The value of capital, generally speaking is precisely the rate of interest! A change in the rate of interest, therefore, is derived here from a change in the rate of interest. 'The value of capital', as we have already shown, never means anything else in theory. Or else, if Lord Overstone understands by value of capital the rate of profit, then this penetrating thinker comes back to the fact that the interest rate is governed by the profit rate! (Marx 1894: 549)

---

[6]Both Norman and Overstone were English bankers during the early to mid-19th century. In addition, both were proponents of the 1844 Bank Act and Currency School which Marx criticized.

Two pages later, a similar criticism can be seen:

> So if Overstone says on this that the rate of interest rose in 1847 because the value of capital rose, he can only mean by the value of capital the value of money capital, and the value of money capital is precisely the rate of interest and nothing else. (Marx 1894: 551)

The final criticism of Overstone, in this section, comes in the form of attempting to find a unique value of capital. Marx essentially argues that there is not one unique value of capital. Rather, there is a value for capital as capital, and capital as money and commodities.

> All this [1847 crisis], for Overstone, is expressed in 'a moral sense of the enhanced value of money'. But this enhanced value of money capital corresponded directly to the fallen monetary value of real capital (commodity capital and productive capital). The value of capital in the one form rose, because the value of capital in the other form fell. Overstone, however, tries to identify these two values of two different kinds of capital in a single unique value of capital, and moreover by opposing both of them to a lack of means of circulation, of ready money. (Marx 1894: 551)

The confusions that Overstone is led into arise because he does not differentiate the value of capital as money and commodities from the value of capital as capital. It is not clear that the same criticism could be avoided when the price and value theories of interest-bearing capital are merged in the traditional interpretation presented in the secondary literature. That is, an increase in the interest would not lead to an increase in the value of capital implied by Marx. Instead, the increase in the interest rate causes a fall in the value (price) of capital according to the traditional interpretation where the discounting procedure determined the value of capital.

2.3.3 Capital fetishism

The similarities pointed out above between Marx's analysis of the commodity in

Chapter 1 of Volume I and interest-bearing capital in the first chapters of Part 5 can also be extended to include fetishism. In Volume I, Marx discussed the existence of commodity fetishism under the capitalist mode of production. This fetishism resulted from individuals projecting social relations between themselves onto commodities and money. At this stage, money was elevated to the status of the highest form of commodity fetishism. Money, for Marx, came to symbolize the social bond of human beings. However, in Part 5 interest-bearing capital overtakes money as the highest form of fetishism.

There are four reasons interest-bearing capital obtains the highest form of fetishism. First, in the form of interest-bearing capital, capital as self-valorizing value becomes a thing. Second, the social relations become objectified in capital as a thing. Third, the most immediate form of interest-bearing capital is that of money. In money all differences among commodities, industry, and individuals are eliminated and thus their social relations. Fourth, the quantitative expansion of value in the form of interest-bearing capital appears as a property of the thing itself. In interest-bearing capital a thing is found which can expand in value by itself and conceal the true nature and relations that exist within the capitalist mode of production. This fetishized form gives rise to the independence from the actual reproduction process which interest-bearing capital appears to achieve. The extension of the labor theory of value to interest-bearing capital allows the economist to see beyond the capital fetishism. By making an explicit connection between the labor theory of value and interest-bearing capital, the economist is able to see behind the surface phenomena and study the social relations that exist.

2.4 Summary

The current chapter has introduced the category of interest-bearing capital. The placement of this category within *Capital* demonstrates a consistent use of Marx's stated methodology. Although interest existed prior to the capitalist mode of production, introducing interest-bearing capital in Volume III represents a consistent application of the methodology that economic categories be developed within a particular logical rather than historical order. The distinction used by Marx in the *Grundrisse* between capital in general and many capitals reappears in Volume III. The real existence of capital in general is found when capital as capital becomes a commodity.

The chapter has reviewed some of the recent literature on the category of interest-bearing capital. Without rejecting the literature altogether, an alternative interpretation was developed as an extension of the labor theory of value. The interpretation by E.K. Hunt of the labor theory of value as definitional in the rationalist tradition has made possible an extension of this theory to a commodity clearly without embodied labor. The extension has relied upon the definition of capital. Interest-bearing capital, existing in the form of capital as capital, extends value to be a social symbol of its inner nature. How the magnitude of the value is determined has not been discussed in this chapter. The objective has been to demonstrate that Marx did assign a value to interest-bearing capital. In Chapter 4, the average rate of interest will be discussed in order to determine the magnitude of the value of interest-bearing capital.

In Chapter 3, fictitious capital as a specific form of interest-bearing capital will be discussed. The relation between money accumulation and real accumulation will continue to be investigated. In addition, the implications of interest-bearing capital,

specifically in the form of fictitious capital, found in the literature will be reviewed. Most of the implications of this category find application in crisis theory. By focusing on crisis theory, it will be possible to further investigate the basic relationship between money and real accumulation.

CHAPTER 3

FICTITIOUS CAPITAL

Interest-bearing capital is Marx's general category for capital as capital. There exist many forms which this commodity may take. This chapter will be concerned with fictitious capital as a particular form of interest-bearing capital. Banking capital, as another form, will be discussed only sparingly. Some of the possible implications of introducing fictitious capital will also be presented by way of a literature review.

The structure of the chapter develops the definition and implications of fictitious capital in the literature prior to an interpretation of Marx's original writings. Section 3.1 provides a background to fictitious capital by reviewing some of the secondary literature. In Section 3.2 a literature review is conducted on the possible theoretical implications of fictitious capital. An important point in this section will be fictitious capital's role in crisis theory and the relation between money and real accumulation. Section 3.3 is a reconstruction of fictitious capital based in Marx's original writings. Section 3.4 draws some preliminary conclusions.

3.1 Literature review

The category of fictitious capital causes several problems in terms of the interpretation of what Marx meant by it and its implications. Essentially, fictitious capital refers to stocks and government securities, or financial assets in general. Whether

or not it also applies to bonds is more difficult to uncover. The difficulty arises because Marx also uses the terms loan capital and bank capital which would seem to imply that fictitious capital is reserved for ownership titles, e.g., stocks. Although the concept itself is familiar, the difficulty lies in understanding what fictitious capital represents from an economic standpoint as opposed to a financial standpoint. From an economic standpoint, the role played by fictitious capital within capitalism must be studied. The first step in this study begins with understanding the economic definition of fictitious capital.

The work by Suzanne De Brunhoff on Marx's theory of money and the financial system was introduced in Chapter 2. De Brunhoff (1990) provides a very brief introduction to fictitious capital in her article appearing in *The New Palgrave: Marxian Economics*. The article is of particular interest in that it includes historical background beyond the Marxist perspective. De Brunhoff points out that the concept of fictitious capital has been used by such eminent economists as Jacob Viner and F.A. Hayek. According to De Brunhoff, Hayek believed that fictitious capital played a destabilizing role in the economy. Fictitious capital is treated in the context of presenting a crisis of overconsumption. Hayek argues that fictitious capital arose from increases in bank credit. An increase in bank credit encouraged entrepreneurs to increase investment beyond the available amount of savings. This situation led to a distortion in capital markets.

In terms of Marx's concept of fictitious capital, De Brunhoff argues this type of capital derives from loanable money capital. Capital is fictitious in the sense that its valuation is opposed to the labor theory of value. This is similar to the argument presented in her 1998 paper reviewed in Chapter 2. In the 1998 paper fictitious capital

"derives from that of the externalization of the interest rate" (De Brunhoff 1998:184). Although fictitious capital is opposed to the labor theory of value, it does have some real roots. De Brunhoff argues that fictitious capital, along with interest-bearing capital and credit, "cannot be self-reproducing and self expanding without production value" (1998:187). Fictitious capital, in addition to credit and finance in general, are necessary for the accumulation and centralization process.

The notion of fictitious capital appears to run into the same difficulties as interest-bearing capital. This should not be surprising since fictitious capital is merely a form of interest-bearing capital. As noted in Chapter 2, capital is said to be fictitious when its value is determined in opposition to the labor theory of value. The alternative interpretation of Chapter 2 would also find this opposition misleading when applied to fictitious capital. Another aspect to be noted is the ambiguous relationship made between money and real accumulation. De Brunhoff has emphasized that fictitious capital is necessary for real accumulation. However she does not specify exactly why. Finally, the definition of fictitious capital presented by De Brunhoff may not be as precise when compared to the rest of the literature.

Duncan Foley presents a particular definition of fictitious capital which is very different from most interpreters of Marx. Foley (1997) concentrates almost exclusively on corporate shares in his analysis of fictitious capital. He argues that only a portion of a corporate share falls under the label of fictitious capital. Fictitious capital is said to originate from the capitalization of a stream of income. However, what constitutes fictitious capital is defined in terms of the particular mechanics of the capitalization procedure. The central idea appears to rely on the relationship between the profit rate and

the rate of interest. An example closely resembling one presented by Foley can be used to make the definition of fictitious capital clearer. Suppose a firm plans to purchase $100 in productive capital by issuing shares. Suppose further that the expected profit rate is 20% while the required rate of return for buyers is 10% (this required rate of return is the interest rate plus risk premium). If the firm sells 10 shares, then the real value of each share would be $10 corresponding to the $100 in productive capital. However, given the 10% interest rate (or required return) each share will sell for $100 ($10/.10). Thus, the total value of the shares will be $1,000. The fictitious capital is defined as $900 since $100 still represents real capital.

Foley's definition of fictitious capital is slightly modified from the standard definition in terms of adjusting for the real capital it represents. However, the implications of this definition are not always clear. If, for example, changes in technology or productivity were taken into account, then the real capital could be devalued. This is simply the notion that value is defined by replacement rather than historical costs. It is not clear according to Foley's definition what should happen to fictitious capital. One implication of fictitious capital that Foley draws, similar to Hayek, is that excess credit leads to a potentially unstable environment. Once credit relations are established, then any disruption in payments can lead to a scramble for means of payments which increases the interest rate and results in bankruptcies. However, this implication has little to do with fictitious capital, but rather the chain of payments and close interdependence formed by credit. It will be seen that Marx did take into account changes in fictitious capital on the bankruptcies of firms.

Steve Shuklian (1991) presents an interpretation of fictitious capital which relies

heavily on Foley's work. However, Shuklian detects two related concepts that may cause confusion when dealing with fictitious capital. First, Marx uses the term fictitious capital to refer to loans in the form of interest-bearing capital made to firms in order to finance long-term investment projects. The fictitious capital is then a capitalized claim to future wealth. Fictitious capital then originates in the financial markets by capitalizing a stream of income which may take the form of interest or dividend payments. The growth, or general movement, in fictitious capital should not be confused with changes in real wealth. Shuklian emphasizes Marx's concept of fetishism as the reason for the confusion of identifying changes in the value of fictitious capital with real wealth. The movements in fictitious capital do not create wealth. Rather they redistribute wealth. Second, Shuklian uses the term "value of fictitious capital" to illustrate Foley's definition of fictitious capital. According to Shuklian, this is the second definition of fictitious capital used by Marx. The value of fictitious capital being evaluated in terms of the capitalization procedure leads to the value of these claims exceeding the value of the real capital.

The literature reviewed on fictitious capital to this point has only covered a narrow type of definition. Weeks (1981), on the other hand, offers a broader approach. Weeks defines fictitious capital as a symbol of ownership and indebtedness. Therefore, both stocks and bonds fall under the label of fictitious capital. Capital in Weeks' opinion is fictitious in the sense that it is a representation of a claim to future surplus-value, rather than a claim of ownership to the material products. One of the implications that Weeks draws from the introduction of fictitious capital is that it moves the concept of capital in general, or capital as a whole, from existing purely in the abstract idea to real conditions.

This is the point that was addressed in Chapter 2 when presenting Marx's methodology. In essence, capitalists can choose to hold capital in general in the form of fictitious capital, rather than capital as commodities. Thus, property relations shift from ownership of a material object to ownership of claims on future wealth (Weeks 1981: 131).

Chapter 2 noted that Weeks believes neoclassical theory has reversed the origin of fictitious capital. This is an important point of differentiation between the Marxist and neoclassical approach. This differentiation goes back to the theory of value underlying each approach. The neoclassical use of the utility theory presupposes them to concentrate on the individual. This leads to fictitious capital being viewed in terms of achieving higher utility over time and thus harmonizing the interests of individuals. The labor theory of value employed by Marxists begins with a social perspective. The starting point is to view fictitious capital arising from the specific mode of production, i.e., capitalism. It is a necessity of the social reproduction process that money hoards exist, and these hoards form a type of capital which requires a return. The underlying perspective is the property relations that are established by the formation of fictitious capital. Finally, these property relations lead to a study of the class conflict arising from fictitious capital, rather than harmonizing effects.

3.2 Implications of fictitious capital

The implications of fictitious capital in the secondary literature have primarily focused upon the aspect of crisis theory. The work of Michael Perelman and Ferdinando Meacci represent two ambitious attempts to incorporate fictitious capital into the Marxist theory of crisis. These works are ambitious in the sense that they attempt to replace the

traditional theories of crisis with one that brings the financial system to the forefront. In addition, a paper by Joseph Ricciardi will be reviewed. The paper by Ricciardi is a unique presentation of Marx's writings on the relationship between fictitious capital and political class struggles. Ricciardi's paper is also another attempt to highlight the implications of fictitious capital for crisis theory. Finally, the portion of Robert Guttmann's book, *How Credit Money Shapes the Economy* (1994), dealing with fictitious capital will be reviewed. The main emphasis of the review will be on the concrete analysis that Guttmann provides.

Michael Perelman (1990) writes about fictitious capital in the context of crisis theory and an alternative interpretation of Marx's labor theory of value. The alternative interpretation of the labor theory of value stresses scarce resources. The review will concentrate on Perelman's development of fictitious capital in relation to crisis theory. The uniqueness of Perelman's approach is the emphasis on the connection between value and price in conjunction with the distortion created by fictitious capital. Fictitious capital is defined as a claim on future income which need not be related to productive activity. Capital gains and losses may also change the amount of fictitious capital that exists. Perelman's definition is a very general one and may cause problems because of its inclusion of the concept of productive activity. It is not clear whether or not the use of productive activity relies on the classical distinction between productive and unproductive labor. The dual nature of fictitious capital is also stressed by Perelman. This dual nature can be characterized as promoting actual accumulation along with distortions within the economy.

Perelman concentrates on the negative aspects of fictitious capital as it relates to

crisis theory. It is in the particular implications of fictitious capital for disorder and crisis that Perelman's theory appears unique. Like the neoclassicals, Perelman describes the nature of prices as supplying information to economic agents. In order to provide correct signals to agents, prices must not deviate beyond certain bounds from their underlying value relations. Marx is interpreted as maintaining that markets work efficiently when prices are roughly proportional to their underlying value (Perelman, 80). The credit system, and fictitious capital in particular, provide flexibility to the accumulation process. This flexibility promotes economic development as long as "fictitious capitals permit prices to move in line with future values" (Perelman, 80-81). However, the growth of fictitious capital can also lead to a disproportion between prices and values which distort price signals. The growth in fictitious capital distorts the relation between prices and values by inflating "the base on which profit is earned, thereby reducing the rate of return" (Perelman, 86). Once this occurs prices cannot fulfill their coordinating function. Thus, a crisis must break out in the form of a devaluation of fictitious capital in order to reestablish the correct proportions between prices and values.

Perelman's theory is initially difficult to accept for two reasons. First, why prices and values are constrained by proportionality boundaries is not made clear. The assertion appears to be more in line with Ricardo's assumption than Marx. Second, Perelman does not make a strong case for the contention that the growth of fictitious capital leads to changes in prices which then deviate from values. There appears to be no direct link between fictitious capital and commodity prices. The only link that Perelman does mention is that Marx implicitly includes fictitious values in the value of productive capital. However, Perelman does not connect this analysis to commodity prices. This

incompleteness will also be seen in the work by Meacci reviewed next.

Ferdinando Meacci (1998) puts forth one of the most ambitious treatments of the significance of fictitious capital. Meacci attempts to build a "Fictitious Capital Theory of Crisis" intended to replace the falling rate of profit theory of crisis. The strengths of the paper pertain to Meacci's presentation of two definitions of fictitious capital and an analysis of forms versus sets of crises. However, Meacci does not meet his intention of developing a new theory of crisis.

Meacci provides two alternative definitions of fictitious capital. The first definition arises from Marx's distinction between commercial and bank credit. Commercial credit is extended between capitalists in the form of bills of exchange. Banks which discount these bills of exchange then provide money but not money capital. Bank credit is a loan from a bank. Here money capital, as opposed to simple money, is being advanced by banks. Fictitious capital may arise from either form of credit. In fact, Meacci argues that "fictitious capital arises any time that money capital is *not* employed in production or in circulation as two distinct phases of the reproduction of wealth" (Meacci 1998: 193). Fictitious capital is like interest-bearing capital in that it arises from the category of capital as property. However, Meacci argues that interest-bearing capital is not harmful to the reproduction of wealth whereas fictitious capital can be.

Two types of credit can be used to demonstrate the possibility of harm done by fictitious capital. Commercial credit which is generally limited by the scale of production may be extended in the form of bills of exchange. The bills are issued "not in order to take the metamorphosis of commodities one step further in the process of reproduction" but rather to obtain other people's capital (Meacci 1998: 194). These bills are said to be

fictitious in the sense that they are extended beyond the limits of the reproduction process. Bank credit may also become fictitious capital when it is "employed outside the process of reproduction." Money capital which is the object of bank credit may be used "either to underwrite government bonds or to multiply bank deposits" (Meacci 1998: 194). Money capital used to underwrite government bonds is considered fictitious capital since money lent to the state is purely illusory. In the case of creating multiple bank deposits, the deposits at the bank are simply a type of claim on the bank and therefore constitute fictitious capital as well. The first perspective of fictitious capital rests on the creation of credit in excess of the limits of the reproduction process. Money capital becomes fictitious capital when it exists outside of the reproduction process.

The second definition of fictitious capital is associated with the more widespread use of the concept. Meacci derives this second definition from Marx's comments on land rent and capitalization. For example, the price of a waterfall for Marx is an irrational expression, similar to interest as the price of capital, and expresses nothing more than capitalized rent. Meacci then points to Marx's direct statement that the formation of fictitious capital is capitalization. Fictitious capital as an ownership title is valued differently than the value of other commodities. The value of fictitious capital is arrived at by the process of discounting, or capitalization. Thus, capital in this case is fictitious not because it is issued in excess of the constraints of the reproduction process, but rather because its value is opposed to that of the labor theory of value.

Meacci proposes using the two definitions of fictitious capital to develop a "Fictitious Capital Theory of Crisis" (FCTC). Meacci's argument will be carefully, but succinctly, developed in order to demonstrate the possible implication of fictitious capital

for a new theory of crisis. Two sets of crisis are proposed: real crisis and monetary crisis. The traditional view is that the real crisis causes the monetary crisis. Meacci asserts that the causation should ultimately be reversed. Derived from Chapter 17 of *Theories of Surplus Value*, Part 2, Meacci also proposes two forms of crisis. The first form of crisis is based in the function of money as means of circulation. Money as means of circulation implies the separation of purchase and sale. This appears in *Capital* as the circuit of commodity exchange in C-M-C'. The second form of crisis arises from money's function as a means of payment. Money as means of payment implies that the sale must take place within a certain period of time. The type of crisis that Marx alludes to within this part of *Theories of Surplus Value* is an overproduction. Although Marx does not mention the idea, Meacci asserts that fictitious capital must be associated with the second form of crisis. Meacci also asserts that it is equally clear from Volume III that fictitious capital is associated with a crisis in which circulation expands beyond production.

The dilemma for Meacci is that the form of crisis associated with money as means of payment and fictitious capital arises from overproduction in *Theories of Surplus Value* and excess growth of the circulation sphere in Volume III. The resolution of the dilemma, according to Meacci, is that both situations describe an imbalance between the process of circulation and the process of production. He emphasizes that the imbalance is between processes and not sectors of the economy, as in the case of the reproduction schemes. The imbalance associated with processes also resolves the sets of crises (real and monetary). Although he does not fully explain, Meacci contends that the monetary crisis causes the real crisis. If true, this would imply that the falling rate of profit theory of crisis must be abandoned. The fictitious capital theory of crisis relies on the first

definition of fictitious capital. The excessive growth of credit causes the circulation process to expand beyond the production process. Once this imbalance is created a crisis must break out in order to destroy the fictitious capital. Therefore, fictitious capital does not necessarily harm the health of the economy. It is only the growth of fictitious capital beyond the limits set by the process of reproduction that cause problems.

It is clear that Meacci is struggling to come to grips with the relationship between money and real accumulation. The problem is stated by Meacci as an imbalance between the processes of circulation and production. The crisis, beginning with the monetary crisis then leading to a real crisis, originates from the expansion of circulation beyond production. However, it is never explained why such a situation leads to a crisis. In other words, the expansion of credit may cause circulation to expand faster than production and once this occurs the stage may in fact be set for a crisis to occur. However, Meacci does not explain what sparks the break in the chain of payment obligations. In many ways, Meacci's theory reduces to a Minsky type crisis. In the Minsky crisis once liquidity is low and credit obligations tight then any sort of exogenous change brings on the crisis. Furthermore, Meacci's theory suffers from a problem similar to the one identified in Perelman's paper. Meacci uses an imbalance between processes whereas Perelman employs an imbalance between price and value. However, in both cases, the reason that the imbalance causes a crisis is left unexplained.

The weakness of Meacci's argument may stem from the narrow focus of an economic perspective. Marx was developing a system of thought that incorporated the political and economic aspects of society. Although a thorough review of the political side of Marx's theory is well beyond the present scope, it is possible to provide a brief

look at the possibilities a broader perspective would entail. Joseph Ricciardi's paper may suffice to demonstrate the possibilities. Ricciardi (1987) combines some of the political aspects of Marx's work with his monetary theory in order to illustrate the role of finance in class struggle. Ricciardi relies heavily on Marx's *Class Struggles in France* as a case study in the "political role of state debt and commercial credit in the accumulation process. An economic reading of this reveals that state credit is more than just a form of fictitious capital: It is also a class weapon" (Ricciardi 1987: 73). Ricciardi also uses Marx's work as a correspondent to illustrate his thought on the gambling and speculative nature of finance with reference to the French Credit Mobilier in the 1850s. It is the combination of these earlier works with *Capital* that makes the paper important.

Since Ricciardi's aim is to incorporate the political aspects of Marx, fictitious capital is analyzed from the standpoint of state debt. Fictitious capital, according to Ricciardi, is a claim to anticipated products of future labor. This form of capital is fictitious since it has "no backing in realized production" (Ricciardi 1987: 74). One of the aspects of *Class Struggles in France* that Ricciardi draws out is the early distinction between productive and finance capital. Productive capital is associated with the creation of new surplus value by private labor. In contrast, finance capital redistributes existing surplus value (Ricciardi 1987: 69). The distinction implies that "[T]o the degree there is no new mobilization of surplus labor out of which new social wealth is produced, the claims to future income generated by state debt are fictitious and constitute a form of fictitious capital" (Ricciardi 1987: 71). The requirement for economic stability and a healthy credit system is that the command over future labor be consistent with the existing creation of value. This definitely has connections to Meacci's imbalance

between processes. Ricciardi reads the discussion of fictitious capital in Volume III as ultimately having a dampening influence on accumulation. Since state debt does not create the conditions for its own self-expansion, a growing amount of surplus-value must move to finance interest payments which cannot be met from tax revenues. The issuance of state debt to alleviate and pacify working class pressure can only be temporary since fictitious capital is not backed by real production. The class struggle heats up once this debt matures and the battle takes place over which class will make concessions. As long as credit relations and social relations of production remain unchanged the working class will be forced to give up their apparent gains and provide the necessary surplus labor in order to realize the state debt. State debt is then more than just fictitious capital; it becomes a weapon in the class struggle (Ricciardi 1987: 73).

Ricciardi is able to tie fictitious capital and the role of financial intermediaries together to provide a brief account of crisis. Financial intermediaries trade in interest-bearing capital and fictitious capital which are supposed to represent real capital, instead of being the real capital itself. By trading in these representations, financial intermediaries are able to create some autonomy for themselves from the actual conditions of production. Furthermore, the representations imply a duplication of existing capital which again provides some autonomy from real production. Ricciardi then interprets Marx as arguing that "financial intermediaries, operating in the fantastic world of interest bearing capital, are driven to promote the multiplication of financial claims to social wealth beyond any real basis for their realization in production" (Ricciardi 1987: 74). These financial claims grow because of speculation and the debt driven accumulation in production. The autonomy of the financial claims, or

representations of real capital, sooner or later come into contradiction with actual accumulation in the form of the inability to secure future surplus labor. When this occurs, the nature of finance capital to redistribute existing value asserts itself.

The role of the central bank has a significant position in the class struggle once the crisis appears. The central bank can attempt to stop the devaluation of private fictitious capital by supplying state debt. The objective of the central bank is to socialize the losses that occur due to the devaluation of private fictitious capital. Although this may temporarily halt the crisis, it only postpones the inevitable class struggle over the burden of either inflation or new taxes. Thus, the central bank can alleviate the problem of liquidity in financial markets but only at the cost of creating uncertainty over the future course of the class struggle. The uncertainty that arises implies that the credit system may not function effectively because its "ability to preserve intertemporal command over labor" comes into question (Ricciardi 1987: 71).

Ricciardi presents a fairly complete and definitely promising approach to fictitious capital and crisis theory. One of the pieces left out by Meacci may now be supplied in explaining why an expansion of circulation beyond production may generate a crisis. According to Ricciardi, fictitious capital is a claim to future surplus-value. Therefore, the production sphere must be able to continue to generate a certain level of surplus-value to meet these claims. If, however, the surplus-value is not generated sufficiently then the question becomes a matter of the reallocation of existing surplus-value. The devaluation of fictitious capital that occurs may create conditions for a panic. Ricciardi's work could supplement the theories developed by Meacci and Perelman. As stated previously, however, the scope of the present work will be restricted to an

economic perspective.

Throughout the current work, the main concern will be with a reconstruction of Marx's original writings. However, it is useful to review a piece of literature conducted at a more empirical level. Robert Guttmann's work on fictitious capital from *How Credit Money Shapes the Economy* (1994) represents a good sample of an empirical approach to fictitious capital. The book itself is a mass of detailed statistics and eclectic use of theories. The portions that deal with fictitious capital, including Chapter 12 "Deal Mania and *Fictitious Capital*," are usually at a very concrete level of analysis. The interesting feature is not the theoretical development but rather the use of the concept of fictitious capital to analyze particular historical periods.

Guttmann defines fictitious capital as "all of those financial assets whose values are based on the capitalization of a future income stream and which as such have no counterpart in actual industrial capital" (Guttmann 1994: 42). The definition allows for a much broader range of assets to fall under the label of fictitious capital. Furthermore, the second part of the definition makes a strict separation between fictitious capital and industrial capital. The contradictory nature of fictitious capital is found in the separation of the two categories of capital along with their necessary integration. Finance and industry are clearly interdependent but also provide alternative investment opportunities (Guttmann 1994: 40). One key aspect of fictitious capital is the opportunity to accumulate financial claims relatively divorced from industrial capital. This aspect creates an outlet for speculation to grow.

Three general forms of fictitious capital are identified by Guttmann. First, equity shares exist as ownership titles to capital with their value depending upon expected

profitability, market manipulation, and speculation. Second, credit to the state financed through either government securities or bank loans is defined as fictitious capital. Since this credit is extended to the state it does not represent real capital. Third, forms of money which are not backed by gold reserves represent an older form of fictitious capital. This third form of fictitious capital includes inconvertible state money and private credit money issued by banks (Guttmann 1994: 42). Credit-money creation, and hence fictitious capital, is created in the process of multiple deposit creation. Banks which make loans create additional deposits within the banking system as whole, and by the end of the process create credit-money which holds no intrinsic value (Guttmann 1994: 299).

Guttmann's analysis of the U.S. economic system during the 1980s relies heavily on the role of fictitious capital. Comparable to Sweezy (1994), Guttman contends that finance has risen to a dominant position over industry. The dominance of finance during the 1980s arose not from interest-bearing capital in general but rather from the growth of fictitious capital in particular, especially in the form of corporate equities. Although finance and industry represent competing alternatives for investment, in a healthy economy industrial investment should be more profitable. However, financial investment has the benefit of being less dependent on the state of industry and more mobile and liquid than loan capital. If fictitious capital is seen as potentially more profitable than industrial investment then speculation begins to grow. The speculation in fictitious capital will tend to draw resources away from industry. In other words, monetary accumulation crowds out real accumulation. Fictitious capital moves procyclically relative to the real economy. Rising stock prices during the expansionary phase of the business cycle permit firms to use their shares as collateral. This makes it easier for firms

to issue new shares, encouraging investment and overall expansion. Falling stock prices react on firms adversely while also discouraging consumer spending due to the wealth effect.

Finance in the 1980s is treated by Guttmann within a broad framework of long waves of accumulation. Finance plays a leading role in restructuring the productive system during the downward phase of a long wave. During the 1980s fictitious capital provided the mechanism for the merger mania. The interdependence between finance and industry is especially visible during this period. Financial intermediaries have an interest in sustaining a bull market because their fees and charges rise with trading. The financial intermediaries can encourage a bull market by creating a pyramid of debt. In this situation, purchases of stock are financed with collateral that depend on the value of these shares. Investors can take advantage of such pyramiding by putting down less money for stock purchases. Once this pyramid of debt has been established the conditions are set for a financial crisis. Guttmann argues that just such a financial crisis occurred in the 1987 stock market crash. Once stock prices began to fall, the banks that had issued debt based on the collateral of the stock began to refuse to supply the necessary funds and started calling in loans. The financial crisis acted to bring interest-bearing capital, industrial capital, and fictitious capital back into line with one another and created the conditions for accumulation to proceed on a healthier basis.

The literature reviewed in this section represents a fairly diverse sample of the implications drawn from fictitious capital. A common theme in this literature is the attempt to include fictitious capital in the theory of crisis. The inclusion requires a determination of the relationship between money and real accumulation. Perelman

represents the view that money accumulation, specifically in the form of fictitious capital, leads to crisis conditions by way of distorting price signals. Meacci, on the other hand, represents the view that money accumulation creates a disproportion between the spheres of circulation and production. Ricciardi and Guttman make a substantial contribution to this literature by focusing on different aspects.

3.3 Marx on fictitious capital

The current section unravels the various comments by Marx on fictitious capital. Due to the incompleteness of Part 5, there does not exist a well developed theory of fictitious capital in Marx's original writings. The incompleteness reenforces the disagreements in the literature on the definition and implications of fictitious capital. The current section's interpretation of Marx's writings illustrates the absence of a consistent definition. One of the few definite conclusions that will be reached is that the implications drawn from the secondary literature requires the incorporation of further concepts, such as the average rate of interest (see Chapter 4).

According to Marx, interest-bearing capital leads to every fixed income appearing as interest on capital. Marx considers this transformation to be a "purely illusory notion," the exception occurring if the source of the income is "directly transferable, or assumes a form in which it is transferable" (Marx 1894: 595). Fictitious capital seems to be such a transferable asset. Fictitious capital could then be contrasted to interest-bearing capital in the form of a bank loan. The bank loan is normally thought to be nontransferable.

One example, used by Marx, of fictitious capital is the national debt. The payment received by holding the state's debt is represented by a certain sum of interest

payments each year. Marx contends that "the capital from which the state's payment is taken as deriving, as interest, is illusory and fictitious" (Marx 1894: 595). The money lent to the state was never intended to be spent as capital and therefore cannot be a self-maintaining value. The capital of the national debt remains "purely fictitious, and the moment these promissory notes become unsaleable, the illusion of this capital disappears" (Marx 1894: 596). In terms of being transferable Marx claims that the creditor of the state cannot retrieve the original capital. The creditor can only transfer, by sale, the claim on the state. In fact, the original capital will have been consumed long before the many transfers of the claims take place. This explanation of the meaning of transferable also applies to securities issued by firms. The difference consists of how the original amount will be spent. In the case of the firm, the original amount will be spent as capital rather than revenue.

Fictitious capital in the form of shares, or stock, issued by corporations are titles to real capital. However, these titles do not give control over the capital. In fact, the real capital cannot be withdrawn. The title represents a claim to future surplus value. The title can be sold and the principal then returned. The issue of whether or not a title, or claim, can be sold for redemption is a pivotal issue for Marx. The title itself appears as a duplicate to the capital it is supposed to represent. The value of the titles, and here Marx states explicitly that he means by value the price on the stock exchange, can rise and fall independent of the value of the real capital it is supposed to represent. The development by Marx of this independence gives support to the interpretation here that fictitious capital represents a form of interest-bearing capital. Marx states this in the following way:

> But these titles similarly become paper duplicates of the real capital, as if a bill of lading simultaneously acquired a value alongside the cargo it refers to. They become nominal representatives of non-existent capital. For the actual capital exists as well, and in no way changes hands when these duplicates are bought and sold. They become forms of interest-bearing capital because not only do they assure certain revenues but the capital values invested in them can also be repaid by their sale. ... But as duplicates that can themselves be exchanged as commodities, and hence circulate as capital values, they are illusory. (Marx 1894: 608)

The accumulation of fictitious capital may express real accumulation. Fictitious capital functions as a potential investment of loanable capital. Fictitious capital is a form for lending the loanable capital. However, "they are not themselves the loanable capital that is invested in them" (Marx 1894: 609). The point is that for the functioning capitalist, it is not shares of any kind that he desires but rather money. Therefore, the functioning capitalist may pledge his shares in order to obtain money for real accumulation. Marx gives a very nice analogy by stating that this expansion in fictitious capital is similar to the expansion of a tax list expressing an expansion of property. The example tends to reenforce the separation of money and real accumulation. However, there is still the possibility that the tax list may increase due to a real increase in property. In this case, the analogy would be that an increase in fictitious capital expresses real accumulation.

Fictitious capital requires several terms to be defined. Marx states the "*formation* of fictitious capital is known as capitalization" (Marx 1894: 597). As a numerical example, assuming the average rate of interest to be 5%, a revenue of $100 per year is capitalized at $2,000. The $2,000 is what Marx calls the capital value of the legal ownership title to the revenue of $100. If this is an ownership title in the form of a share then a new term needs to be introduced. The "sum advanced which the share originally

represents" is called the nominal value of the share (Marx 1894: 598). Capital value, or as Marx sometimes refers to it, the market value can therefore deviate from the nominal value without any change in the value of the actual capital the ownership title is supposed to represent.

The deviation of market value from nominal value leads to profits and losses for holders of fictitious capital. Presumably, Marx has in mind capital gains and losses in modern terminology. According to Marx, the gains and losses arise from the gambling nature of stock exchanges. The market value of the securities are determined by (a) the expected revenue, and thus is partly speculative, and (b) the interest rate. In times of pressure on the money market the market value of the securities falls for two reasons: first, because the interest rate increases and second, because of the massive sale in order to obtain money. Once these prices have fallen the opportunity arises for others to buy up these securities at undervalued terms which then leads to an increased centralization of wealth. In addition to these short term factors, Marx argues that the interest rate may fall because of the tendency of the profit rate to fall. Anticipating some of the discussion to come in Chapter 4, the profit rate may set the maximum limit for the interest rate. A fall in the profit rate will decrease the average rate of interest leading to an increase in the market value of fictitious capital. In this case, an accumulation of fictitious capital may not express real accumulation. In addition, Chapter 4 demonstrates that the average rate of interest has a tendency to fall independent of the profit rate, creating a further separation between finance and industry.

Fictitious capital is an ownership title to future surplus-value. State issued fictitious capital, according to Marx, is also "purely illusory capital." The capital value of

corporate issued securities are "still pure illusion" (Marx 1894: 597). The difference between the two types of fictitious capital can now be stated in terms of the "illusion." All of the fictitious capital issued by the state is illusory capital. However, only the capital value of the fictitious capital issued by firms is illusory. In the second case, that of firms, the security is not purely illusory because to a certain extent the ownership title represents real capital (Marx gives as examples shares in railway, mining, etc.). The share represents "capital invested and functioning in these enterprises, or the sum of money that was advanced by the shareholders to be spent in these enterprises as capital" (Marx 1894: 597). However, even in this case, the capital cannot count twice, as capital value and real capital. The capital exists, and counts, only in the real capital. The share is a legal title not to the value of the capital, but rather to the future surplus-value that the capital realizes. This is an extremely important point that appears to add clarity to the discussion of the value of interest-bearing capital. In other words, the capital value of a share either does not represent real capital at all, in the case of the state, or "is determined independently of the real capital value they represent" (Marx 1894: 599). Furthermore, the discussion of "illusory capital" connects back to the work of Foley and Shuklian. Foley's definition of fictitious capital is consistent with Marx's notion of illusory capital. However, Foley's definition is not consistent with Marx's definition of fictitious capital. Shuklian's contention of two definitions points to the confusion between fictitious and illusory capital.

Fictitious capital is an extremely difficult category to tie to actual accumulation. It would seem that banking capital, another form of interest-bearing capital, would be easier to connect to actual accumulation. However, certain components of banking

capital are fictitious capital. Banking capital can be divided into (a) cash, in the form of gold and notes and (b) securities. The securities can then be divided into commercial paper and public securities. By public securities Marx means government bonds, treasury bills and stock of all kinds, which are themselves fictitious capital. In fact, Marx states that most of the banking capital is fictitious. It consists of drafts on gold, claims (bills of exchange), and shares (drafts on future revenue). The money value of this banking capital, in the bank's safe, is still completely fictitious. The drafts are either guaranteed revenue (state securities) or "ownership titles to real capital (e.g., shares), their money value being determined differently from the value of the actual capital that they at least partially represent" (Marx 1894: 600).

Bank capital and the role of banks will become more important in Chapters 5 and 6. The discussion of it here will be continued for the sake of completeness. Banks earn profit from the spread between the interest paid to depositors and received from borrowers. The loans that banks make, or bank credit for short, are one part of what Marx labels loan capital. The banks receive a portion of their potential loan capital in the form of deposits which Marx divides into three categories. First, producers and merchants must keep a reserve fund in order to meet unforeseen payments and in order to keep the reproduction process smooth. The banks' social function in this case is to keep the reserve fund to the minimum necessary and use the reserves as money capital for loan. Marx calls this a social fund. Second, deposits are received from monied capitalists in the form of savings which the banks use to make new loans. As the banking system develops this second source grows to include the savings of all social classes. Third, deposits are formed due to the mismatch in timing of revenues received by various social

class and their subsequent consumption expenditures. The sources of the third type of deposits directly reflect the activity occurring in the reproduction process.

The banking system plays a significant role in Part 5. The development of the banking system carries within it the abolishment of private capital and its replacement by social capital. The distribution of capital becomes a social function, undertaken by the banking system, by way of its centralization in the hands of the banks. The banking system mobilizes any temporary, or permanent, idle capital and potential capital. Thus, "banking and credit ... become the most powerful means for driving capitalist production beyond its own barriers and one of the most effective vehicles for crises and swindling" (Marx 1894: 742). The banking system also has the ability to substitute "various forms of circulating credit for money" (Marx 1894: 742). This ability expresses the fact that money is "a special expression of the social character of labour and its products, which ... must always present itself in the last instance as a thing, as a particular commodity alongside other commodities" (Marx 1894: 742-743).

There are hints throughout Part 5 that the banking system, and more generally the credit system, is able to go beyond the merely circular flow aspects of the economic system. There is a close similarity to the work of Meacci (1998) in this regard. The banking system not only accepts deposits and transforms them into loan capital, but also has the ability to create loan capital. One place this hint occurs is in the discussion of the distinction between demand for money and demand for money capital. Marx states that the "demand for money as such always consists in the desire to convert value from the form of commodities or creditor's claims into the form of money" (Marx 1894: 557). The distinction between receiving money or money capital in the form of a loan from a

bank rests on whether or not the loan is granted on the basis of security. If the loan is granted without security, then the borrower has received money capital. However, when the advance, or loan, is made against securities which must be deposited with the bank, then the advance is not money capital. The securities that are put up as collateral are the capital. Thus the borrower has not undertaken "the transaction because he needs capital, but rather because he needs money. Thus there is an advance of money here, but not an advance of capital" (Marx 1894: 558). This is important in explaining how the credit and banking system push real accumulation beyond its barriers.

The discussion above has only concerned one part of loan capital, i.e., bank credit. The remaining part of loan capital is labeled commercial credit. This type of loan capital depicts the extension of credit between industrial capitalists. Commercial credit normally takes the form of a bill of exchange. A bill of exchange is a promissory note with a fixed date of payment. Money will function only as a means of payment when the note falls due. An important aspect of this type of credit is its flexibility and growth in conjunction with the reproduction process. Taking the flexibility aspect first, Marx determines its limit by the reflux of capital in the form of money. This type of credit does not do away with cash payments. It only delays them and stresses money as means of payment rather than as medium of circulation. The limits to the extension of commercial credit also depends upon the wealth of industrialists and merchants or reserve capital at their disposal in case of a delay in repayment.

The second aspect of commercial credit is that its growth directly expresses a growth in industrial, or merchant, capital. An expansion of commercial credit is the same thing as an expansion of the reproduction process. The reason behind this lies in the

medium of the loan. Commercial capital is a loan in the form of commodity capitals. The commodity that is used as commercial credit, or loan capital, is simply in one phase of its process and switches hands. Marx points out that in this case also the phases of reproduction are determined, or controlled by credit. Credit acts in two sections. One section is the actual production sphere. The second section is the realization, or circulation, sphere. These ideas will continue to be developed in Chapters 5 and 6.

3.4 Summary

The current chapter presented fictitious capital as a specific form of interest-bearing capital. Marx's original writings on fictitious capital are fairly ambiguous. The terminology used to differentiate certain concepts may result in a variety of interpretations. Furthermore, Marx's ambiguity extends to the implications of fictitious capital. The chapter has demonstrated that although a relationship must exist between fictitious and industrial capital (i.e., money and real accumulation), Marx's work is far from clear in describing it.

There are slight disagreements over the definition of fictitious capital in the secondary literature. These disagreements result from Marx's use of several related terms. The chapter has illustrated that such terms as fictitious and illusory may have led to Foley's unique interpretation. The chapter has not attempted to make a case for one particular interpretation of the definition of fictitious capital. The important point has been to understand the notion of fictitious capital from a broader perspective.

The literature on fictitious capital has begun to investigate its implications for crisis theory. Much of this literature could be incorporated in some form into the

traditional Marxian crisis theories. Jim Crotty (1985, 1986, 1987) has argued that Marx's monetary theory in general needs to be incorporated as an essential aspect of any crisis theory. The literature in this area represents an opening up of a new research agenda for Marxist economists. Moreover, the incorporation of fictitious capital into Marxian theory establishes a new avenue for investigating the relationship between money and real accumulation.

The literature attempting an incorporation of fictitious capital into crisis theory remains incomplete. One of the features missing is the role of the average rate of interest. Specifically, the average rate of interest as the value of interest-bearing capital and fictitious capital should be incorporated as a significant part of this literature. The average rate of interest is the subject of Chapter 4.

CHAPTER 4

MARX ON INTEREST

The current chapter examines Marx's scattered comments on the average rate of interest. These comments are almost exclusively contained in Part 5, although a similar presentation appears at the end of *Theories of Surplus Value*, Part 3. The scattered comments by Marx present several difficulties for reconstruction. Yet the comments also represent significant insights which appear in the current literature of various schools of economic thought. In order to arrive at these insights and place them within the proper context several detours and asides in Part 5 must be followed.

The secondary literature on interest-bearing and fictitious capital has not attempted to incorporated the average rate of interest as a significant variable. The objective of the current work is not an explicit incorporation of the average rate. Less ambitiously, the current work attempts to uncover a possible framework for such an incorporation. In addition, the interpretation of the value of interest-bearing capital in Chapter 2 would be incomplete without a discussion of the average rate of interest. In the alternative interpretation, interest is the value of interest-bearing capital. However, when making this interpretation in Chapter 2, there was no mention of how this magnitude would be determined. The current chapter fills the gap in the interpretation.

The chapter begins with a general discussion of the origin of interest as an economic category. Section 4.2 is an aside on the concept of a natural rate of interest.

The review of this concept will lead into Marx's rejection. Some of the authors writing in this area have begun to appreciate this rejection by Marx. Section 4.3 will discuss a subset of this new literature under the label of a monetary theory of distribution. In Section 4.4 an alternative interpretation of Marx's rejection of the natural of rate of interest will be presented. The alternative reasons for the rejection will bring Marx's work much closer to Keynes's ultimate rejection. Section 4.5 presents Marx's average rate of interest as an alternative to the natural rate, again making a close connection to Keynes. Section 4.6 reviews some of the secondary literature which again attempts to incorporate the financial system within crisis theory. The absence of the average rate of interest in this literature will be stressed. Finally, Section 4.7 will offer some concluding remarks.

4.1 Origin of interest

Interest derives from surplus-value created in the production process by the exploitation of wage-labor. The qualitative division of gross profits, i.e., surplus-value, presupposes a qualitative division within the capitalist class. The capitalist class is split into functioning (or industrial) capitalists and monied (or propertied) capitalists. This division of the capitalist class "creates the category of interest" while the competition between the subclasses "creates the rate of interest" (Marx 1894: 492). The review of Lapavitsas (1997) in Chapter 2 noted his rejection of this approach to interest-bearing capital. However, many of the questions raised concerning Lapavitsas's work can be addressed here as a historical reconstruction of Marx's work. Lapavitsas appears to have missed Marx's objective in explaining the origin of interest in this way.

The division of surplus-value between interest (received by monied capitalists) and profit of enterprise (received by industrial capitalists) creates a distortion in the minds of capitalists and economists. The distortion itself forms part of the fetishism discussed at the end of Chapter 2. Marx described the defining feature of the capitalist mode of production as the antithesis between capital and wage-labor. However, this feature becomes distorted with the introduction of interest and interest-bearing capital. Interest, residing outside of the production process, cannot be the antithesis to wage-labor. Interest appears to originate from money as such (i.e., the capital fetish). The antithesis of interest is profit of enterprise, not wage-labor. Thus, the real origin of interest, i.e., surplus-value, is hidden by the appearance of it in conflict with profit of enterprise.

The distortion can also be examined from the industrial capitalists' perspective. If, for example, the industrial capitalist operates only with borrowed money, the capitalist becomes purely a functioning capitalist. The origin of the industrial capitalist's profit of enterprise would be completely distorted in this case. First, given the average profit, profit of enterprise depends on the interest rate, not the wage rate. Second, since profit of enterprise is not associated with the property of the capitalist, it appears to originate from the capitalist's wages of supervision. As will be pointed out in Section 4.3, Massimo Pivetti (1991) argues that Smith and Ricardo gave credence to the view that part of profits could be categorized as wages of supervision. The type of distortion, or fetishism, being described is assigned to the economist as well as the capitalist. Profit of enterprise and wage-labor, rather than being opposites, appear to originate from the particular labor of workers and the functioning capitalists. Marx contends that this is how it appears in the consciousness of the capitalist. Profit of enterprise (capital as function) is antithetical to

interest (capital as property) and originates from the functioning capitalist's own work appearing as wages of supervision.

The origin of interest arises from the qualitative division within the capitalist class. The division of the surplus-value into profit of enterprise and interest gives rise to a distortion in the minds of the capitalists and economists. It is this distortion that adds another layer over the basic antagonistic relationship between capital and wage-labor. In doing so, the inclusion of interest makes it even more difficult to uncover the origin of surplus-value. Lapavitsas (1997) misses this basic point by Marx. Once the origin of interest is found, the discussion can then turn toward its determination. The first question to address will be if there is a natural rate of interest which may act as a center of gravitation for market interest rates, much like prices of production do for market prices. It will be seen that Marx rejects such a concept in favor of an average rate of interest.

4.2 The natural rate of interest

The natural rate of interest has held an important position in the history of monetary theory. This rate, as it appeared in the early 20th century will be discussed in more detail in Chapters 5 and 6. The term natural rate of interest used here will not be precisely the same as in the later chapters. Marx did reject the concept of a natural rate of interest. However, he does not refer to any particular theory or economist in the rejection. This makes it difficult to determine the precise theory being rejected. For example, T.M. Humphrey (1993) has traced the natural rate of interest, as it was later used by Knut Wicksell and John Maynard Keynes in the *Treatise on Money*, back to the writings of Henry Thornton (1802) and Thomas Joplin (1832). Marx may have been

familiar with these ideas but does not give reference to the fact.

The natural rate of interest acts as a center of gravitation for market interest rates. Essentially, market interest rates are governed by the profit rate on productive capital. If the profit rate is above the market interest rate, then new loans will be demanded in order to undertake profitable investment opportunities. The increased demand for loanable funds will put pressure on the interest rate to rise. Therefore, there is a tendency for equalization between market interest rates and the profit rate. The market interest rate equal to the profit rate is termed the natural rate of interest. Although, the presentation of the natural rate varies between economic theories, the explanation here seems consistent with the classical theory of Smith and Ricardo. This explanation of the natural rate will be used in conjunction with Marx's rejection.

Interest as an economic category originates from the qualitative division within the capitalist class. The interest rate is determined by the competition between the monied capitalist and industrial capitalist. The interest rate then will determine how the surplus-value is divided between the two sets of capitalists. The immediate question to address is whether or not there exists a center of gravitation for competition. Marx makes a clear denial of a such a rate. Furthermore, in Chapter 21 of Part 5, Marx rejects the notion that interest itself has anything natural or just about it. He argues that these concepts appear relative to the mode of production.

The competition that determines the interest rate occurs over the distribution of surplus-value. For Marx, if the determination of an economic variable is made solely on the basis of competition, then the magnitude of the variable is inherently "lawless and arbitrary" (Marx 1894: 478). In the case of the market price for an ordinary commodity,

when competition ceases (i.e., when supply and demand coincide) the market price coincides with the price of production. Thus, competition determines the fluctuations around the law of value. The same type of process occurs with the wage fluctuating around the value of labor power. However, in the case of the interest rate there is no law. A so-called natural rate of interest for the market rate to fluctuate around due to competition does not exist. Marx asserts that when there is no law to determine the magnitude then competition itself, supply and demand, determine the magnitude.

Section 4.4 will demonstrate that Marx's rejection of a natural rate of interest has been misrepresented in the literature. In Section 4.3, the literature on this rejection will be reviewed. Carlo Panico (1980) presents the common view of Marx's rejection among a group of economists writing loosely under the label of the monetary theory of distribution. Panico argues that whereas in neoclassical theory the profit rate could be determined by the marginal productivity of capital (thus, also the interest rate), Marx rejected any notion of the natural rate of interest precisely because productive capital, and the laws that governed it, could not be extended to the price of commodities existing solely in the sphere of circulation. Henryk Plasmeijer (1998) also provides a very nice discussion of the natural and market interest rate. He argues that Marx's denial of a natural rate of interest can be developed in two ways. First, since interest is a transfer of income as opposed to an original source (such as surplus-value) based in the labor theory of value, then a law cannot be developed to determine its magnitude. However, Plasmeijer argues that Marx does not make much of this reason. In addition, this first reason does not constitute a real improvement over the classical theory. The second way Marx denies the natural rate is by arguing that the average rate of interest is determined

largely by convention. These arguments in addition to work by Pivetti (1991) will be expanded upon in the next section.

4.3 The monetary theory of distribution

The monetary theory of distribution is characterized by a Sraffian price system. The theory also extends the price system by incorporating Sraffa's suggestion to close the model. The theory is intended to represent general features of classical theory. Typically included under the label of classical theory are Smith, Ricardo, and Marx. However, the monetary theory of distribution follows Sraffa by abandoning the classical conception of the real wage. The abandonment of the classical real wage implies that Sraffa's model is left indeterminate. In the Sraffian model either the real wage or the profit rate has to be assumed exogenous. When abandoning the classical real wage, Sraffa took the exogenous variable to be the profit rate. The well-known suggestion by Sraffa was to assume the profit rate could be determined from outside the model by the interest rate. The monetary theory of distribution essentially takes over this suggestion to formulate a theory in which the interest rate plays a crucial role in determining the distribution of income. The work by Pivetti (1991) and Panico (1988), as representatives of this theory, will be reviewed in this section. The work provides an important discussion of the connection between Smith, Ricardo, and Marx. In addition, the monetary theory of distribution derives implications from Marx's suggestion that the average rate of interest is formed by common consent.

Pivetti (1991), and to some degree Mauro Caminati (1981), finds that Smith and Ricardo have similar formulations of interest. Both economists believed that the net

profit, or profit of enterprise in Marx's terminology, was determined by the "risk and trouble" in applying capital productively. The return provided the industrial capitalist enough incentive to undertake the project. Assuming a given real wage, viewing the total profit as a surplus over costs meant that interest was treated as the residual. Marx, whom Pivetti finds closer to J.S. Mill on this point, views the interest rate as being determined by common consent and therefore the profit of enterprise as the residual magnitude. In both cases, however, the interest rate does not affect the profit rate. Moreover, for Marx and the classical economists, the socially determined subsistence level determined the real wage. The Smith and Ricardo view appears to imply that "lasting changes in the rate of interest must reflect changes in the normal rate of profit" (Pivetti 1991: 9). Marx, on the other hand, tends to play down any necessary relation between the rate of interest and the normal profit rate, the former being able to move independent of the latter (although, in some sense ultimately governed by it). For Pivetti this aspect of Marx, though seemingly correct, "cannot easily be reconciled with the Marxian (and Ricardian) conception of the real wage as the independent or given variable in the relation between profits and wages" (Pivetti 1991: 9). The implication for Marx's theory is that interest and profit of enterprise must move inversely to one another:

> In our opinion it is very difficult to reconcile this view with the idea that profit must *normally* exceed interest, in order to cover objective elements of 'risk and trouble'. Indeed, even when such elements are 'fancied' rather than objective...no grounds seem to exist for believing that the prevailing opinion concerning the normal remuneration for 'risk and trouble' should be *inversely* related to the rate of interest. On the other hand, if one were to give up the idea of 'real or fancied' elements of 'risk and trouble' as the determinants of profits of enterprise, then it would be hard to escape the conclusion that profits of enterprise must tend to be nil, because competition between the producers would tend to equalize profit and interest. Such equalization is however ruled out by Marx. (Pivetti

1991: 68)

The difficulty that Pivetti finds in the classical theory (e.g., Smith and Ricardo) and Marx is the given real wage. Pivetti continues to dwell on this aspect:

> It seems to us that, in the conditions of modern capitalism, it is difficult to conceive of the real wage rate as the independent or given variable in the relationship between wages and profits - the difficulty, as we see it, arising from the fact that the direct outcome of wage-bargaining is a certain level of the money wage, while the price level cannot be determined before and independently of money wages. Indeed, given the distribution between profits and wages, and given the methods of production, the level of prices depends on the level of money wages. (Pivetti 1991: 36)

This is of course true, but only to a certain extent. Pivetti confuses short-run and long-run phenomenon. He wants to discuss the distribution of income and the 'normal profit rate' as long-run phenomenon. In the short-run, it is true that wage-bargaining may take place according to the money wage, and this will affect the prices of consumer goods thus changing the real wage. However, it is the long-run that Pivetti is interested in analyzing. The Sraffian model, used by Pivetti, describes a long-run equilibrium position. The assumption of a given real wage in the long-run is not subject to the Pivetti's criticism. In fact, Pivetti's conclusion could just as easily be reversed in the long-run: given the distribution between profits and wages, and given the methods of production, the level of money wages depends on the level of prices.

The theory by Pivetti can be summarized briefly. Instead of the real wage, the nominal wage is taken as given. Pivetti accepts Smith and Ricardo's treatment concerning normal profits determined by "risk and trouble." However, Marx's independent interest rate is also accepted. Total profits become determined by summing two independent categories, normal profits and interest. Like Smith and Ricardo, interest

and total profit must move together. In contrast to Smith and Ricardo, interest causes the movement in total profit. The interest rate is assumed exogenous, being determined by the central bank under certain social constraints and objectives. The money wage is determined in the wage-bargaining process. The normal profit of enterprise is given by the "risk and trouble" and may differ between industries due to "real or fancied" advantages that each may possess. Firms set prices by a markup over costs, with the interest rate included in costs. Competition between firms operates to push prices to their normal costs. In this case, normal prices can be determined by production techniques, money wages, and the interest rate. The interest rate, a monetary variable determined by policy objectives and constraints, will play an important role in the distribution of income. For example, an increase in the interest rate will increase prices relative to the money wage, thus decreasing the real wage and changing income distribution.

The objective of the monetary theory of distribution, as demonstrated in Pivetti (1991), is to assign the interest rate a leading role in the distribution of income. Moreover, control of the interest rate as a policy variable resides with the central bank. Without a natural rate of interest, the interest rate becomes strictly a monetary variable. The decision regarding the level of the interest rate by the central bank determines the distribution of wage and profit shares in addition to interest payments. Another important writer in the development of a monetary theory of distribution is Carlo Panico (1980, 1985, 1988). In *Interest and Profit in the Theories of Value and Distribution* (1988), Panico discusses the theories of Smith, Ricardo, and Tooke before reaching Marx. After spending two chapters presenting Marx's theory of interest and distribution, Panico turns his attention to Keynes's use of an average rate of interest. Fundamentally, Panico's

work closely resembles Pivetti's. However, a significant difference for the current objective is Panico's concentration on the logical consistency of holding the real wage assumption in conjunction with a rejection of the natural rate of interest. The significance of this analysis will become clearer for understanding Marx's rejection of the natural rate of interest.

Panico begins the development of a formal Sraffian model by specifying the activities of bankers. The bankers, as opposed to simple monied capitalists, promote the circulation of means of payment in addition to advancing capital for productive activities. Banks are able to earn the average rate of profit as opposed to the interest rate. Panico derives this result by treating bank capital in the same way as merchant capital. Marx demonstrated in Part 4 of Volume III that merchant capital earned the average rate of profit by purchasing commodities from producers below their value (or price of production) and selling at their value (or price of production). Panico argues that banks are able to earn the average rate of profit in a similar way. The result of Panico's model would be that interest-bearing capital introduces similar modifications to the price equations. Panico's claim that interest-bearing capital can be treated like commercial capital will not be examined in detail. However, there seems to be very little evidence in Marx's writings to justify this claim. Finally, Panico's interpretation of interest-bearing capital is not compatible with the alternative interpretation in Chapter 2.[7]

Prior to developing Panico's model, it is possible to draw together Marx's comments in such a way as to make it more sympathetic to the monetary theory of

---

[7]Panico's interpretation has drawn strong criticisms from Chiodi and Messori (1984) and Fine (1985-1986, 1988).

distribution. Pivetti has argued that Smith and Ricardo regarded normal profits of enterprise as representing an exogenous variable arising from "risk and trouble." It is possible to read Marx in a similar way. When Marx first presents the maximum limit to interest he states the following:

> Leaving aside those special cases where interest is actually greater than profit, so that it cannot all be paid out of the profit, we might perhaps consider the maximum limit of interest as the whole profit minus the part of it reducible to 'wages of superintendence', to be developed later. (Marx 1894: 480)

In presenting Marx's theory, it is normal to leave out the part dealing with wages of superintendence. However, including the end of the quote creates a greater consistency between the monetary theory of distribution and Marx's theory. The end of the quote implies the existence of a portion of surplus-value reserved for the industrial capitalist irrespective of interest. The total profit of enterprise could no longer be assigned as a residual. Section 4.4 delineates some inconsistencies in Marx's presentation of interest which add further to the interpretation of the monetary theory of distribution. However, the major stumbling block to forging a closer historical reconstruction remains the real wage. Panico's model will be useful in studying the implications of differing treatments of the real wage.

Panico employs a Sraffian model to study Marx's average rate of interest. The model is described by equations 4.1 to 4.3. Equation 4.1 augments the standard price equations with net interest payments by firms. The Sraffian model departs from classical theory and Marx by assuming wages form part of the surplus created. Equation 4.3 describes the condition that nominal wages are exogenous, leaving real wages to be determined within the model. Thus far, there are n+1 equations (n price equations and

the wage equation) to determine the n+2 unknowns (n prices, profit rate, and wage rate).

$$(\mathbf{A}p + \mathbf{l}w)(1 + r) + \mathbf{q}i - \mathbf{d}t = \mathbf{p} \tag{4.1}$$

$$(\mathbf{K}_b p + l_b w)(1 + r) + Br + Dt = Qi \tag{4.2}$$

$$w = w^* \tag{4.3}$$

The model has the normal Sraffian notation with the addition of the banking sector. The variables in bold represent a matrix or vector. The italicized variables represent scalars.

A	is defined as the production input matrix;
p	is the price vector;
l	is the labor input vector;
w	is the nominal wage rate;
r	is the normal profit rate;
q	is the amount of borrowed capital;
i	is the interest rate on loans;
d	is the amount of money firms hold as deposits;
t	is the interest rate earned on deposits;
$\mathbf{K}_b$	is the banking sector's input matrix;
l_b	is the banking sector's labor input;
B	is the capital advanced by the banking sector;
D	is the total deposits;
Q	is the total amount of loans. (Panico 1988: 93-94)

Panico's objective with the model at this stage is to demonstrate the contradiction in Marx's approach. The contradiction results from Marx's determination of the interest rate and real wage. Marx, following the classical theory, assumed a socially determined real wage. In contrast to the classical theory, Marx replaced the natural rate of interest with an average rate determined by common opinion. Panico's model demonstrates the apparent incompatibility of the two assumption. Equation 4.2 in the above model reflects the banking system. The interest rate equation 4.2 depicts bank behavior as placing a

markup on costs in order to receive the average profit in the economy. As stated previously, there is some similarity between Panico's description of the banking sector and Marx's Part 4 of Volume III. Banks, like industrial and merchant capitalist firms, are able to obtain the average rate of profit on their own capital. The reasoning is exactly the same as Marx argued for merchant capitalists obtaining the average rate of profit. Initially, commodity prices are below prices of production. The inclusion of the interest rate pushes the cost price of commodities up until they reach prices of production. The difference between the prices of production and initial commodity prices is the share of surplus-value going to the banking sector.

The model given by equations 4.1-4.3 produces a certain amount of freedom in choosing the endogenous variables. The system contains n+2 equations (n price equations, 1 interest rate equation, 1 wage equation). The system also contains n+4 unknowns (p, r, i, t, and w). Hence, two degrees of freedom exist in the model. Following Panico, t, the interest rate on deposits, is assumed to be exogenous. Marx had very little to say about how this variable would be determined.[8] The choice becomes which of the remaining unknowns to make exogenous. Following Panico's interpretation of Marx, the interest rate must be treated as an exogenous variable. The result of the model would be a positive relationship between the interest rate and the profit rate. There will also be a positive relationship between the interest rate and price vector. The above relationships imply the existence of a negative relationship between the interest rate and

[8]Caminati (1981) has criticized this aspect of Panico's model. Once the assumption of a given t is made, then anything said about the determination of i, the interest rate on loans, can only be based upon this assumption. Hence, Caminati believes that Panico has simply shifted the question.

real wage. Furthermore, a basic proposition of this Sraffian approach is reenforced since the above leads to a negative relationship between the profit rate and real wage rate. Panico's relationships are consistent with the main conclusions of Pivetti (1991).

Panico reaches the above conclusions after abandoning the classical and Marx assumption of a given real wage. On the other hand, under the classical and Marx real wage assumption, the model determines the price vector, profit rate, and interest rate.[9] The contradiction identified by Panico is that the real wage and production techniques now determine the interest rate. In other words, the average rate of interest becomes determined within the system by the material conditions of production. This appears to contradict Marx's contention of an absence of laws regulating the average rate of interest. According to Panico, if Marx wants to reject the natural rate of interest, then he must abandon the socially determined real wage.

The work by Panico represents an extremely nice use of the modern analytical method. The method placed logical constraints on the endogenous and exogenous variables. According to the model, Marx cannot reject the natural rate of interest without rejecting the real wage assumption. This represents a similar critique attempted by Pivetti (1991). However, there are problems with Panico's argument. The problems concern how Panico interprets Marx's comment on the absence of laws determining the average rate of interest. Our interpretation will demonstrate that Panico's solution for the interest rate within the model does not contradict Marx's assertion of an absence of laws. The interest rate equation does not entail anything that would make the interest rate

[9]Assuming the real wage as given requires a new specification of the wage equation. In essence, a vector representing the socially determined wage bundle multiplied by the price vector can be used to determine the wage.

absolutely determinant. The equation simply states that the interest rate is formed by banks' marking up their costs. In fact, this could possibly explain a suggestion made by Marx that the average rate of interest may fall independently of the profit rate due to advances in the credit system. Secondly, and more to the point, Panico equates Marx's comments on the absence of any laws as merely meaning that interest-bearing capital is not a produced commodity. The absence of any laws is equated with the absence of laws of production. This is the point made by so many others when interpreting this part of Marx's work. Our interpretation suggests that although such an interpretation is easy to come by, and Marx is far from clear on this point, it cannot be the correct interpretation. Panico's understanding of Marx's economic laws leads to J.S. Mill's distinction between natural laws of production and social laws of distribution. Whereas for Marx, both spheres (i.e., production and distribution) operate according to the social and economic system in place.

4.4 Marx's rejection of the natural rate of interest

In Part 5 Marx often compares interest-bearing capital with labor-power as two unique types of commodities. The value of labor-power, or the socially determined real wage, is the problem that Panico and Pivetti point out. However, the value of labor-power is not subject to any material laws of production. Rather, it is a value determined by social conflict, or social consent. However, Marx does not conclude that no laws exist to determine the value of labor-power. He makes this clear when stating "[T]here is no natural rate of interest, therefore, in the sense that economists speak of a natural rate of profit and a natural rate of wages" (Marx 1894: 484). The natural rate of profit provides

an even clearer example. For Marx, the average rate of profit is not determined solely by material laws. He gives a quick review of the determination in the following passage:

> The general rate of profit is determined in fact (1) by the surplus-value that the total capital produces; (2) by the ratio of this surplus-value to the value of the total capital; and (3) by competition, but only in so far as this is the movement through which the capitals invested in particular spheres of production seek to draw equal dividends from this surplus-value in proportion to their relative size. (Marx 1894: 489)

The value of labor-power enters into the determination of the average rate of profit. Moreover it also depends upon the rate of surplus-value (relative and absolute). Thus, the socially determined working day enters into its determination. Material conditions of production may enter into this rate but cannot by themselves determine it. The problem points to the basic weakness of the Sraffian price system. Within the Sraffian model, production coefficients are all that matter in determining the surplus. Class conflict, an essential part of Marx's theory, only enters in terms of how to divide the resulting surplus. In Marx's theory, class conflict also plays a role in determining the absolute magnitude of the surplus. The production coefficients in the Sraffian model are simply assumed rather than explained. There exists a tendency to downplay social relations in favor of analytical rigor when using the Sraffian system to characterize Marx's work.

The literature on Marx's rejection of a natural rate of interest is fundamentally incorrect. The literature has based Marx's rejection in the opposition between the labor theory of value and the value of interest-bearing capital. The conclusion has been reached from a misunderstanding of Marx's meaning of economic laws. The models by Panico and Pivetti are useful in illustrating the misunderstanding. The Sraffian model makes it appear that the profit rate is known to everyone. Whereas in fact, the theorist

may know the equilibrium profit rate, the agents in the model do not. In this case, the process of moving towards the equilibrium profit rate must be investigated. This process of convergence has been illustrated by Smith, Ricardo, and Marx in arguing that capital shifts from low to high profit rate sectors. However, the convergence process does not require any of the agents to know the equilibrium profit rate. For Marx, an economic law implies a process of convergence to the unknown profit rate. This is in contrast to interpreting Marx's economic laws deriving from the production sphere. As the transformation problem demonstrates, the economic law describing the process of convergence to prices of production (or, natural prices for Smith and Ricardo) is found in the circulation sphere, not the sphere of production.

The average rate of profit and value of labor-power are subject to economic laws due to a description of the convergence process. It has been demonstrated that the average rate of profit and value of labor-power are influenced by social factors in addition to the material conditions of production. According to the interpretations of Panico and Pivetti, this would imply that these variables are not subject to economic laws. However, this is obviously not the case for Marx. Prices of production act as centers of gravitation for market prices. The gravitational process is driven by the profit rate. It is the gravitational process which, given other things equal, will force industry profit rates to converge to the average. The economic law at work in this instance implies the existence of economic forces tending to force convergence to the unknown magnitude. The absence of a law for the rate of interest merely implies the absence of economic forces causing market interest rates to converge on the average.

The present interpretation of the meaning of economic laws applies to the profit

rate, value of labor-power, and average rate of interest. The interpretation contends that economic laws do exist for the profit rate and value of labor-power, although not for the average rate of interest. The difference between this interpretation and Panico's rests on the meaning of economic laws. For example, the solution of Panico's Sraffian model depicts a set of equilibrium prices, profit rate, and interest rate. The prices and profit rate are equilibrium values since economic forces tend to lead the economy to this point. Including the interest rate in the equilibrium solution requires a description of the convergence process. However, Panico does not attempt to describe any convergence process. This is actually in accordance with Marx, under the current interpretation, since the absence of economic laws implies that no convergence process exists. Theodore Lianos (1987) presents one of the few models that deals with the cyclical aspect of the market interest rate in Marx's theory. The movement of the market interest rate, according Lianos, is purely cyclical. The cyclical motion in Liano's model reenforces the interpretation that there is no convergence process. Without a process of convergence, there is no meaning of an equilibrium value in a Sraffian model. Therefore, Panico's finding of a contradiction in Marx's theory is spurious.

Three alternative explanations can be formulated for Marx's rejection of the natural rate of interest. The first explanation extends the discussion of the absence of economic laws under the interpretation opposing Panico. The second explanation utilizes the various categories of capital within Marx's theory. The third explanation relates to a broader perspective of Marx's monetary theory. The second and third explanations demonstrate the common elements in the rejections by Marx and Keynes. Since the third explanation requires further developments of Marx's monetary theory, the presentation

will be delayed until Chapters 5 and 6.

The first explanation of Marx's rejection of the natural rate has the added ability to counter a difficulty posed by Pivetti. In order to illustrate the difficulty, assume a Sraffian system with the classical real wage. The solution of the system includes an equilibrium profit rate (e.g., 10%). Pivetti questions why the interest rate would not be competitively bid to a level of 5%. A 5% interest rate makes the rate of profit of enterprise (call this the net profit rate) equal to the interest rate. If the interest rate were below 5%, then industrial capitalists should borrow more and expand production, thereby increasing their total profit. On the other hand, if the interest rate were above 5%, then the capitalists would be better off using capital as interest-bearing capital. In this way, being able to calculate the average rate of profit should automatically provide a mechanism of convergence to a particular interest rate (i.e., the natural rate). Furthermore, the natural rate would be determined by the profit rate on productive capital. The mechanism of convergence relies on a notion of the interest rate as the opportunity cost of money capital. This notion does not appear foreign to Marx's thinking. He argues that the capitalist, even if working with his own capital, splits himself into a money and industrial capitalist. The individual capitalist considers the gross profit as deriving from capital as property and functioning capital. However, it will be demonstrated below that the illustration is ultimately inconsistent with Marx's analysis.

The reason that the previous illustration is inconsistent with Marx's analysis relies on the understanding of economic laws. The theoretician employing a Sraffian model is able to calculate the average rate of profit. This calculation allows the theoretician to

determine the average rate of interest within a particular system. However, the consideration of economic laws implies that agents within the model will act in such a way as to converge upon these average rates. The convergence to the average rate of profit describes the dynamic process of capitalists withdrawing capital from low profit rate industries and injecting it into high profit rate industries. The migration of capital occurs as a process of convergence on a blind average. In other words, the capitalists within the model do not know the average rate of profit. In modern terminology, an asymmetric information exists between the agents in the model and the theoretician. The capitalist agents within the model lack the knowledge of the average rate of profit. The above illustration was conducted on the basis of knowledge of the average rate of profit. If this rate is not known by the agents in the model, then the convergence process to the natural rate of interest is no longer valid.

Duncan Foley (1986) has put forth an argument for a determination of the interest rate very similar to Pivetti. While emphasizing Marx's rejection of a natural rate of interest determined by economic laws, Foley suggests: "[A]t the risk of venturing into the realm of pedantry and fantasy, we might seek to extend Marx's account of the rate of interest in certain directions" (Foley 1986: 114). Foley's main attempt to determine the average rate of interest is to bring in uncertainty. Foley reasons in the following manner:

> If capitalist firms faced no uncertainties in the production and realization of value, they would presumably bid the interest rate to equality with the average rate of profit, allowing for whatever costs might be incurred in actually making a loan. A capitalist firm that was sure of appropriating the average rate of profit on a loan would have an incentive to borrow as long as the interest rate was below that profit rate and would have no incentive to lend until the interest rate reached the average rate of profit. (Foley 1986: 114)

Foley simply adds uncertainty to the illustration used for Pivetti's contention. Foley believes that uncertainty creates the conditions for the divergence between the interest rate and profit rate. The differential would be dependent upon "the distribution of capitalist firms with respect to the risk of bankruptcy and their realized profit rates" (Foley 1986: 114). However, Foley's explanation for the rejection of a natural rate of interest due to uncertainty presumes a known average rate of profit.

In Marx's system the average rate of profit acts as a law behind the back of, or invisible to, the capitalists. With this conception firmly in place, there is no reason for a convergence to a particular interest rate. Thus, a natural rate of interest equal to the net rate of profit becomes untenable. The average rate of profit is determined and can be seen by the theorist as a slice of time. In other words, at any given point in time the existing profit rates form an average. Over time, the existing profit rates will tend to converge on this average. However, the average rate of interest for Marx is calculated over time. At any particular point in time there is not a variety of interest rates from which to form an average. Thus, the average rate of interest is intimately tied to the business cycle. As noted by Lianos (1987), Marx discusses the movement of the market interest rate in conjunction with an analysis of the business cycle.

It seems clear that Marx himself tended to view the average rate of interest as the observable variable for the agents within the model. This is in contrast to the average rate of profit regarded as unobservable. Some quotations from Marx underscore this interpretation:

> The general rate of profit, in fact, reappears in the average rate of interest as an empirical, given fact, even though the latter is not a pure or reliable expression of the former. (Marx 1894: 487)

> The general rate of profit, on the other hand, only ever exists as a tendency, as a movement of equalization between particular rates of profit. The competition between capitalists - which is itself this movement of equalization - consists here in their withdrawing capital bit by bit from those spheres where profit is below the average for a long period, and similarly injecting it bit by bit into spheres where it is above this; or, alternatively, in their dividing additional capital between these spheres in varying proportions. There is a constant variation in the injection and withdrawal of capital vis-a-vis these spheres, never a simultaneous effect on a mass scale as with the determination of the interest rate. (Marx 1894: 488-9)
>
> The general rate of profit itself simply appears as the minimum limit of profit, not as an empirical and directly visible form of the actual profit rate. (Marx 1894: 490)
>
> Average profit does not appear as a directly given fact, but rather as the end-product of an equalization of opposing tendencies that can only be established by investigation. With the interest rate it is different. Where it is a universal governing rule, which occurs at least locally, it is a fact fixed every day, a fact that serves industrial and commercial capital as a presupposition and postulate in their operating calculations. It becomes a general property of any sum of 100 [pounds] that it will yield 2, 3, 4, 5 per cent. Meteorological reports do not show more precisely the level of the barometer and thermometer than do stock-market reports the level of the interest rate, not for this capital or that, but rather for the generality of loan capital to be found on the money market. (Marx 1894: 490)

"These are some of the reasons why the general rate of profit presents a blurred and hazy picture compared with the sharply defined rate of interest..." (Marx 1894: 491). The importance of this point has been shown to lead to the rejection of any attempts to tie the average rate of interest to the net rate of profit (i.e., formulating a natural rate of interest). It also provides a clear warning to those incorporating Marx's theory into a Sraffian model. Finally, the last possible anchor of the average rate of interest has been severed. The introduction of uncertainty by Foley (1986) is certainly close to this interpretation. However, this interpretation raises a more fundamental point. Uncertainty here refers to the notion that the average rate of profit is unobservable for all capitalists. Therefore, no

convergence process can exist for the interest rate.

The existence of asymmetric information between the theoretician and the economic agents explains why Marx rejected the natural rate of interest. On the other hand, neoclassical monetary theory, based largely in the work of Knut Wicksell, employed a natural rate of interest which did not contain the information requirement necessary in a Sraffian model. The natural rate of interest in neoclassical economics was determined by the marginal productivity of capital. This is a slight distinction between neoclassical theory and the classical theory characterized by Smith and Ricardo. However, the distinction is only slight because the marginal productivity of capital is the profit rate in neoclassical theory. The neoclassical assumption of diminishing marginal productivity of capital meant that information on the average rate of profit was not necessary for the economic agents. The capitalists in the model simply continue to increase the amount of productive capital, diminishing its productivity (i.e., profit rate) until a point of equality is reached with the interest rate. The profit rate and interest rate become one and the same variable in neoclassical theory.

The natural rate of interest (i.e., profit rate) acts as a center of gravitation in the neoclassical theory. Wicksell had argued that the market interest rate equal to the natural rate of interest was one condition for macroeconomic equilibrium. However, the capital debates have demonstrated that this theory suffered from a logical inconsistency (see Rogers 1989: 30-35 for a discussion of the connection between the capital debate and Wicksell's natural rate of interest). The logical inconsistency within this theory implied the absence of a natural rate of interest. The theory avoided the information problem described above only to suffer from its conception of capital.

Prior to turning to Marx's conception of capital in order to develop the second explanation of the rejection of the natural rate, a final comment on the neoclassical theory needs to be made. The notion of a natural rate of interest developed by Wicksell and based on the marginal productivity capital ended with the capital debates. However, neoclassical theory was able to turn to the work of Leon Walras on general equilibrium. The Walrasian general equilibrium variant of neoclassical theory was to some extent able to avoid the results of the capital debate. Capital was not conceived as a mass in the Walrasian general equilibrium theory. This should have made room for the introduction of a natural rate of interest. However, it has been established that in the Walrasian approach individual profit rates need not be equalized at the point of equilibrium (See Rogers, 1989; Moore, 1988; Walsh and Gram, 1980). Since profit rates may diverge at a point of equilibrium, then no natural rate of interest could be defined. Again, Marx's early rejection of the natural rate of interest has been justified.

Marx studied the concept of capital in great detail. He was able to make a clear distinction between productive capital and money capital. The second explanation for Marx's rejection of the natural rate of interest is based on the notion that only capital in the form of money capital (or, interest-bearing capital) appears as a homogenous mass. This conception of capital allowed Marx to intuitively bypass the result of the capital debates. Marx makes this point clear in his criticism of Overstone. Marx claims that Overstone's term "demand for capital" has no meaning. The industrial capitalists' demand for productive capital is always a demand for particular commodities. The term "demand for capital" can only mean a demand for money capital. This is the only type of capital that appears on the market as a homogenous mass. Marx therefore has intuitively

bypassed the capital debate with his conception of capital. In addition, he has rejected the conception of a natural rate of interest with the separation of productive capital and money capital.

It is in the determination of the average rate of interest that Marx makes one of his most significant breaks from the classical approach and moves towards Keynes. The break from the classicals alluded to above appeared when discussing the residual part of the surplus. Panico (1988) and Pivetti (1991) discuss this difference between the classicals and Marx in great detail, and along with Rogers (1989) point out the connection to Keynes. However, the explanation of Marx's reversal of the classical residual, founded in the rejection of the natural rate of interest, has appeared misrepresented in the literature. The misrepresentation has occurred due to a misunderstanding of Marx's economic laws. Furthermore, the second explanation of Marx's rejection stated above can now be used to make a connection to the work of Keynes.

Keynes had utilized a natural rate of interest as an important part of the *Treatise on Money*. However, after its publication, Keynes increasingly moved away from the natural rate. There are several reasons for Keynes's shift away from the natural rate, some of which will be presented in Chapter 6. In the current section, a resemblance can be made between Keynes's rejection as presented in the *General Theory* and the second explanation of Marx's rejection. Part of Keynes's rejection of the natural rate of interest in the *General Theory* relied upon what exactly was being determined in the capital market. In the appendix to Chapter 14 of the *General Theory* Keynes includes a footnote on Alfred Marshall's work explaining the mistake which led to the natural rate:

> It is to be noticed that Marshall uses the word "capital" not "money" and

> the word "stock" not "loans"; yet interest is a payment for borrowing *money*, and "demand for capital" in this context should mean "demand for loans of money for the purpose of buying a stock of capital-goods". But the equality between the stock of capital-goods offered and the stock demanded will be brought about by the *prices* of capital-goods, not by the rate of interest. It is equality between the demand and supply of loans of money, i.e. of debts, which is brought about by the rate of interest. (Keynes 1936: 186)

The market for productive capital (i.e., capital goods for Keynes) determines their price, not the interest rate. This is precisely the point Marx attempted to make clear in critiquing Overstone's term "demand for capital." Moreover, in critiquing Norman, Marx states the issue as Keynes did against Marshall:

> And what is the interest rate supposed to be governed by on this assumption? By the demand and supply of commodities, which is what we have always been told governs the market price of commodities. But quite different rates of interest are compatible with the same market prices. (Marx 1894: 547)

The rejection of the natural rate of interest by Marx and Keynes relies upon the conception that the capital market determines the price for various productive commodities not the interest rate. There is a clear distinction between a demand for a productive commodity and a demand for money capital.

It has been demonstrated that for Marx competition between the functioning and monied capitalists creates the interest rate. The competition in the supply and demand for money capital determines the magnitude of the interest rate. Marx goes to great lengths to demonstrate the distinction between money and productive (actual or real) capital. Lord Overstone is interpreted by Marx as one who maintains the identity of the demand and supply of money capital with the demand and supply of productive capital. Marx claims that this would be a wrong conception of capital. This conception would only be

correct, according to Marx, if lending and borrowing were conducted in real terms. However, this is not the case and evidently cannot be the case. Marx and Keynes formulated a theory of capitalism in which money was a necessity. Furthermore, both Marx and Keynes formulated a monetary theory of the interest rate. The criticism of Overstone could also apply to the Wicksellian notion of the natural rate of interest. For Wicksell, one definition of the natural rate is the interest rate which would exist if capital were lent in kind (Rogers 1989: 27). Marx's monetary theory of the interest rate did not just pertain to the market rate but extended to the average rate as well, a move that Keynes was making in the transition between the *Treatise on Money* and the *General Theory*.

4.5 Marx's average rate of interest

The rejection of the natural rate of interest left the theories of Marx and Keynes without a center of gravitation in the money market. However, the natural rate is replaced by Marx and Keynes with an average rate of interest. The average rate of interest is determined in the theories of Marx and Keynes by something loosely called "common consent" or "common opinion." Marx quotes approvingly Massie's determination of this average rate:

> Massie was already completely correct when he noted: 'The only thing which any man can be in doubt about on this occasion, is, what proportion of these profits do of right belong to the borrower, and what to the lender; and this there is no other method of determining than by the opinions of borrowers and lenders in general; for right and wrong, in this respect, are only what common consent makes so.' (Marx 1894: 484-5)

Keynes makes similar statements in the *General Theory*:

> It is evident, then, that the rate of interest is a highly psychological

phenomenon. (Keynes 1936: 202)

> It might be more accurate, perhaps, to say that the rate of interest is a highly conventional, rather than a highly psychological, phenomenon. For its actual value is largely governed by the prevailing view as to what its value is expected to be. *Any* level of interest which is accepted with sufficient conviction as *likely* to be durable *will* be durable; subject, of course, in a changing society to fluctuations for all kinds of reasons round the expected normal. (Keynes 1936: 203)

The long-run rate of interest was not a variable that could be determined by economic forces alone. Rather, this rate, much like the value of labor-power, was determined socially. This social determination was controlled by class conflict and relative bargaining power over long periods of time.

Marx includes other factors in the determination of the average rate of interest. The average rate was influenced by the world market, tradition, and sociological factors. These factors lend themselves to a study of institutions within capitalism and their operations during various historical periods. Panico (1980) argues that Marx's average rate of interest is determined by a combination of economic and institutional factors. One economic factor is the degree of competition that exists between lenders and borrowers, or relative bargaining power. An institutional factor would be the degree of development of the credit and banking system. These factors combine to help determine the important subjective evaluation of individuals and institutions as to what the future interest rate will be. Thus, although the profit rate sets a general upper limit to the interest rate these other factors help determine where it actually comes to rest.

The movement of the average rate of interest during the long-run is influenced by at least three general factors. First, the average rate of profit continues to regulate the interest rate in the sense of determining a maximum. However, Marx was careful to

downplay this causal factor in favor of the later two. Second, Marx quotes Ramsey approvingly, in seeing that as capitalist countries advance the class of rentiers grow. The growth of the rentier class implies an increasing amount of loan capital available on the money market. Third, the advance of the credit system implies lower interest rates. This advance implies a greater control over the savings of all classes by industrialists and merchants "as well as the progressive concentration of these savings on a mass scale, so that they can function as money capital ..." (Marx 1894: 484). All three factors tend to decrease the average rate of interest in the long-run.

The discussion on the average rate of interest makes it appear that Marx left a detailed analysis of the average rate of interest. To the contrary, there are many problems and inconsistencies left unresolved by Marx. In an unfinished manuscript such as Part 5, it should come as no surprise to find contradictory statements. Various statements made in one context may appear to contradict statements in another context. The question is whether or not the particular context can resolve the contradiction. Or, if two contradictory statements are found, and the author simply did not perceive this (but may have if given the chance to finish), can they be resolved by broadening the perspective to embrace a larger space of the author's theoretical development. Three such difficulties in Marx's work concerning the average rate of interest will now be discussed.

An initial difficulty pointed out by Harris (1977) is Marx's loose language presenting interest and profits as sums and rates. The confusion arises when stating the maximum of interest (rate). For example Marx writes that "the average rate of profit should be considered as ultimately determining the maximum limit of the interest" (Marx 1894: 482). Harris points out that surplus-value, or gross profit, must be the limit of

interest as a sum, but Marx sometimes refers to this relationship in terms of rates. The profit rate at times appears to be the maximum of the rate of interest. This point although confusing in Marx does not seem to be crucial. By definition, interest cannot exceed total profits for any extended period of time. Although not by definition, the same can be said for the profit rate and interest rate.

A second difficulty occurs when Marx argues that the average rate of interest is determined by common consent. However, he also wants to argue that this average is a numerical average calculated over the course of the business cycle:

> In order to find the average rate of interest, we have to calculate (1) the average rate of interest as it varies over the major industrial cycles; (2) the rate of interest in those investments where capital is lent for longer periods. (Marx 1894: 484)

There is nothing wrong with this since individuals may perceive, at least intuitively, the numerical average and thus form a common consent. The problem arises because the average is formed by the market rate over time, but then common consent does not appear to be determining the average. Instead, the average rate is determined by the forces that govern the demand and supply for money capital. If these forces of demand and supply can be given general laws (which Marx appears to do) then the average rate can also be determined from general laws. The rejection of a natural rate of interest then would come under question.

A third difficulty, better described as a contradiction, stems from interest being viewed as part of surplus-value. This third difficulty was referred to above when making the monetary theory of distribution more consistent as a historical reconstruction. At concrete levels of analysis, surplus-value is divided among profit of enterprise, interest,

and rent. This can also be stated in terms of cost price and profit in which the cost price is marked-up by the average rate of profit in order to arrive at the price of production. In this general formulation it would appear that a change in the amount of interest (or, the interest rate) cannot change the long-run price, or price of production. The effect of a change in interest is only to alter the distribution of the surplus-value. However, in the discussion of the Bank Act of 1844 Marx makes the following statement:

> In actual fact, a decline in the amount of gold simply raises the rate of interest, while an increase lowers it; and if these fluctuations in the interest rate did not come into account in establishing the cost price, or determining demand and supply commodity prices would be completely unaffected. (Marx 1894: 685)

Marx is discussing here the "old humbug" of the quantity theory of money. This statement may in fact represent Marx's attempt to deal with the positive correlation noticed by Tooke between the interest rate and prices. This relation was later labeled by Keynes in the *Treatise on Money* as the Gibson Paradox.

The third difficulty represents a contradiction Marx's approach because interest is derived from surplus-value and cannot add to it. There does not seem to be a way in which to allow the interest rate to affect the cost price of commodities and thus giving the positive correlation. Furthermore, the statement seems to contradict various points made by Marx concerning the absence of any general relationship between interest and prices. Marx states that "commodity prices and interest do not stand in any necessary relationship" (Marx 1894: 663). This idea is developed in some detail by simple supply and demand analysis. For example, an increase in the price of a commodity caused by an increased demand may lead to an increase in the interest rate. However, an increase in price due to a decrease in supply would lead to a decrease in the interest rate. The three

difficulties have been pointed out in order to demonstrate the incomplete nature of Marx's work on the average rate of interest.

4.6 Significance of the average rate of interest

The average rate of interest is a variable determined by common consent and calculated over time. The question that arises next is the significance of this variable in Marx's theory. The immediate difficulty of assigning a significance to the average rate of interest originates in the fact that it does not act as a center of gravitation for market rates. It appears as an arithmetical average without economic content. In this section an attempt is made to give a role to this variable in the theory of distribution and theories of crisis. The one implication of the average rate of interest that can be gleaned from Marx's own work is that the average rate of interest acts as a long term mechanism for the distribution of surplus-value between the industrial and monied capitalists. Marx did not provide much more than this directly. In addition to this role, Sections 4.6.2 and 4.6.3 indicate a starting point for developing an incorporation of the average rate of interest into the theory of crisis. The development will be expanded upon in Chapter 5.

4.6.1 Income distribution

The average rate of interest plays an important role for those economists working in the monetary theory of distribution. It has been argued above that this approach should not be used to reconstruct Marx's work. However, it does represent a starting point for an incorporation of the average rate of interest within Marxian economics. The monetary theory of distribution has assigned the average rate of interest a dominant position in determining the distribution of income. The dominance of the average rate is

due to the abandonment of the classical and Marx real wage assumption. Without this assumption, the average rate not only determines the distribution of the surplus, but also the distribution between the surplus and wages. Therefore, this approach does not appear as a historical reconstruction of Marx's work or a rational reconstruction consistent with Marx's theoretical framework.

The average rate of interest is a distributional variable in Marx's theory. However, the distribution is only in terms of the surplus. The distribution between the surplus and wages is determined on the basis of the conflict between the capitalist and working classes. The theoretical framework within the first two volumes of *Capital* entails the capitalist and working classes. Once Part 5 is reached, the framework moves to a more concrete level of analysis splitting the capitalist class into industrial and monied capitalists. The conflict between industrial capitalists and workers occurs over the real wage. In many respects, this can be stated in terms of a social determination of the value of labor-power. This conflict along with the rate of surplus-value and length of the working day splits total income between wages and surplus. Once the capitalist class is theoretically subdivided into industrial and monied capitalists, then a further conflict occurs over the distribution of the surplus. The struggle is the expression of the social determination of the value of interest-bearing capital. The similarity between the value of labor-power and the value of interest-bearing capital arises from their social determination and implications for the distribution of income. There is nothing mechanistic about Marx's theoretical framework in stark contrast to the monetary theory of distribution.

The alternative interpretation of interest-bearing capital in Chapter 2 emphasized

the term capital as capital. The definition of capital as capital is based in the notion of self-expanding value. The value of this commodity is stated in terms of the surplus-value it produces, or interest for interest-bearing capital specifically. The magnitude of this value is the average rate of interest. The determination of the average rate of interest by common consent simply implies that the value of interest-bearing capital is socially determined. The rate signifies the conflict and resolution between monied and industrial capitalists. The meaning of this rate and its determination is that it states the terms for capital valorization. The fact that the distributional conflict (both in terms of the wage and interest) occurs prior to production and realization means that the resolution of the conflict may impact the production process itself. In terms of a Sraffian model, this implies that the conflict may influence the production coefficients. Alternatively, the average rate of interest can be thought of as determining the standard of living for the monied capitalists. This is again similar to the interpretation of the value of labor-power.

4.6.2 Cycles and crises

Many of Marx's preliminary comments on the interest rate concerned the market rate and its cyclical motion. Lianos (1987) presents one of the most developed statements on the cyclical movement of the market interest rate. However, Lianos's paper does not mention the average rate of interest. Moreover, within Lianos's model there is no room for an incorporation of the average rate of interest. Lianos's paper will be returned to in Chapter 6. On the other hand, Panico has concentrated attention on the average rate of interest while showing no connection to the market rate. The fact that Marx develops most of his work on the market rate within the context of the business cycle may lead one

to attempt to incorporate a role for the average rate within this framework.

Henryk Plasmeijer (1998) attempts to build a connection between Marx and Sraffa by demonstrating the beginnings of a monetary theory of distribution in each. Plasmeijer does not argue that Marx held a monetary theory of distribution, only that it is possible to construct such a theory in the spirit of Marx's work (i.e., a rational reconstruction). The paper by Plasmeijer is important because it extends the monetary theory of distribution interpretation of Marx to the short-run, or business cycle. However, the inherent difficulties posed by such an extension of a long-run theory to a short-run question becomes clear in Plasmeijer's confusing presentation.

Plasmeijer argues that within Volume I Marx builds a real business cycle model. In Volume III, on the other hand, a monetary business cycle is developed. Plasmeijer attempts to reconcile these opposing theories. Within *Capital*, Marx seems to employ an endogenous theory of the money supply. Bankers' manipulation of the interest rate governs the money supply. Plasmeijer then asks how the bankers perform this manipulation. The answer is given by two factors. First, bankers' manipulation of the interest rate derives from their confidence of repayment. Bankers concentrate attention on expected profits of industrial capital in forming the degree of confidence in repayment. Under this factor, the real cycle and the credit cycle would be largely synchronized. According to Plasmeijer, this is the standard interpretation of the relationship between the business cycle theories of Volumes I and III. This interpretation implies that finance plays a largely destabilizing role in the economy. The second factor explaining bankers' behavior concerns the value of money. Bankers pay close attention to the real value of loan repayments. Hence, an increasing price level during an expansion might lead

bankers to raise interest rates. Plasmeijer argues under this factor the financial sector need not play a destabilizing role. The financial sector determines only the levels of the real cycle and not its movement. The levels of the real cycle refer to such variables as the average real income and unemployment during the business cycle.

Plasmeijer develops three alternative reconstructions of Marx's writings on the interactions of the real and monetary cycle. Although Plasmeijer ultimately rejects each, the first two are closer to historical reconstructions. The reason for the rejections rests on the requirement of a real wage assumption. Writing within the monetary theory of distribution, Plasmeijer must abandon the classical and Marxian determination of real wages. The third reconstruction developed does not assume a given real wage. Although certainly a questionable historical reconstruction, Plasmeijer believes that this reconstruction is consistent with the aim of Marx's work. The reconstruction consists of supply reactions in the money market determining the long-run rate of profit and hence the real wage. A crisis leads to a disruptive bankers' reaction, hence an increase in the interest rate which decreases net profits (or profit of enterprise) and slows down accumulation. The change in the net profit per worker depends on changes in the real wage in proportion to changes in the market interest rate. This third reconstruction proposed by Plasmeijer appears to be in the initial stages and is not developed clearly. It is not clear what the significance of the average rate of interest is. The theory proposed seems to rely solely on the market rate.

Francisco Cipolla (1997) presents a three-stage theory of the business cycle. In the first stage, the demand for money is a demand for liquidity arising from the mismatch between payables and receivables. Capitalists desire to transform their bills of exchange

into money at the banks. Capitalists who own fictitious capital may choose to sell these claims in order to transform their capital into the form of money The demands by the capitalists are not demands for new capital, but simply demands for liquidity. In this phase, Cipolla argues that the "capital of the bank changes configuration buts its total value remains the same" (Cipolla 1997: 77). The low rate of interest is supposed to imply a high rate of profit of enterprise. A high profit of enterprise accelerates the expansion, ultimately bringing about an increase in the demand for bank credit for the formation of new capital. The increased demand for bank credit eventually pushes the market interest rate to the average rate.

In the second stage of Cipolla's cycle theory, speculation becomes active as a result of the growth of fictitious capital. The growth in fictitious capital accompanies real and money capital accumulation. If the speculation in fictitious capital is undertaken with borrowed money, then pressure will be put on the the interest rate to rise. This type of demand is a demand for capital rather than simply money or liquidity. Moreover, Cipolla argues that it is a demand placed on the capital of banks for which they receive nothing in exchange. The interest rate rises to its average level during this period. Furthermore, although the interest rate is rising, profits are still rising faster and thus profit of enterprise continues to increase. The rate of interest does not rise above its average because the extension of commercial credit and transfer from circulation II (i.e., money mediating the transfer of capital) to circulation I (i.e., money mediating revenue expenditure) alleviates some of the pressure on bank credit.

In the third and final stage of the cycle, a crisis of overproduction occurs which forces the interest rate above the average to its maximum rate. The crisis of

overproduction arises from "the fact that credit creates a separation between credit sale and ultimate consumption sale" (Cipolla 1997: 79). Cipolla describes this situation as a dynamic crisis. The dynamics of the crisis are begun when "banks perceive the danger as they see more bills than money being deposited" (Cipolla 1997: 79). Once banks scent the danger and withdraw bank credit, the interest rate rises because money to meet payments is demanded. The increase in the interest rate then depreciates the value of fictitious capital in general and of bills of exchange in particular.

The stages presented by Cipolla appear consistent with Marx's description of the busines cycle. One interesting feature of Cipolla's description which will be emphasized in Chapter 5 occurs with the movement of the market interest rate to the average. In contrast to Lianos's (1987) smooth cyclical motion, Cipolla argues for a sudden jump in the market rate once it rises above the average. However, Cipolla leaves no room for the average rate of interest to play any significant role in the cycle. The crisis breaks out due to an unexplained overproduction of commodities. The banking and credit system intensify the crisis of overproduction without causing it. The average rate of interest simply marks the point at which the expansion overheats, without playing a causal role.

The two papers reviewed in this section are attempts to incorporate money and interest into crisis theory. Chapter 3 demonstrated that similar attempts have been made to incorporate fictitious capital into crisis theory. The literature review will be supplemented in Chapter 5 with attempts to deal more narrowly with Marx's monetary theory in relation to crisis theory. A common theme in the literature has been the neglect of the average rate of interest as an important variable. The following subsection presents a preliminary approach to the incorporation of the average rate of interest. In Chapter 5,

a more detailed alternative will be presented. The objective concerning the average rate of interest continues to reside in formulating a possible framework buried within Marx's writings to incorporate this aspect.

4.6.3 Preliminary approach

The literature reviewed on crisis theory thus far gives no causal role to the average rate of interest. The alternative approach offered here attempts to make room for the average rate. The average rate of interest plays a particularly important role in the financial sector, and will have feedback effects on industrial capital. This role is implicit in Marx's discussion concerning the movement of the market interest rate. As noted by Cipolla, Marx's discussion of the interest rate concerns what happens when the market rate is below the average rate, as occurs during the expansionary phase of the business cycle. However, there is no discussion, outside of the crisis, concerning the movement of the market rate above the average rate. The average rate seems to be one possible turning point in the cycle.[10] It is the fact that Marx does not discuss the movement of the market interest rate above the average except outside of a period of crisis that provides a clue for its incorporation. In the current approach, the average rate of interest may determine the point at which the conditions are ripe for a monetary crisis. However, market interest rates equal to the average do not necessarily set the stage for a real crisis. This will explain the following statement by Marx:

> As long as the *social* character of labour appears as the *monetary existence* of the commodity and hence as a *thing* outside actual production, monetary crisis, independent of real crises or as an intensification of them,

[10]This idea will form the basis of an alternative approach presented in Chapter 5 under the heading of a Keynesian perspective.

are unavoidable. (Marx 1894: 649)

The monetary crisis in other words may occur within a business cycle expansion without accommodating a real crisis. There is a dual causation in Marx's crisis theory running from money to real and real to money. The proposal offered here will attempt to incorporate these ideas. Moreover, the approach here may explain the second difficulty noted above concerning the average rate determined by common consent and as a numerical average of market rates over time. The average rate will play a role in determining the amplitude of the cycle that the market rate covers. The above quote from Marx will be one of the statements which will drive our own interpretation in subsequent chapters.

The average rate of interest by determining the value of interest-bearing capital plays an important role in speculation. Marx notes that the price of financial assets and the interest rate move inversely. Thus, an interest rate above the average signals that the price of financial assets are below their average and speculation in these assets may become widespread. There would seem to be a drain of some money capital from industry into the financial sector. Marx states that "accumulation of money capital is effected by people who have feathered their nests and withdrawn from the reproduction process" (Marx 1894: 638). This process is not necessarily a long-run process but rather occurs during the business cycle. Marx goes on to state that "the greater the profits made in the course of the industrial cycle, the more of these people there are" (Marx 1894: 639). In the explanation here, it is the average rate of interest which sets the magnitude for this process to begin. Thus, once the market rate rises above the average, factors will be in place for a monetary crisis to occur. Marx states that "if an inappropriately large

number of capitalists tried to transform their capital into money capital" it would lead to a devaluation of money capital and a fall in the interest rate, which would "compel capitalists to go back to industrial capitalists" (Marx 1894: 501).

Marx stresses that what happens in terms of the price of financial assets does not have a direct effect on the real side of the economy. However, the disturbance in the financial sector may in fact lead to a real crisis if it causes the interest rate to rise excessively. An excessive rise in the interest rate may cause the interconnected chain of credit to break, or the devaluation of fictitious capital may cause liquidity problems for firms. Fictitious capital represents potential money capital, but during times of crisis it loses this capacity. Moreover, their price falls, not only because of the rise in interest rate, but also due to the lack of credit which compels owners to sell their fictitious capital for money. Finally, fictitious capital is devalued because there is a decline in the revenues that it represents as a claim. The devaluation of fictitious capital may have nothing to do with the actual capital it is supposed to represent. Nevertheless, the devaluation of fictitious capital "has a lot to do with the solvency of their owners" (Marx 1894: 625). Marx seems to be referring to the ability of this fictitious capital to be used as collateral for new borrowing.

The magnitude of the average rate of interest may play a part in determining the frequency of monetary crises and contribute to the conditions for real crises. The current approach could then incorporate interest rate regimes into the analysis. Interest regimes were characterized in the Radcliffe report as "low," "middle," and "top gear" (see Rogers 1989: 252 for a discussion of this aspect of the Report). A low rate regime would be more susceptible to monetary crisis while less to real crisis. The low average rate of

interest implies a situation in which the market interest rate has less room to move before causing speculation to overheat. However, the low average rate, if low relative to the net profit rate, will allow for the possibility that the rising market rate does not cause a real crisis. The average rate of interest would only determine the point at which conditions appear ripe for a real crisis.

The role of the average rate of interest under this approach does not dominate the theory of crisis. The ultimate cause of a real crisis may in fact lie in the traditional theories of underconsumption, overproduction, disproportionality, or falling rate of profit. It is only being argued that the financial side, including the average rate of interest, should be incorporated into these theories. One direction in which this leads is a return to the explanation of overproduction in the *Grundrisse*. Marx states that:

> ... in a general crisis of overproduction the contradiction is not between the different kinds of productive capital, but between industrial and loanable capital - between capital as directly involved in the production process and capital as money existing (relatively) outside of it. (Marx 1939: 413)

This form of crisis seems to require the incorporation of the average rate of interest in order to explain the disproportionality. This quote from Marx will be important for subsequent developments in Chapters 5 and 6.

The discussion on this proposal has been sketchy at best and obviously undeveloped. The objective has been to demonstrate a possible starting point for an incorporation of the average rate of interest into crisis theory. How significant this variable turns out to be depends upon its magnitude as determined by common consent. For example, the closer this average is to the profit rate the more monetary and real crises are synchronized. However, the determination of the average by common consent means

there is no reason why the average should be close to the profit rate. If this average rate is influenced by customs, traditions, and institutional factors, as Marx believes, then it might be possible to choose where the magnitude comes to rest. This decision may imply certain tradeoffs in terms of frequency of monetary crises and their synchronization with real crises.

4.7 Summary

This chapter has attempted to determine the value of interest-bearing capital by the average rate of interest. It was first necessary to present Marx's discussion of the origin of interest. Due to the distortion created by interest in the minds of capitalists and economists the antithesis of interest appeared not as wage-labor, but rather profit of enterprise. The natural rate of interest was then presented in order to demonstrate an overriding theme. The monetary theory of distribution was utilized to demonstrate a particular reading of Marx on the interest rate. This interpretation was deemed to be insufficient as a historical reconstruction of Marx's work. An alternative interpretation of Marx's rejection of the natural rate was then presented. The alternative interpretation relied upon a particular reading of Marx's meaning of economic laws. In addition, the alternative demonstrated a close connection between Marx and Keynes on this topic.

The significance of the average rate of interest has been all but ignored by interpreters of Marx, the exceptions being economists writing within the monetary theory of distribution and a few post-Keynesian economists. The literature review attempted to demonstrate the lack of any attempt to incorporate the concept of the average rate of interest into theories of crisis. Chapters 5 and 6 will attempt to remedy some of the

deficiencies associated with the development of the average rate of interest. Chapter 5 will attempt to incorporate the average rate of interest into something like the more advanced notion of the natural rate of interest. Chapter 6 presents another alternative which may appear more consistent with Marx's work. The approach taken in Chapter 6 will be similar to one taken by Keynes in the early drafts of the *General Theory*.

CHAPTER 5

CONTRADICTIONS AND RESOLUTIONS IN MONETARY THEORY

A focus on the role of money within Marx's work reveals some apparent contradictions. The purpose of this chapter is to investigate the basis for the contradictions and offer two alternative resolutions. The resolutions will hinge upon whether monetary hoards are viewed from a flow or stock perspective. Both resolutions demonstrate Marx made a significant advance over the classical economists by differentiating between saving and investment. The advance by Marx has not been brought to the forefront in the literature due to a lack of appreciation of Marx's method of presentation and the incompleteness of Part 5.

The two resolutions to the apparent contradictions represent possibilities of including Marx's monetary theory into crisis theory. It is not the purpose of this chapter to promote one resolution over the other. The purpose is to indicate that Marx's theoretical system is malleable enough to go in different directions. Both of the approaches have their weaknesses and strengths. In Chapter 6 another alternative will be offered which combines some of the features of both resolutions.

The chapter begins with a brief review of the literature on Marx's theory of money, especially as it pertains to crisis theory. It will be seen that this literature makes an important connection between money and crisis. Section 5.2 will then discuss the

apparent contradictions that result in reading Marx. In Section 5.3 the first alternative resolution will be offered under the label of a Keynesian perspective. The label of this alternative should be kept separate from the work of Keynes which will be discussed in the next chapter. In Section 5.4, a second resolution to the apparent contradictions will be presented. The second resolution will be framed in the context of the realization problem. Finally, some concluding remarks are made in order to highlight the strengths and weaknesses of the two resolutions and point to a third alternative discussed in Chapter 6.

5.1 Literature review

Some of the literature reviewed in this section has been introduced at various points in previous chapters. The overlap is necessary because of the close connection between the theory of money and the theory of crisis. As stated in Chapter 1, a revival in Marx's theory of money and implications for crisis theory occurred in the 1980s. This research remained at a fairly high level of abstraction which necessarily limited its scope. It was also mentioned in Chapter 1 that another attempt was made in the 1990s which incorporated the market interest rate and other financial variables. This latter literature has been reviewed in Chapters 2 through 4. The focus of this chapter will be the literature of the 1980s dealing with the theory of money and crisis at an abstract level.

Three of the papers in this section by Jim Crotty (1987), Peter Kenway (1980), and Don Lavoie (1983) present a general theme of Marx's monetary theory. The theme of this literature is the connection between Marx's monetary theory and the possibility for crisis. Although each author takes a slight variation on this theme, each builds the central argument around Marx's comments that money introduces the possibility for crisis. An

interesting aspect of this literature is that Crotty and Kenway rely mainly on *Theories of Surplus Value*, whereas Lavoie draws very similar conclusions by relying on the *Grundrisse*. The papers by Steve Shuklian (1991), John Roche (1985), and John Parson (1988) in some ways represent further developments on Crotty, Kenway, and Lavoie respectively. In addition to the above literature, a paper by E.K. Hunt (1986) will be briefly reviewed in order to specify some of the philosophical foundations for Marx's work with special attention given to money and crisis.

Lavoie (1983) relies heavily on the notebooks left by Marx published under the title *Grundrisse*. Lavoie interprets Marx's economic theory from a general equilibrium perspective. However, according to Lavoie, money is a disequilibrium phenomenon. Any effort to fit money into an equilibrium framework leads to a distortion of the concept of money within the theory. Lavoie compares this basic approach by Marx with a group of fairly mainstream economists (Barros and Grossman, Clower, Leijonhufvud, Weintraub, and Yeager) working in the late 1960s under the general label of the modern disequilibrium approach. Lavoie argues that Marx can and should be seen as the precursor to this type of approach.

The building blocks of this disequilibrium approach in Marx are the introduction of the hoarding-dishoarding function. The importance of analyzing hoarding-dishoarding lies in viewing money in a flux between entering and leaving the sphere of circulation. Furthermore, Lavoie argues that this focuses attention on the short-run disequilibrium situations in Marx's work rather than simply the long-run equilibrium position. According to Lavoie, the hoarding-dishoarding process should be a first principle in any theory of the trade cycle. A complete theory of the trade cycle must include a

development of the interest rate, which Lavoie argues should follow the work of Wicksell. However, in Chapter 4 it was demonstrated that Wicksell's natural rate of interest cannot be employed within Marx's theory.

The hoarding-dishoarding process within the theory is used to understand the short-run disequilibrium movements. This process is one of moving the system towards equilibrium while continually causing breakdowns. Lavoie is careful to demonstrate the balance in Marx's work between developing the chaotic side of the capitalist economy and the equilibrium side. Markets may move towards equilibrium but can never overcome their inherent lack of coordination. Money is important because it appears in all markets at all times. Therefore, the Keynesian view of money as a store of wealth as opposed to medium of circulation leads to confusion because of the existence of near monies that function as a store of wealth. The Keynesian perspective hides the pervasiveness of money entering and leaving the circulation sphere.

In Chapter 2, Lavoie's paper was used to demonstrate Marx's logical development of the functions of money. The distinction of money from other commodities, for Marx, was its ability to perform all three functions. Lavoie demonstrates that for Marx the circulation of money is secondary to the circulation of commodities. In this regard, hoarding is determined by the circulation of commodities and the value of money. Again, Lavoie wants to point out the positive as well as the negative in Marx's theory. Marx argues that under normal conditions hoarding is balanced by dishoarding. Thus, there is some degree of equilibration that occurs within Marx's theory. However, in the absence of complete market coordination the equilibrium point will not be reached and hoarding-dishoarding characterizes a process of disequilibrium.

The hoarding-dishoarding process contains a basic contradiction. Money is hoarded in order to be spent. On the other hand, the spending of money implies that it will be held by someone else. Lavoie makes further developments into the disequilibrium nature of money by focusing on three further contradictions. First, a change in the value of money can disrupt the circulation of commodities and therefore money cannot be neutral in the short-run. Second, monetary exchange as opposed to barter implies the separation of sale and subsequent purchase (C-M & M-C'). This separation is seen in the hoarding-dishoarding process. The possibility for crisis arises from this separation. Lavoie argues that the monetary crisis expresses a real crisis which occurs as a disproportion within the sphere of production. This separation also indicates that crisis, or disequilibrium, in the general equilibrium framework can only be denied by denying a role for money. This is precisely what occurs within Walrasian general equilibrium theory. Third, once specifically capitalist production (M-C-M') is theoretically introduced the motivation of agents change. Motivation shifts from consumption, or use-values, to the accumulation of money.

Parson (1988) in many ways is an extension of one aspect of Lavoie's interpretation of Marx's monetary theory. The nature of the monetary crisis arises from the disequilibrium in markets due to a lack of coordination, in other words the anarchy of production. Parson's paper is written as a response to what he labels the bubble theorists, mainly intended to mean the writings of Paul Sweezy and Harry Magdoff on finance. According to Parson, the extension of financial markets into such things as futures and options entail both negative and positive aspects. It is the positive aspects which Parson attempts to delineate. Parson is also able to develop a theory of monetary crisis as well as

to provide an extremely nice introduction to these markets.

Futures and options markets involve three important positive aspects according to Parson. First, these markets provide the producers (Parson uses a farmer for illustrative purposes) with a certain amount of insurance. Second, the prices of futures and options provide important signals and information to market participants. Third, the ability to lock in prices provides the producers with an amount of certainty that translates into greater access to credit. In effect, in a mode of production based upon individual producers making uncoordinated decisions, market prices provide important signals for the present allocation of resources. Parson contends that futures and options markets provide a means of an intertemporal allocation of resources. However, Parson recognizes that these markets can only provide more coordination, but not complete coordination. The capitalist mode of production is inherently characterized by this anarchy of production which no market can completely overcome.

The bubble theorists view the development of futures and options as a sign of the growing independence of the financial sector. The bubble theorists regard the growth of these markets, and the financial sector in general, as a consequence of a decline in profitability of the productive sector. In contrast, Parson draws a close connection between the growth of the markets and the expansion of productive forces. The demonstration of this aspect is developed by four theses. The four theses simply express the positive aspects of futures and options markets as listed above. The important point Parson endeavors to make is that both the negative and positive aspects of these markets must be incorporated into a theory of money. These aspects can be seen in the development of the productive forces encouraging development and growth in the

circulation sphere, whereas development of the circulation sphere feeds back to the development of the productive forces.

The growing use of futures and options markets cannot entirely eliminate the chaotic nature of production based in the capitalist mode of production. There is simply no market mechanism, or institution, that can provide complete coordination between individual producers. Futures markets provide a key development by supplying a partial coordination between the present and future for producers. Parson develops a theory of monetary crisis based in the ever present anarchy of production. The theory is developed in another four theses. The first states that the reproduction of the economy depends on the "compatibility of the expectations, plans, and intentions of the various capitalists" (Parson 1988: 275). The second states that futures markets "serve prospectively to filter, rationalize, and mesh the diverse plans of the independent capitals" (Parson 1988: 275). Third, the second thesis is not capable of ensuring the first thesis so that the " possibility of incompatibility in the plans of the separate economic units persists" (Parson 1988: 275). The fourth asserts that the monetary crisis will occur when production plans do not mesh, or are not compatible, which implies that some producers will not be able to make payments.

The four theses allow Parson to develop a theory of crisis. The incompatibility of plans expressed in thesis four turns into a crisis once the situation is widespread. The role that the financial markets play in creating such a crisis is to force the independent plans of individual producers into a close interdependence. The crisis occurs then not because of an irrationality assumption or the financial sector growing beyond the real sector. The bubble theorists see the monetary crisis arising from the drain out of the real sector and

into the financial sector. Thus, the crisis is associated with a stagnation in the real sector. Parson's crisis theory expresses the anarchy of the capitalist mode of production and embraces the positive influence that financial markets can play in the development, not stagnation, of productive forces.

Kenway (1980) develops Marx's possibility crisis theory from *Theories of Surplus Value,* Part II, Chapter 17. In this particular writing, Marx critiques Ricardo's assertion that a general overproduction, i.e., glut, is not possible. Kenway's paper points out the connections between Keynes's theory of effective demand and Marx's possibility theory. The conclusion Kenway reaches is that possibility theory can be incorporated into Keynes, whereas the theory of effective demand needs to be incorporated into Marx.

Keynes's break from the neoclassicals is seen in his assertion that output as a whole matters. Kenway identifies output as a whole with the theory of effective demand. The standard, short version of this theory is that output (Y) is determined by investment (I) multiplied by one over the marginal propensity to save (s). Since investment is a monetary variable, aggregate output is also a monetary variable. Thus, Keynes by asserting that output as a whole matters also asserts that monetary variables matter. In essence, effective demand has an "operational significance" (Kenway 1980: 400). In attempting to figure out just how monetary variables had operational significance Keynes was led to stress the uncertain future. Uncertainty meant that money which was held to soothe such uncertainties became significant. However, Kenway argues that Keynes dropped this line of thought at least in the short-run. Once Keynes drops this line of thought, it is no longer clear why money has significance. Thus, Kenway concludes that Keynes's theory should incorporate possibility theory in order to recover money's

operational significance.

Marx's possibility theory according to Kenway is intended to identify the factors in the economy that give rise to the conditions for crisis. Although possibility theory does not presuppose any specific type of actuality theory in this section of *Theories of Surplus Value*, there is an underlying notion that the actual crisis is one of overproduction. The assumption of overproduction is not crucial at this point. Rather, the importance is that any actuality theory must incorporate the factors identified by possibility theory. Marx develops two types of possibility theory. The first concerns the possibility of crisis arising from money's role as medium of circulation and illustrates that a sale does not have to include a subsequent purchase. Kenway calls this Marx's immature possibility theory and does not spend a great deal of time on this factor. In fact, he argues that this in itself is not capable of refuting Ricardo's denial of gluts.

A second possibility theory arises with the specification of the capitalist mode of production (M-C-M' rather than C-M-C'). Kenway identifies three distinct grounds on which Marx bases his critique of Ricardo. First, by asserting that the motive to produce is to consume, Ricardo ignores that capitalist production presupposes the social division of labor. Second, in previous modes of production, exchange was conducted on the basis of only the surplus. Within capitalism, production is conducted for exchange implying that the producer must sell in order to complete the process. Third, Ricardo does not differentiate producers from consumers so that the two appear identical. Marx, on the other hand, contends that these are two distinct theoretical categories. The identity would only exist for a relatively few capitalists. Furthermore, the class of landlords are consumers but not producers. On these three grounds Marx is able to reveal Ricardo's

erroneous proposition that a general glut is impossible. The proposition only holds because Ricardo abstracts from the real conditions of capitalist production in which money plays a significant role.

Kenway utilizes the schemes of reproduction, developed within Volume II, in order to complete the comparison between the theories of Keynes and Marx. The schemes of reproduction demonstrate the close connection to Keynes's theory and the need for a theory of effective demand in Marx's theory. Without going into details here, Marx first demonstrates with the schemes of reproduction the possibility for continued reproduction. However, the introduction of fixed capital within the schemes introduce new conditions for continued reproduction. The fixed capital releases its value only slowly over several periods. The release of this value is termed a leakage by Kenway in order to draw a connection to Keynes. This aspect has been alluded to in Chapter 2 when discussing the work of Fine (1975), Lapavitsas (1997), and Weeks (1981). According to Kenway, the leakages must be balanced by an injection of value, in monetary form, in order for reproduction to proceed smoothly. Marx in fact realizes this and solves the problem by questionable means which do not concern Kenway at this point. The point is the close connection to Keynes's leakage and injection approach characterized in the circular flow of commodities and money within the economy. The possibility theory turns into actuality once producers cannot sell their commodities at prices which include the average rate of profit. Kenway then contends Marx's theory must include a theory of effective demand. It is only by being concerned with aggregate demand that all producers could hope to receive the average profit. Thus, a link must be made between possibility theory and actuality theory by way of a theory of effective demand.

Roche (1985) presents a reinterpretation of Marx's monetary theory within the schemes of reproduction which appears very much like Kenway's interpretation. The possibility for crisis which Kenway is careful to point out in Marx's *Theories of Surplus Value* also appears briefly in Volume I. Roche, however, points to an inconsistency which arises in Volume I from the crisis possibility theory (Roche credits De Brunhoff, 1976, with finding the inconsistency). The possibility for crisis arises once money becomes more than a medium of exchange. In brief, a sale does not automatically imply a subsequent purchase because money can be hoarded. Money, especially functioning as a hoard, is given a very active role in the circulation process. However, Roche points out that in Marx's formulation of the quantity theory of money, money hoards play a strictly passive role. Marx essentially reverses the order of causation in the quantity theory of money by claiming money flows in and out of hoards in response to changes in the sum of prices, given the velocity of circulation. The function of money as hoards acts passively in order to realize the sum of prices. Roche believes this means that Marx's initial theory of money must be reformulated in order to remedy the inconsistency.

Roche uses aggregate demand and supply equations within the schemes of reproduction to further illustrate the inconsistency and introduce a remedy. In the quantity theory equation the sum of prices can be thought of as the aggregate supply of commodities. The aggregate demand can be viewed as the money supply multiplied by the velocity of circulation. Thus, Marx's discussion of the quantity theory would lead one to view aggregate demand always adjusting to aggregate supply, hence no possibility for a crisis of realization. Roche then uses the reproduction schemes by splitting the aggregate demand and supply into the two departments (i.e., means of production and

means of consumption). It is then straightforward to see that no overproduction could result, and only a disproportionality between productive sectors could arise. This is the type of crisis which Lavoie and Parson have stressed. However, Roche contends that a disproportion between the two sectors of the economy could not turn into a crisis as long as aggregate demand continues to adjust to aggregate supply.

The similarities between Kenway and Roche can now be made more explicit by the focus on the role of fixed capital. Roche makes two modifications to what has already been described. First, department 1, i.e., means of production, is further divided into a department producing fixed capital and another producing circulating constant capital. The schemes of reproduction are then conducted within a three department model and equilibrium conditions can be deduced. The fixed capital department appears questionable because "the $ value of fixed capital produced must equal the $ value of the depreciation of fixed capital ($W1 = $d1 + $d2 + $d3) and this, in turn, must equal the demand for fixed capital" (Roche 1985: 206). The questionable nature of this procedure by Roche is seen in that he does not address the demand for fixed capital. Roche points out, following Marx and Kenway, that once fixed capital is introduced into the schemes, then there will be a possibility for crisis. The crisis will result when the depreciation, which appears as a money hoard outside of the schemes, is not balanced by an equal demand, or injection of hoards back into the schemes, for fixed capital. This will lead to aggregate demand being less than aggregate supply. In other words, if the sum of depreciation ($d1 + $d2 + $d3) is greater than the demand for fixed capital ($D1), then a crisis results. Furthermore, there is no apparent reason why the demand and supply in this department should be equal. Finally, an excess supply in this department does not

imply an excess demand in one of the other departments. The excess supply is matched by an excess demand for money, in the form of hoards, and not commodities in either of the other two departments.

The second modification made by Roche concerns the definition of the velocity of circulation. Marx used the classical definition of velocity as the number of times money within circulation turns over. This definition, according to Roche, would imply no change in the velocity when hoarding or dishoarding occurred. Roche suggests using the modern definition of velocity associated with the turnover of the entire money supply which includes monetary hoards. The new definition implies that an increase in money hoards leads to a decrease in the velocity of money which by definition, holding the total money supply constant, implies a decline in aggregate demand. Therefore, a condition for the equilibrium of aggregate demand and supply is that net hoarding is zero (i.e., hoarding is balanced by dishoarding). If hoarding is greater than dishoarding, it will imply a decrease in aggregate demand causing a realization crisis. It is straightforward, then, to tie this change in net hoarding to the question of whether demand and supply are balanced in the fixed capital department. Crises are ultimately caused by this disequilibrium in the fixed capital department but find their expression in money hoards. Roche also suggests that changes in net hoarding which lead to crises might result from monetary instability, thus giving priority to the money side.

Jim Crotty wrote several papers during the 1980s which asserted that traditional Marxist crisis theory ignored the importance of money and credit in Marx's original work. This was perceived by Crotty to have resulted from a misunderstanding of the nature of Marx's methodology. Crotty attempted to rectify this situation by supplying

work on the possibility theory for crisis, or in alternative terminology the abstract form of crisis. Crotty has been able to extend some of this work by drawing a comparison to Minsky's financial fragility hypothesis. This review will be limited to Crotty's (1987) paper, "The Role of Money and Finance in Marx's Crisis Theory," which is a tighter and more compact treatment of the same arguments made in two earlier papers (1985 and 1986).

The traditional crisis theory literature has concentrated on the sphere of production. This appears to occur whether analyzing the tendency for the profit rate to fall theory of crisis or a disproportionality crisis. Crotty objects to these theories as they are normally stated because they appear to give "a priori logical priority over aspects of circulation in the analysis of accumulation and crisis." A complete theory of accumulation and crisis would recognize that the spheres of production and circulation are a "contradictory unity" (Crotty 1987: 72). In order to demonstrate that the sphere of production cannot be given logical priority over circulation Crotty turns to the first part of Volume I. In this section of *Capital* Marx analyzes simple commodity production. This theoretical construct allows Marx to focus on commodity, money, and exchange. Crotty points out that Marx is able to construct the possibility for crisis to occur in this part once money is introduced. The important methodological point is that crisis possibility arises even before Marx undertakes an analysis of specifically capitalist production. It is money that creates this possibility. The degree of instability in this mode of production is dependent "upon the relative importance and particular institutional underpinnings of the various functions performed by money" (Crotty 1987: 72).

Two abstract forms of crisis arise in simple commodity production. Each form is

dependent upon the particular function of money being given dominance. The first abstract form of crisis relies on money as a medium of exchange and to a lesser degree as a measure and store of value. The introduction of money implies the separation of purchase and sale in space and time. This also implies a greater degree of interdependence between producers. In this case, any particular sale depends upon the ability of others to sell. Money viewed in this way is the "medium of social cohesion, the tie that binds the fortunes of economic agents one to another" (Crotty 1987: 74). Furthermore, the separation of purchase and sale in time implies the introduction of historical time into Marx's model. This new aspect of time also implies that money as a store of wealth and the velocity of money take on importance (both are in fact related to time).

In Marx's model once individuals sell their own commodity they may choose to hoard the money received. If this hoarding takes place on a large enough scale, where hoarding is greater than dishoarding, then a general overproduction occurs. Similar to Roche, the velocity of money is closely related to the hoarding-dishoarding function. The velocity of money appears to be a variable magnitude. Thus, a slow down in the velocity of money implies that hoarding is taking place, and a glut of commodities becomes possible. Similar to Lavoie and Parson's ideas, the implications of these functions of money arise from the anarchy of production. Individuals have no means of predicting sales, or realization of value, because markets leave a certain amount of coordination absent. Contrary to Lavoie and Parson's theory, this first abstract form of crisis is less prevalent because disequilibriums are not able to be transmitted. Crotty argues that there are very few mechanisms built into this particular form of crisis to transmit

disequilibrium from one reproduction cycle to another.

The second abstract form of crisis relies on the function of money as means of payment. This function of money gives rise to credit and illustrates a contract economy. Once credit contracts are introduced a qualitative advance occurs in this form of crisis over the first form. Contracts imply that reproduction cycles become linked through time. Therefore, the history of the economy becomes very important. In terms of the possibility for crisis, credit contracts turn a fairly flexible economic structure into one of rigidity and fragility. Not only is the ability of producers to realize value dependent upon others' ability to sell, but sales must take place within a certain period of time as dictated by the terms of contract. The realization of value in place and time creates another constraint on reproduction. The interdependence of agents not only grows but solidifies to such a degree that any particular failure will lead to a domino effect throughout the economy. Once a failure, even if seemingly minor, occurs, then the chain of payments may be broken forcing individuals to sell at any price in order to meet their payments. The falling prices of commodities and financial assets, rising interest rates, and inability to obtain additional credit are all reflections of a monetary crisis.

Crotty makes an attempt to extend the abstract forms of crisis to a theory of capitalist crisis. The extension is made in four steps which, according to Crotty, reflect Marx's own development. First, the abstract forms of crisis appearing in simple commodity production must be incorporated into the theory of capitalist crisis. Second, the development of the capitalist mode of production goes hand in hand with a development of the credit system and contract economy. Third, an analysis of the forces inherent in the capitalist system causing the profit rate to fall must be conducted. Fourth,

an integration of the "tendencies or laws of capitalist production relations into the analysis of abstract crisis forms to generate a unified theory of the capitalist reproduction process" must be made (Crotty 1987: 77). According to Crotty, these four steps form the necessary sequence of theoretical developments that Marx made to connect the abstract forms of crisis to actual crisis. In the traditional crisis theory literature, Crotty appears to give priority to the falling rate of profit theory. The contribution of Crotty is the demonstration of the necessary incorporation of the abstract forms of crisis into this theory.

The above four-step procedure appears lacking in any specifics. In order to rectify this, Crotty develops a theory of crisis from the above procedure. During an expansion, the credit and financial system accelerates its movement thus turning a "boom-induced confidence into euphoria" (Crotty 1987: 78). Two conditions must arise for the expansion to turn into a crisis. First, the complex web of interdependence created by the extension of credit contracts must develop. This condition causes the economic system to become oversensitive to any rupture in the chain of payments. Second, the expansion must lead to the emergence of those factors that cause the profit rate to fall. Crotty gives extra significance to the profit rate in acting as a center of gravity for the credit system by attracting the interest rate. Once these conditions arise the system is in a fragile state ready to erupt into crisis. The crisis itself may be sparked by a monetary crisis which leads to a withdraw of credit and rise in its cost, i.e., the interest rate. On the other hand, the crisis may be sparked by a significant fall in the profit rate. A fall in the profit rate is not enough to start a crisis, but when it occurs in conjunction with the oversensitive economy a crisis begins. Thus, Crotty argues that the "condition of the

contract-credit system establishes a floor below which the profit rate cannot fall in any particular period without triggering a general crisis" (Crotty 1987: 79). The conclusion drawn from this is that the traditional crisis literature grasped only one side, the production side, of the crisis. The other side, the circulation or monetary side, is grasped when looking at the abstract forms of crisis. In order to arrive at a complete theory of crisis the two sides must be put together.

Shuklian (1991) presents a paper that builds on the foundations developed in Crotty (1987). The interpretation of Marx presented by Shuklian relies heavily on the description of the business cycle within Part 5. Shuklian makes a contribution to Crotty's work by incorporating some of Marx's comments on the interest rate and fictitious capital. The result is something very similar to a Minsky crisis.

Shuklian summarizes Marx's business cycle theory developed in Part 5. During the expansion phase of the business cycle interest rates are low, thus encouraging investment. Investment is further stimulated by rising profits. The increased profits and relatively low interest rate increases the value of fictitious capital. However, as the expansion continues the additional investment, and expanding reproduction process, put pressure on wages and the interest rate to rise. The higher wages begin to cause a decrease in the flow of profits and the profit rate. The interest rate rises due to an increased demand for money capital to meet higher wages and capital outlays.

The particular characteristics of the expansion during the business cycle set the stage for its downturn. The dual effect of falling profits and rising interest rates cause a devaluation of fictitious capital. The devaluation of corporate shares lead to difficulties in raising money by issuing shares. At this point, the "value of firms' liquid assets

declines relative to their liabilities and their liquidity positions begin to deteriorate rapidly late in the expansion" (Shuklian 1991: 210). The economy is then in a position of financial fragility in Minsky's terms.

Shuklian identifies the start of a crisis when the rate of profit begins to decline. Under the conditions previously described the fall in the profit rate implies an inability to meet financial obligations. This inability leads to a financial panic. Once the crisis begins the interest rate shoots upward rapidly because of the increased demand for money to meet payments and the "complex web of mutual obligations that presupposed a certain rate of profit" unravels (Shuklian 1991: 210). Once the interest rate shoots upward, and profits have already deteriorated, the value of fictitious capital declines sharply. Furthermore, there is a sell off of shares in order to raise money to meet obligations. During the crisis, "output, employment, and prices collapse" (Shuklian 1991: 211). Commodity capital and fixed capital are depreciated in terms of value during this period. These occurrences, however, tend to determine the conditions for the renewal of the reproduction process. The importance of fictitious capital is found to be in its price determination. The price of fictitious capital does not have to relate to the underlying real costs, or values, of the system. Shuklian appears to argue that prices in the financial sphere must correspond to the price system in the real sphere. A financial crisis illustrates the forcible reconciliation between the two price systems. In other words, the financial crisis forces the devaluation of the financial prices, determined by capitalizing the expected income stream, to become consistent with the costs of production.

Hunt (1986) presents the deeper philosophical basis of Marx's theory and its implications for money and crisis. The philosophical basis of money and crisis can be

found in the meaning of contradiction within Marx's theory. A contradiction, or paradox, for Marx has ontological status only with regard to human experience. For example, human beings, or their essence, are the unity of the two contradictory aspects of the particular and the general. In other words, a human being is a particular, the characteristic of oneness, while at the same time being part of the general, or species-being. In capitalism, there exists a contradiction between human existence and essence (Hunt 1986: 101). Human essence is estranged under capitalism and projected onto a thing.

Every commodity has a two-fold nature. A commodity is the contradictory unity of use-value and exchange-value. It is important to note before proceeding the distinction that Hunt refers to in Marx's work between value and exchange-value. Value is "congealed social labor within a specific social context" (Hunt 1986: 111). On the other hand, exchange-value refers to "the independent, visible, quantitative form of value" (Hunt 1986: 111). The unity of use-value and exchange-value is contradictory because "as use-values commodities are qualitatively heterogeneous and inherently incommensurable." However, as exchange-values commodities "are simply quantities with no qualitative difference whatsoever." The implication Hunt derives from this is that exchange-value is "an abstraction that symbolizes a social relation" (Hunt 1986: 106). Furthermore, the abstraction that symbolizes the underlying social relation must appear in an external object. This aspect of exchange-value leads to Marx's famous commodity fetishism in which social relations appear as relations between things. The contradictory nature of the commodity finds expression in the opposition of commodities and money.

The essence of humanity finds expression in the material object of money. In other words, human essence, as the unity of the particular and general, is projected onto money, a material thing. Thus, human essence becomes estranged or alienated in its existence within capitalism. It appears that the contradiction between the particular and general has ontological status in money. Prior to proceeding, the meaning of value and demonstration of the contradictory nature of money must be investigated. Value is particular, or concrete, human labor that becomes its opposite as general, or abstract, human labor. Money is the material existence of value "which exists in the individual commodity only as an abstraction." The contradictory nature of money arises from its two roles. First, money in its material aspect is only a symbol created and used by man. Second, money really does embody the estranged human essence and therefore stands over and controls human beings (Hunt 1986: 110).

The presentation of Hunt's work thus far appears paradoxical. Contradictions can never have ontological status in things, only in human experience. However, in capitalism, the contradictory nature of human essence is estranged and projected onto money. Money is contradictory in different respects. The nature of money is contradictory from the point of view just described (as symbol and as human essence). Furthermore, money is supposed to be the unity of the particular and general, as estranged and alienated human essence. This paradox begins to be resolved by the contradictory nature of money creating the inherent possibility for crisis. Hunt describes the need for capitalism to function as the dialectical materialists believe, meaning that things can be ontologically contradictory. In order to avoid crisis, money would have to be able to really function as a coordinator of human private and social labor. Crisis express the

impossibility for things to be contradictory themselves. The contradictory nature of the commodity (use-value/exchange-value) rises to the opposition between commodities and money. Crises occur when money is called upon to be both a particular commodity and at the same time the general commodity. During a period of crisis particular use-values become valueless, while money becomes the only real commodity (Hunt 1986: 118).

The literature reviewed in this section has tied Marx's theory of money to a more developed and complete theory of crisis. Crotty and Kenway have pointed out the crucial importance that money holds for the theory of crisis potential. Crotty ties the crisis potential to the outbreak of an actual crisis following the fall in the profit rate. Kenway, on the other hand, attempted to demonstrate the need for Keynes's concept of effective demand in order to transform the potential into an actuality. Money's movement into and out of hoards represented a methodology geared toward disequilibrium in Lavoie's interpretation. The writings of Shuklian, Roche, and Parson made further developments to the work of the first three authors. The philosophical foundations of Marx's thought, especially on money and crisis, have been elaborated by Hunt. A crisis, for Hunt, represents the contradictory nature of money. Hunt's work provides a much deeper analysis of money and crisis than the others have been able to achieve by demonstrating the necessity of crisis.

The literature provides ground for a much richer research agenda on Marx's theory of crisis. The theory of crisis has traditionally been devoid of monetary considerations. This is certainly due in part to monetary phenomena representing a more superficial study of capitalism. The authors who have been reviewed demonstrate the importance of including monetary phenomena on an equal footing with the so-called real

side of the economy. However, many aspects have been left out of consideration in this literature. There is simply very little consideration of the interest rate, with the possible exception of Shuklian, when discussing the connection between money and crisis. For example, Lavoie makes much of the hoarding-dishoarding process in Marx's disequilibrium theory but remains relatively silent on the interest rate as the variable that might have the most influence on this process. In addition, Crotty, after explaining why production should not be viewed as somehow prior to circulation, relies on the falling rate of profit to cause the crisis. The glaring difficulty in Crotty's interpretation is the absence of any explanation of the interest rate. The crisis begins when the profit rate falls below the interest rate. However, Crotty has no explanation of what determines the interest rate.

5.2 Apparent contradictions

Marx's theory of money and crisis contains some apparent contradictions. These apparent contradictions are observed when comparing statements or parts of the theory in one place with later developments of the same topic. The current section poses some of these apparent contradictions in order to construct possible resolutions in the following two sections.

The review of Roche (1985) indicated that a contradiction exists between the possibility of crisis and the quantity theory of money developed in Volume I, Chapter 3. In Chapter 3, Marx argues that money separates in time and space the sale and purchase of commodities. Marx expands upon the possibility of crisis arising from the function of money, either as means of circulation or means of payment, in *Theories of Surplus Value*, Part 2. The contradiction arises once Marx contends that the quantity of money in

circulation adjusts, *ceteris paribus*, to the sum of prices. Marx essentially reverses the direction of causation in the traditional quantity theory. An apparent contradiction appears to exist between the possibility of a crisis occurring due to money not completing the circuit and the assertion that the quantity of money adjusts to the sum of prices. Roche (1985) adopts an aggregate demand and supply analysis to illustrate the contradiction. The possibility of crisis arose when the aggregate demand for commodities fell short of the aggregate supply. However, Marx's version of the quantity theory implies that aggregate demand will always adjust to aggregate supply. The two statements appear contradictory.

A similar contradiction can be found in Part 5. Volumes I and II presented a theory absent of any banking and credit system. Marx had argued that the quantity of money in circulation was able to adjust to the sum of prices by the flow of money in and out of hoards. The introduction of the banking and credit system in Part 5 allowed bank reserves to take the place of private hoards. Marx argues, however, that the analysis of the quantity of money in Chapter 3 of Volume I remains correct. The quantity of money in circulation continues to adjust to the sum of prices or business activity. The banking system now acts to adjust the quantity of money in order to meet the needs of business. However, Marx also argues in Part 5 that banks react to disturbances in the reproduction process by refusing further money loans. The problem appears to be one of causation. The refusal of banks to extend credit causes a crisis, but a crisis causes the refusal of credit by banks.

A problem related to the above contradictions occurs in *Theories of Surplus Value*, Part 2. Kenway reviewed Marx's criticism of Ricardo's adherence to Say's Law.

After highlighting the possibility of crisis due to the role of money, Marx argues that an excess supply of commodities can exist and will be matched by an excess demand for money. Marx writes that "the supply of all commodities can be greater than the demand for all commodities, since the demand for the *general commodity*, money, exchange-value, is greater than the demand for all particular commodities..." (Marx 1959: 505). This statement illustrates the possibility of a general overproduction but again does not appear to be consistent with the idea that the quantity of money in circulation adjusts to the needs of business. The question remains as to why the money supply does not expand to meet the excess demand. This would also appear to require a theory of the interest rate which does not adjust to equilibrate supply and demand in the money market. The weakness of the theoretical argument appears similar to that of Lavoie's emphasis on the hoarding-dishoarding process without a subsequent discussion of the interest rate.

A final apparent contradiction arises in Volume II. Similar to the above contradictions Marx recognizes a possibility that everyone will sell and not buy. In this regard, Marx makes the following statement:

> Money is withdrawn from circulation and stored up as a hoard by the sale of commodities without subsequent purchase. If this operation is conceived as taking place on all sides, it seems impossible to explain where the buyers are to come from, since in this process - and it must be conceived as a general one, in as much as every individual capital may be simultaneously engaged in the act of accumulation - everyone wants to sell in order to hoard, and no one wants buy. (Marx 1885: 567)

If this situation were to occur, serious problems would result in the reproduction process. The difficulties are recognized in the following:

> We must now consider the case where there is not actual accumulation, i.e. direct expansion of the scale of production, but where a part of the surplus-value realized is stored up over a longer or shorter time as a monetary

> reserve fund, so as later to be transformed into productive capital. ... The capitalist who stores up money has to that extent sold without buying. .... If we look upon this process simply as a partial phenomenon, there is nothing in it that needs explaining. .... But difficulties start to arise when we assume not partial accumulation of money capital but general accumulation within the capitalist class. (Marx 1885: 421-422)

The argument to this point only asserts the possibility for hoarding to occur at all points. The apparent contradiction occurs when Marx makes the following statement:

> If on the one hand, therefore, a part of the surplus-value realized in money is withdrawn from circulation and stored up as a hoard, at the same time a further part of the surplus-value is always transformed into productive capital. With the exception of the dividends of additional precious metal among the capitalist class, storage in the money form never occurs simultaneously at all points. (Marx 1885: 423)

The contradiction rests on the question of whether or not it is possible for net hoarding to be positive. Marx recognizes the possibility for this to occur, but a page later denies it.

The contradictions identified above have similar roots. The role of money introduces the possibility of crisis to occur due to its function as a store of value and the separation of purchase and sale. Monetary hoards are an essential moment in the capitalist reproduction process. In Volume I, hoards are required in order for the money supply to adjust to the sum of prices. In Volume II, hoards are created from the capitalist reproduction process and also necessary for its smooth continuation. Money hoards are viewed from these perspectives as acting passively. On the other hand, these same hoards create the possibility for crisis to occur with a general, rather than partial, hoard formation. The roots of the apparent contradictions rest on the status of hoards and the mechanisms that influences the process.

The term contradiction has normally been qualified with "apparent." One reason for the qualification is due to the method of presentation employed by Marx. In Chapter

2, some of the essential features of Marx's method were introduced. Strictly in terms of the method of presentation, Marx begins with the abstract and moves slowly to the more concrete. In many ways the method of moving from the abstract to the concrete is not different than the one employed in economic theory today. For example, macroeconomics is taught by first introducing the Keynesian Cross diagram and associated multipliers. During the presentation, no changes in the price level, interest rate, and banking system are allowed. At this point, the student is told that if planned investment increases by $100 and the marginal propensity to consume is .75 then total income will increase by $400. However, the inclusion of interest rate changes leads to a modification of the simple multiplier analysis. In fact, once the entire supply side of the economy, and with it changes in the price level, is introduced into the analysis then the conclusion could be rejected altogether. The increase in investment may not change income at all. It is not clear that the new result should be labeled as a contradiction. Rather, the result changes because the analysis has moved from an abstract level to a more concrete one. This similar method of presentation employed by Marx leads some to quick criticisms, or finding contradictory statements, when parts of the theory are considered in isolation.

A second reason for the qualification of "apparent" is the possible replacement of the term contradiction with tension. The problems above may represent a tension in Marx's work. The tension illustrates that a crisis represents a disequilibrium phenomenon. However, Marx many times works within a general equilibrium framework. The tension in the theory originates from attempting to provide an understanding of both how the capitalist system functions as well as it does and also why

it falters. In this respect Lavoie's (1983) article highlights the disequilibrium feature of money in Marx's theory. Marx's economic theory is seen in terms of a general equilibrium framework. However, money is a disequilibrium phenomenon. Any effort to fit money into an equilibrium framework would lead to a distortion of the concept of money within the theory. In many ways, it is this methodological approach that may create the appearance of contradictions, and actual tensions, within Marx's theory.

In Sections 5.3 and 5.4 two possible resolutions will be presented which address the above apparent contradictions. The first resolution is an interpretation of Marx's theory based in a Keynesian perspective. The resolution is a rational reconstruction of Marx's writings since it reinterprets the hoarding-dishoarding process as the more modern saving-investment process. The average rate of interest will be incorporated as a weak mechanism of adjustment. The second resolution analyzes the process of surplus-value realization. This approach will view hoards as a stock rather than a flow. The resolution of the contradictions becomes tied to the behavior of the banking system. In contrast to the first resolution, the second is much closer to a historical reconstruction of Marx's writings.

5.3 Keynesian perspective

The Keynesian perspective presents a rational reconstruction of Marx's theory closely resembling a particular interpretation of Keynes's theory. It will be demonstrated that a rational reconstruction of Marx's work can be made on the basis of the distinction between saving and investment. The saving-investment approach to monetary theory has a long history. However, it seems generally agreed upon that classical theory was unable

to formulate such an approach. For the most part, the theoretical foundation of classical monetary theory relied upon the quantity theory of money. The current reconstruction of Marx's theory demarcates a new line of transition in the history of monetary theory. The reconstruction begins by identifying the distinction between saving and investment. The determinants of saving and investment will then be discussed. The reconstruction demonstrates that Marx, like Keynes, maintains that the interest rate is not determined by the saving-investment relation, but rather in the money market. Additionally, only by accident will the market interest rate remain at the intersection of investment and saving thereby avoiding a crisis.

Throughout Volumes I and II investment and saving are identical by assumption. This assumption is brought out clearly in Volume I while presenting the general law of capitalist accumulation. Marx makes the important and well established assumption throughout Volume I that "capital passes through its process of circulation in the normal way" (Marx 1867: 709). Therefore, Marx explicitly assumes away any realization problems. This assumption requires the further assumption of identity between saving and investment. Saving, for Marx at this stage, means nonconsumption. He indicates this by stating the "part of the tribute exacted by him [the capitalist] which he accumulates is said to be saved by him, because he does not consume it, i.e. because he performs his function as a capitalist, and enriches himself" (Marx 1867: 738-9). The identity of this definition of saving with investment is stated in the call to the capitalist to "save, save, i.e. reconvert the greatest possible portion of surplus-value or surplus product into capital!" (Marx 1867: 742). The assumption of identity between saving and investment continues throughout Volumes I and II.

Marx's theory of investment is normally treated very naively. It is typical to interpret Volume I as building a theory of investment on Marx's oft quoted "Accumulate, accumulate! That is Moses and the prophets!" (Marx 1867: 742).[11] However, this interpretation is misleading. Immediately after the Moses passage, Marx writes "save, save, i.e. reconvert the greatest possible portion of surplus-value or surplus product into capital! Accumulation for the sake of accumulation, production for the sake of production ..." (Marx 1867: 742). This quotation was partially cited in the previous paragraph to indicate the identity between saving and investment. The implications drawn in the literature for a theory of investment is that capitalists always transform all surplus-value into productive capital (i.e., saving and investment are identical). However, the remaining portion of the quotation has been ignored in the literature. Immediately following the preceding quotation, Marx goes on to state that "this was the formula in which classical economics expressed the historical mission of the bourgeoisie in the period of its domination." (Marx 1867: 742-3). The standard interpretation does not lead to a major distortion while remaining on the theoretical level of Volume I. However, as soon as attention shifts to the more concrete and begins to analyze crisis, the misinterpretation makes an enormous difference. The misinterpretation also prevents further developments to reconstruct Marx's monetary theory.

Marx appears to be correct in attributing the identity of saving and investment to

[11]For some of the interpretations see Crotty (1993), Blaug (1985), and Schumpeter (1954). Crotty (1993) is the most explicit in reconstructing Marx's investment theory based on this passage.

classical economics.[12] However, one should not make the further step that Marx himself did not differentiate between the two. The theoretical distinction between saving and investment can only be seen with the proper understanding of Marx's method of presentation. In order to abstract from any problems of realization and thereby highlight the creation of surplus-value within Volume I, Marx must hold to the identity between saving and investment. Volume II continues to assume the identity in order to focus attention on the circulation of value. Furthermore, the assumption is justified in Volumes I and II since abstracting from the banking and credit system leaves the capitalists no other way to accumulate but through investment. Hoards represent stagnant money until the banking and credit system, and interest-bearing capital in particular, is introduced.

The assumption that saving and investment are identical is relaxed in Part 5. Marx breaks the process of saving and investment into two parts. The first concerns surplus-value transformed into money-capital. This step, representing saving, is straightforward and easily explained since surplus-value must be realized in money, and money exists in the form which constitutes money-capital. However, the next section demonstrates the conditions that must be met for this process to occur on a regular basis. The second step in the process, representing investment, is the transformation of money-capital into industrial capital. According to Marx, this second step is much more difficult and complicated. Here Marx states that "money capital for loan is a far simpler matter than the transformation of money into productive capital" (Marx 1894: 626). In making

[12]See Garegnani (1978: 339) for further comments on this identity of saving and investment within classical theory.

the theoretical distinction between saving and investment Marx made a major advance over the classical economists.

A study of Part 5 reveals a set of determinants for saving and investment. A simplified determination of investment can be constructed on the basis of the material in Part 5.[13] The profit rate is the driving force behind investment, or alternatively stated real accumulation. Increases (decreases) in the profit rate call forth an increase (decrease) in investment, assuming other things remain the same. However, once interest is introduced other things may not remain the same. Initially, interest represents a deduction from the total surplus-value, or gross profits. The gross profits minus the interest repayments represent the profit of enterprise for the industrial capitalists. If the profit rate is assumed to be the independent variable and the interest rate is determined prior to production, then the profit of enterprise appears as a residual for the industrial capitalist. The profit of enterprise is the main determinant for investment. The profit of enterprise, however, is itself determined by the profit rate and interest rate. Therefore, investment depends upon the interaction of the profit rate and interest rate which form the profit of enterprise. The interaction can be seen in the following statement by Marx:

> [t]he accumulation process proper is promoted because the low interest rate ... increases [the] portion of the profit that is transformed into profit of enterprise. This is all the more so when interest rises to its average level during the height of the prosperity period; although it has risen, it has not done so in relation to profit" (Marx 1894: 627).

The importance of the profit rate is also seen in times of crisis when Marx says that the "profit rate as good as disappears and with it the demand for industrial capital" (Marx

---

[13]The simplification is mainly due to ignoring the effects of competition and technological change.

1894: 645-6).

The basic relationship between investment and the rate of profit of enterprise needs to be qualified to take into account other factors of importance. Investment may come up against barriers in its ability to realize value. In discussing the transformation of profit back into capital, Marx claim this accumulation may slow "if branches of production are saturated and loan capital is over-supplied." The buildup of loan capital, including saving, then implies that "this plethora of loanable money capital proves nothing more than the barriers of *capitalist* production" (Marx 1894: 639). Marx's theory of investment is not as deterministic as it first appeared in Volume I. The theory presented here depends upon quantitative as well as qualitative factors.

Investment, holding other things constant, is positively related to the profit rate and negatively related to the interest rate. The negative relationship between investment and the interest rate is not associated with diminishing marginal productivity or Keynes's marginal efficiency of capital. The negative relation exists because interest acts as a deduction from surplus-value. This formulation of the investment schedule is intimately tied to the classical surplus approach. The economic system is studied from the basis of the production and distribution of the surplus. Marx makes an advance over this approach by extending it to a theory of the business cycle. In the quotation above, Marx argues that during the expansionary phase of the business cycle the profit rate will increase, shifting the investment schedule outward, even while the interest rate increases. In other words, a downward sloping investment schedule is drawn for a particular profit rate. Based upon this reconstruction of Marx's comments on investment, there is a beginning for a point of transition between classical theory and Keynes.

The dominant determinant of saving is the amount of surplus-value realized. There are several places in Marx for the justification of this view. First, Marx states that the "massive nature of the sum of money which has to be transformed back into capital is the result of the massive scale of the reproduction process. But considered for itself as money capital for loan, it is not itself a sum of reproductive capital" (Marx 1894: 637). Second, "as material wealth increases, the class of money capitalists grows." (Marx 1894: 643). The quotations demonstrate the importance Marx attached to income, specifically in the form of surplus-value, to the determination of saving.

A second determinate of saving is the interest rate. Marx states that "if an inappropriately large number of capitalists tried to transform their capital into money capital" it would lead to a devaluation of money capital and a fall in the interest rate, which would "compel capitalists to go back to industrial capitalists" (Marx 1894: 501). It is possible to interpret this statement as leading to a positive relationship between the interest rate and saving. As in the case of investment, there are qualitative factors that influence the amount of saving. Marx states that "accumulation of money capital is effected by people who have feathered their nests and withdrawn from the reproduction process" (Marx 1894: 638-9). In this case, it is a conscious decision of industrial capitalist to become part of the rentier class. However, this determinate should not be interpreted as a long-run factor. Marx makes it clear that he is thinking in cyclical terms. The argument is that "the greater the profits made in the course of the industrial cycle, the more of these people there are" (Marx 1894: 638-9). The influence of income on saving is a critical step towards the theory Keynes put forth in the *General Theory*. However, the reconstructions developed here will focus upon the role of the interest rate on saving.

This was the dominant determinant of saving for Keynes prior to the *General Theory*.

The idea that income, especially surplus-value, determines the amount of saving has definite connections with Keynes. A further connection is made when the direction of causation is studied. It is well known that Keynes argued that investment caused saving, thus reversing the direction he attributed to the classical theory. From the quotes in the previous paragraph, Marx's direction of causation is consistent with Keynes. Furthermore, Marx states that *ceteris paribus* "profit destined for transformation back into capital depends on profit made and hence on expansion of the reproduction process itself" (Marx 1894: 639). In one place, the reproduction process also determines saving although in a slightly different way. In his criticism of Overstone's suggestion that saving drives accumulation, Marx asks "if no real accumulation took place then what good is an accumulation of claims on this production in the money form?" (Marx 1894: 553). It is investment, or real accumulation, that creates and justifies saving, or money accumulation.

Since both saving and investment depend upon the interest rate, it would seem that a particular interest rate exists which equates the two. However, Marx argues that the interest rate is not determined by saving and investment (or, money and real accumulation). Rather, the interest rate is determined in the money market by the demand and supply of money capital. It is imperative to understand that Marx makes a distinction between the demand for money capital and investment (i.e., real accumulation), and also between the supply of money capital and saving (i.e., money accumulation). Marx states that "accumulation of loan capital simply means that money is precipitated as loanable money. This process is very different from a genuine

transformation into capital; it is simply the accumulation of money in a form which it can be transformed into capital" (Marx 1894: 639). The discussion below of the determinant of the demand and supply of money capital will only include items needed to develop this particular reconstruction. Development of further reconstructions will require a return to this topic.

The market interest rate is determined in the money market by the interaction of the demand for money capital and the supply of money capital. The demand for money capital is only partially dependent upon the demand for industrial capital, or real accumulation. This implies that those factors above that affected investment also impact the demand for money capital. The demand for money capital is "determined by actual production for industrial capitalists" (Marx 1894: 548). Moreover, the demand for money capital, derived from the demand for industrial capital, falls when prices and wages are low, the entrepreneurial spirit is crippled, and fewer dealings take place (Marx 1894: 619). However, this is only a partial effect, and Marx is careful to point out that demand for money capital differs from actual investment. Marx explicitly rejects that the demand for money capital and real capital are the same. First, Marx claims during "times of crisis the demand for loan capital and with it interest rate reaches its maximum; the rate of profit as good as disappears and with it the demand for industrial capital" (Marx 1894: 646). Second, Marx chastises Overstone for "cunningly conflating" the "trivial statement that the market interest rate is determined by supply and demand for loan capital ... with his own assumption in which loan capital is identical with capital in general" (Marx 1894: 647). Therefore, the other determinants of the demand for money capital must be revealed.

The demand for money capital is affected by things other than real accumulation. The demand for money capital also comes from speculators. The speculators appear to make a significant impact during the expansionary phase of the business cycle. Marx states that "with expansion of available money capital, the volume of interest-bearing paper, government paper, shares, etc. also expands. At same time, the demand for available money, since jobbers who speculate in this paper play a major role in the money market" (Marx 1894: 643). This would appear to contradict Lianos's (1987) assertions that speculators are incidental to Marx's interest rate theory. In fact, Lianos assigns a misleading relationship between the demand for money capital from speculators and the interest rate.[14] Finally, during a crisis the demand for real capital is almost nonexistent while the demand for money capital increases. The increased demand for money capital during a crisis arises from the function of means of payment. Money during this period is not demanded in order to make purchases, but rather to make payments for past purchases. This type of demand for money capital could be labeled a demand for liquidity.[15]

The supply of money capital is complicated because banks play an important, if

---

[14]Lianos derives a negative relationship between the interest rate and speculation. The conclusion is based on Marx's comment that monied capitalists purchase devalued fictitious capital after the crisis. Lianos simply ignores the fact that Marx gives much more weight to the role of speculation during the expansionary phase when interest rates are rising.

[15]This type of demand may actually increase prior to the crisis. For example, "...as soon as somewhat threatening circumstances lead the Bank to raise its discount rate - which at the same time makes it probable that the Bank will restrict the term of the bills of exchange it is prepared to discount - a general fear sets in that this will mount to a crescendo. Everyone, therefore, and the credit-jobber above all, seeks to discount the future and have as many means of credit as possible at his disposal at the given moment" (Marx 1894: 705).

not dominant, role. The supply of money capital is partially dependent upon saving and the factors that enter into this function. Saving which makes up part of the supply of money capital is positively related to the supply of the material capital, or productive capital. There is a "tacit connection between supply of material capital and the supply of money-capital" (Marx 1894: 548). In other words, the "increase in productive capital leads to increased demand and increased supply and also increased supply of money capital" (Marx 1894: 553). However, Marx is again careful to point out that this increased supply of money-capital is not a direct index for real accumulation. One example of this occurs immediately after the crisis when there is an abundance in the supply of money capital and little genuine accumulation (Marx 1894: 619). Marx goes through several possibilities when money-capital increases due to a decrease in prices or slowdown in accumulation. The supply of money capital then appears to be able to increase as a result of accumulation or stagnation. This simply illustrates the point that saving, as determined by income, does not form the total supply of money capital. Furthermore, Marx points out that the "deposit is money capital for depositor, but in the bank it may only be potential money capital, lying idle in his safe instead of in that of its owner" (Marx 1894: 642). It must also be noted that if investment causes saving, then banks must be able to initially create loans to finance the investment. Therefore, the direct link between saving and the supply of money capital must be broken.

A summary to this point indicates a close connection between the theories of Marx and Keynes. Both differentiate investment and saving, giving the direction of causation from the former to the latter since saving depends upon income. Both also argue that the interest rate is not determined by the interaction of saving and investment,

but rather in the money market. The step that Marx is missing, which may explain the apparent contradictions, is Keynes's distinction between *ex ante* and *ex post* saving and investment. If this distinction were incorporated into Marx's theory some of the contradictions could be resolved.[16] For example, an increase in the aggregate *ex ante* saving would indicate that many capitalists plan to sell without buying. However, the absence of purchases would imply that income does not reach the level that planned saving was based upon, thereby leading to *ex post* saving being less than *ex ante* saving. There is no longer any contradiction between the *ex ante* desire to hoard and the quantity theory of money. The quantity of money in circulation simply adjusts to the *ex post*, rather than *ex ante*, sum of prices. It is straightforward to interpret the contradiction in Volume II cited above as a problem of differentiating *ex ante* from *ex post* saving. All capitalists may desire to hoard money received from the sale of their commodities, but these desires are impossible (or, will not be realized *ex post*).

The current reconstruction can now be formalized as a model of crisis potential which looks very similar to Keynesian theory. The full employment *ex ante* saving and investment schedules are demonstrated in Figure 1. The saving schedule is positively related to the interest rate, with the investment schedule negatively related. The intersection of the two schedules could be termed the average rate of interest. This designation of the average rate of interest needs further elaboration (see below). A market interest rate below the average would correspond to a situation in which *ex ante* investment exceeded *ex ante* saving. This expansionary period of the economy creates

---

[16]Garegnani (1978: 339) argues that Marx's employment of the circuit of money should have led to the *ex ante* and *ex post* distinction.

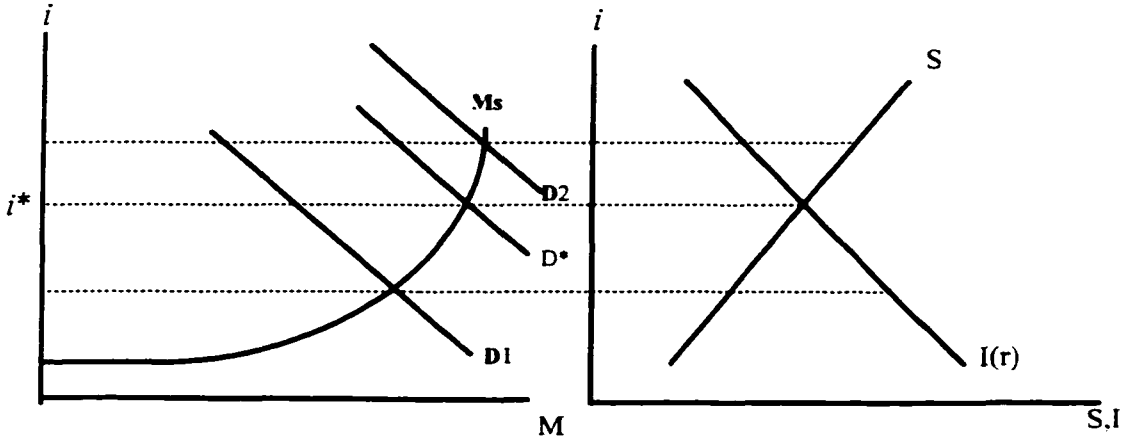

Figure 1: Saving-Investment Approach

pressure for the market interest rate to rise due to increased industrial demand and speculation. Once the market rate and average coincide the economy is in the period of prosperity. However, this period of prosperity also entails new conditions for crisis. If the market interest rate should rise above the average then *ex ante* saving will exceed *ex ante* investment causing a contraction in the economy. The contraction results from a glut of commodities on the market. This situation could develop for several reasons. First, the demand for money capital for speculation may continue to rise, pulling the market interest rate above the average. Second, Marx asserts that during the expansion industrial capitalists may switch to becoming monied capitalists. This could be interpreted as increasing the *ex ante* saving schedule thus lowering the average rate of interest below the current market rate. Third, many of the traditional factors, such as falling rate of profit and wage squeeze, could come into play to decrease the *ex ante* investment schedule and lower the average rate of interest.[17]

The intersection of the *ex ante* saving and investment schedules has been labeled the average rate of interest. At first sight this may appear to be inconsistent with Marx's denial of a natural rate of interest and further comments concerning the possibility of the average rate of interest occurring at any level. However, what has been said about this average above is not necessarily inconsistent with Marx's arguments. The second and third factors stated above leading to a crisis demonstrate that this average is in no way fixed. The average depends to a large extent on certain subjective considerations of capitalists' desire to save and invest. There is no reason for the average to occur at say

[17]Anwar Shaikh (1978) presents a detailed summary of the traditional Marxian crisis theory literature. Simon Clarke (1994) provides an historical account of the development in Marx's crisis theory, in addition to the secondary literature.

5% or 10%. Therefore, the average rate of interest may exist at any particular interest rate, provided that it normally lies below the profit rate. The notion that the average rate of interest is where saving and investment intersect implicitly relies upon the relative positions of money and industrial capitalists. Moreover, this determination may also be influenced by the banking system which determines the supply of money capital on the money market.

An important justification for this reconstruction is Marx's treatment of the movement of the market interest rate during the industrial cycle. As stated in Chapter 4, there is an important asymmetry in Marx's discussion of the average rate of interest. Marx often discusses the movement of the market rate during the expansion and therefore below the average. However, there is simply no mention of the movement of the market interest rate above the average, except during a crisis.[18] Therefore, the movement of the market interest rate is not a smooth cyclical pattern, as presented by Lianos (1987). Instead, the market interest rate rises to the average during an expansion, and then jumps to its peak during the crisis. In many ways this is similar to Keynes's discussion in the *Treatise*. Keynes demonstrates with the use of his fundamental equations that for any market rate below the natural rate (determined by the equality of saving and investment) prices will rise (Marx holds the same correspondence). The price level will fall when the

[18]This exception occurs in the following statement: "The power of the Bank of England is shown by its regulation of the market interest rate. ... But for critical moments, what banker Glyn ... testified to ... still holds true: '1709. Under circumstances of great pressure upon the country the Bank of England commands the rate of interest.' - '1710. In times of extraordinary pressure...whenever the discounts of the private bankers or brokers become comparatively limited, they fall upon the Bank of England, and then it is that the Bank of England has the power of commanding the market rate.' .... It is still a serious event in business life when the Bank puts the screw on... i.e. puts up an interest rate that is already above the average" (Marx 1894: 676-7).

interest rate is above the natural rate for Keynes (again, the same correspondence exists for Marx). The approach, however, is not without flaws. There is a significant factor that has not been taken into account. The incorporation of this factor requires a modification to the approach. The modification is taken up in Chapter 6 when presenting an third reconstruction of Marx's theory of money and crisis.

5.4 Realization of surplus-value perspective

The point that Marx was interested in uncovering the origin of surplus-value is well recognized. The related point that Marx was interested in demonstrating how the surplus-value could be realized has not received as much attention. The first point concerns the sphere of production, the second, the sphere of circulation. By understanding capital as the unity of these two spheres, a second resolution to the contradictions can be constructed. The construction of the second resolution proposes that, although related, the concern with *ex ante* versus *ex post* saving and investment obscures the issues. The Keynesian circular flow diagram, or Marx's process of reproduction, illustrates that aggregate profits can only be realized by investment or capitalist expenditures.[19] Thus, although the leakage (i.e., saving) must be balanced by injections (i.e., investment), the initial concern must deal with the origin of the money used to finance the investment. The money cannot come from saving, as a flow, since saving is generated from investment. The question of how much to save out of income, in terms of flows, must be replaced with how much to spend out of accumulated hoards (i.e., savings as a stock).

---

[19]This is a general conclusion derived by Kalecki (1968) and later developed by Minsky (1982, 1986).

In the *Grundrisse*, Marx poses the question of the realization of surplus-value in terms of the spheres of production and circulation. In the sphere of production realization appeared only to be limited by the creation of surplus-value. In terms of their unity of the two spheres, there "now appear barriers to it [i.e., production] which lie outside it" (Marx 1939: 404-5). The first barrier exists in that the commodity must satisfy a need. The second barrier is more significant in that there must appear an equivalent value for a commodity that enters circulation from production. Thinking in terms of the circuit of capital, circulation commences as a given magnitude determined by the M-C. However, at the end of the circuit a value of C' emerges equal to original value C, augmented by surplus-value. However, the circulation sphere is given by only M. Thus, there appears to be no equivalent for the surplus-value. Marx states that "as value as such, however, it seems to encounter a barrier in the magnitude of available equivalents, primarily money, not as medium of circulation but as money. The surplus-value requires a surplus equivalent" (Marx 1939: 404-5). The commodity capital emerging from production and entering circulation finds that it must meet the consumption capacity as use-value, find equivalent for its surplus-value, and finally be transformed into money. The condition for realization is, therefore, that "a constantly widening sphere of circulation, whether the sphere itself is directly expanded or whether more points within it are created as points of production" (Marx 1939: 408).

Capitalist production requires that the sphere of circulation be elastic in order to realize the surplus-value emerging from the production sphere. Marx begins to analyze the demand side of the economy in order to understand how the sphere of circulation increases. Marx approvingly refers to Thomas Malthus when proposing that the

existence of profit implies workers will never be able to realize the total value created in production. Therefore, Marx concludes that "the demand of the labourer himself can never be an adequate demand" (Marx 1939: 420–1). The sphere of circulation can only be increased by the capitalists. It is this part of the total demand which can fluctuate to create a realization problem. Marx states that "if the demand exterior to the demand of the labourer himself disappears or shrinks up, then the collapse occurs" (Marx 1939: 420-1). In contrast to the Keynesian perspective of Section 5.3, the focus has now shifted towards the expenditures of the capitalist class.

One of the features emerging from Volume II is a general conclusion, or general law, concerning the flow of money. This conclusion is reached by asking where the money comes from to realize surplus-value. Demonstrated above, the capitalist class themselves must increase expenditures in order to realize the surplus-value. The money, therefore, is advanced by the capitalist class as revenue for their own consumption in simple reproduction and revenue and capital for consumption and accumulation in expanded reproduction. Marx goes through pages of analysis in order to demonstrate this answer. The answer implies that capitalists must have access to money in the form of hoards prior to beginning the production process. Therefore, the total quantity of money must always be greater than money in circulation. The general conclusion is reached once the transaction is viewed from the opposite perspective. In other words, the capitalist class must deplete their monetary hoards in order to realize surplus-value, but then some section of society is receiving the money in the form of sales. The section of society is of course also the capitalist class. Thus, the general conclusion is that money returns to its point of departure. In the schemes of reproduction, Marx is able to provide

a more detailed analysis of the flow of money. For example, the capitalists in department 2 initially advance money for wages and means of production. The money advanced for wages flows back to these capitalists when workers spend it to purchase means of subsistence. The money that goes towards the purchase of means of production eventually flows back to capitalists in department 2 once the capitalists in department 1 purchase consumption goods. Finally, capitalists in department 2 also purchase consumption goods for themselves with money hoards, thus realizing their surplus-value. The general law has been labeled the law of reflux in classical monetary theory. The conclusion can be succinctly stated as capitalists get what they spend (Kalecki 1968).

In Volumes I and II hoards play a passive role. However, the formation of these hoards are an essential part of the capitalist reproduction process. In Volume I, hoards are the mechanism for adjustment of the quantity of money. In Volume II, the existence of hoards is necessary to meet the changing monetary needs associated with the various turnover periods. Once fixed capital is introduced into the schemes of reproduction hoards necessarily form as a result of the passing on of value over several production periods. In addition, the hoards associated with fixed capital are necessary since money must be thrown into circulation all at once in order to purchase this type of capital. In general, since commodities must be realized in the money-form then it is always possible for this realized value to exist as monetary hoards for a longer or shorter period of time. Thus, an expanded scale of reproduction requires that monetary hoards increase as a result of increases in surplus-value. These hoards, however, respond passively to the reproduction process thereby adjusting to turnover times, fixed capital, and various other factors.

The nature of monetary hoards changes in Volume III. Marx anticipates these changes in Volume II when remarking upon the credit system:

> It is easy to understand the satisfaction evinced when the credit system concentrates all these potential capitals in the hands of banks, etc., makes them into disposable capital - 'loanable capital' - i.e. money capital, no longer passive and, as it were, a castle in the air, but active usurious, proliferating capital. (Marx 1885: 569)

The hoards then go from being merely a passive part of the capitalist production process to one which is active when under the control of banks and other monied capitalists. This in turn implies that new forms of crisis may arise. The banking and credit system begins to be viewed as a two-sided process, helping to overcome barriers while also creating new conditions for crises:

> The fact that the production of commodities is the general form of capitalist production already implies that money plays a role, not just as means of circulation, but also as money capital within the circulation sphere, and gives rise to certain conditions for normal exchange that are peculiar to this mode of production, i.e. conditions for the normal course of reproduction, whether simple or on an expanded scale, which turn into an equal number of conditions for an abnormal course, possibilities of crisis, since, on the basis of the spontaneous pattern of this production, this balance is itself an accident. (Marx 1885: 570-1)

Chapter 2 demonstrated that the first few chapters of Part 5 introduce a new and special commodity, i.e., capital. Prior to Part 5, commodities and money took the form of capital (money as capital or commodity as capital) only from the perspective of the whole circuit of capital or subjectively for its owner. However, interest-bearing capital is <u>capital as capital</u> which becomes a commodity. This is a special commodity because, like labor-power, its consumption creates value. The value of this commodity, again like labor-power, is socially determined. The important point for the current chapter is that this commodity allows capitalists to actively accumulate outside of production, whereas

before, money not used for production sat idle in a hoard outside of the sphere of production. Interest-bearing capital allows the monetary hoards to accumulate and therefore may become a motive for the capitalist. In other words, accumulation as the motivating factor of the capitalist can now take the form of money accumulation or real accumulation.

The possibility introduced by interest-bearing capital for monetary hoards to accumulate must be incorporated into the second resolution. Clearly the interest rate must play a role by establishing the rate of money accumulation. According to Marx, the market interest rate rises during the expansionary phase of the business cycle. Furthermore, speculation in fictitious capital is an important factor which raises the market interest rate to its average. Therefore, the value of the monetary hoards, in the form of interest-bearing capital, will rise during the business cycle. If the value of monetary hoards continues to rise during the expansionary phase, then capitalists may choose to accumulate in the form of money, rather than dishoard in the form of real accumulation. Once this occurs a general crisis of overproduction is possible. This result corresponds to characteristics of a general overproduction described in the *Grundrisse*:

> In a general crisis of overproduction the contradiction is not between the different kinds of productive capital, but between industrial and loanable capital - between capital as directly involved in the production process and capital as money existing (relatively) outside of it. (Marx 1939: 413)

Once a disproportion exists between loanable capital (i.e., interest-bearing capital) and industrial capital, then a crisis of overproduction occurs. The crisis of overproduction represents a situation in which commodities cannot be realized. If the debt obligations taken on by firms during the expansion cannot be met out of realized surplus-value, then

an increased demand for money as means of payment arises. However, banks are unwillingly to meet these demands, due to the expectation that firms will not be able to make repayments, and the interest rate rises rapidly.

The shift from focusing on saving as a flow to savings as a stock appears consistent with Marx's emphasis. Value must be realized in its money form which implies that it immediately becomes money capital. This means that all income, at least temporarily, becomes money capital for loan, or is saved, as deposits in the banking system. The banks' source of money capital for making loans consists of: (1) acting as the cashiers of industrial capitalists, which place their reserve funds with the banks in order to meet their flows of payment, (2) from revenues of all classes, especially capitalists, which will only be consumed gradually overtime, and (3) from deposits placed with the bank from monied capitalists (Marx 1894: 528-9). An important implication that Marx derives from this is that clearly not all saving, or money-capital, will be used for real accumulation. In other words, one source of money capital for banks comes from money placed with them for the eventual expenditure as revenue for consumption. Within the banks, all money becomes a potential source of loan capital, thus completely obliterating the identity of loan capital and real accumulation (or saving and investment). The focus has shifted from how much is saved out of current income to the type of saving that occurs. Marx held that over the course of the business cycle a shift would occur from industrial capital to money capital which is represented above by the third source of bank capital. A further analysis of the behavior of the banking system is required.

By focusing on the expenditures and stock of hoards the second resolution makes

a direct link to the study of the banking and credit system. Investment in constant and variable capital continues to generate new saving. Therefore, the initial financing must come from accumulated hoards, either the capitalists' own or borrowed monetary hoards. The banking and credit system are therefore an important part of the initial step of the circuit of capital. Marx in fact makes reference to this role of banks in Volume II when the general law of reflux is applied to initial advances by banks. The general law of reflux implies that the money advanced by the banking system must eventually flow back to its source. Furthermore, banks do not have to wait passively for deposits. Banks have the ability to create credit-money and capital in order to make the initial advances and expand the reproduction process. Marx discusses three ways in which banks can create credit and capital. First, banks may issue their own banknotes. Second, banks create credit "by writing drafts on London running for up to 21 days, which will however be paid to them in cash immediately when they are written" (Marx 1894: 677). Third, credit is created by reissuing bills of exchange "whose credit worthiness is created first and foremost by the endorsement of the bank, at least for the district in question" (Marx 1894: 677). The banks' ability to create credit gives them the power to push the accumulation process beyond the barriers set by the sphere of production, and frees them from the constraints of relying on past accumulation for potential money capital.

The banks' ability to create credit and capital exhibits clearly their double nature. The banking and credit system "on the one hand seeks to press all money capital into the service of production ... it is this elaborate credit and banking system that makes the entire organism *oversensitive*" (Marx 1894: 706). The historical role of the banking and credit system is thus two-fold. On the one hand, the banking and credit system

"accelerates the material development of the productive forces and the creation of the world market" (Marx 1894: 572). On the other hand, the banking and credit system encourages periods of crisis to occur within the existing mode of production. Marx argues that the "entire interconnection of the reproduction process rests on credit" and therefore if credit is withdrawn a crisis follows (Marx 1894: 621).

Marx's explanation of the crisis associated with the banking and credit system is very important. The explanation suggests a dual causation. Marx writes that the interruption in the chain of payments is both cause and effect of the crisis:

> This interruption itself is in part the effect, in part the cause, of the collapse of credit and the circumstances that accompany it: flooding of markets, devaluation of commodities, interruption of production, etc. (Marx 1894: 592)

The crisis appears to be, and actually is, a credit or monetary crisis. The crisis is one of not being able to convert bills of exchange into money. It is a question of not being able to get money for devalued commodity capital and fictitious capital. The lack of means of payment is caused by the inability to convert bills of exchange.

The above discussion points to an interpretation which no longer relies solely on the industrial capitalists' decision to spend part of their hoards. In fact, a point is reached when their hoards may not be sufficient to realize the surplus-value. If banks have been creating credit-money in order to finance the production process, then according to the general law of reflux this money must return to the banking system. Marx provides various illustrations of how this procedure may occur. First, a bank may pay notes to an individual A, against securities, and A makes a payment to B who then deposits the money back into the banking system; the circulation process stops here except for the

loan repayment by A. Second, the bank issues notes to A who pays B, who then pays C who then deposits with the bank again. Third, the bank may open a credit account for A who then pays his creditors B with checks on A's bank; B then deposits with his bank which makes a claim at the clearing house. In this case the bank has advanced A part of its banking capital (Marx 1894: 586-7). This process of creating credit-money and its return to the banking system implies that the reproduction process comes to depend on the continued advancement of money by the banks. It is in this sense that the system has become in Marx's term "oversensitive." It is now clear why Marx argues that once the "entire interconnection of the reproduction process rests on credit" any withdrawal of it will result in a crisis (Marx 1894: 621). As long as the hoards by capitalists were sufficient to realize values produced then a withdrawal of credit did not necessarily lead to a crisis.

This second resolution focuses on the realization of surplus-value in order to resolve the contradictions stated at the beginning of the chapter. The apparent contradictions that arise in Volumes I and II result from the method of presentation. In Chapter 3 of Volume I, the theory is built within a simple commodity production economy. This type of economy does not allow for an analysis of the realization of surplus-value. The possibility that money will be held in a hoard after sale remains only a possibility without economic motivation. This is consistent with Marx's qualification that "the development of this possibility into a reality a whole series of conditions is required, which do not yet even exist from the standpoint of the simple circulation of commodities" (Marx 1867: 209). The apparent contradiction in Volume II rests on a similar problem. Surplus-value has of course been introduced; however, hoards are

purely passive at this stage. Again, there is a possibility for everyone to hoard, but the economic motivation is lacking. The contradictions are more apparent than real since the statements by Marx only anticipate later theoretical developments. Once surplus-value and active hoards (i.e., hoards with the possibility to accumulate outside of production) are introduced into the theory, then the previous contradictions are resolved.

The only apparent contradiction that needs to be dealt with is the one that occurs in Part 5. This is a particularly difficult contradiction to handle since all the various factors appear to be in place. The contradiction under consideration is that on the one hand banks accommodate the needs of business. Nowhere is this made clearer than when Marx criticizes those who deny that expansion of production cannot occur without increasing the interest rate:

> To maintain that an increase in production, even a very substantial one, cannot take place without driving up the rate of interest is sheer foolishness. Monetary accommodation may grow, i.e. the sum of dealings in which credit operations are involved; but these operations can increase while the given rate of interest remains the same. (Marx 1894: 711-2)[20]

---

[20]The description of the banks and money supply leads to the conclusion that Marx held a very sophisticated endogenous money theory. Some economists have seen this aspect in Marx's work (e.g., Wray, 1990 and Moore, 1988) but concentrate on the development in Chapter 3 of Volume I. However, it is only in Part 5 where Marx really anticipates some of the work being conducted today. The post-Keynesians are currently in an important debate about what exactly endogenous money implies; e.g., Moore's horizontalists versus verticalists literature. It is possible to demonstrate a connection to Marx on this basis. Two additional comments on this point by Marx are worth mentioning. First, " The note circulation is not only independent of the will of the Bank of England, it is equally independent of the state of the gold reserve in the Bank's vaults, which is what ensures the convertibility of these notes. ... So it is simply the needs of business itself that exert an influence on the quantity of money in circulation - notes and gold" (Marx 1894: 658-9). Second, "In as much as the Bank issues notes that are not backed by the metal reserve in its vaults, it creates tokens of value that are not only means of circulation, but also form additional - even if fictitious - capital for it, to the nominal value of these fiduciary notes" (Marx 1894: 675).

On the other hand, a crisis results when credit is withdrawn. The credit seems to be withdrawn when "banks begin to scent danger as soon as their clients deposit more bills of exchange with them than money" (Marx 1894: 580). The problem boils down to the following; the withdrawal of credit causes a crisis, and a crisis causes the withdrawal of credit. The problem appears to be similar to the one found in *Theories of Surplus Value.* It was observed that a general excess supply of commodities was possible due to an excess demand for money. However, does the excess supply of commodities cause the excess demand for money, or the other way around?[21]

The resolution to the problem provided by the current alternative formulation appears consistent with Marx's dual causation. First, the accommodative nature of the banking system has been shown to lead to a situation in which the realization of commodities is impossible without further credit creation. This is consistent with Marx's assertion that the banking and credit system force the reproduction process beyond its boundaries. Second, the introduction of interest-bearing capital, as the basic unit of the banking and credit system, introduces the possibility and motivation for the accumulation of hoards outside of the sphere of production. This implies the possibility of an imbalance between interest-bearing capital and industrial capital (i.e., money accumulation and real accumulation). This imbalance takes the form of a crisis of overproduction since capitalists are not willing to part with their hoards. Third, the crisis of overproduction reacts back on the banking system when banks begin to "scent danger." At this point, a qualification is required to the statement concerning the accommodative

[21]In many ways the difficulty seems to be that we are trying to argue causation within a general equilibrium framework.

nature of banks. The banks may not accommodate the demand for money originating from the need to make payments, as opposed to money for new purchases. As profit driven firms, banks may refuse to accommodate demands when the likelihood of repayment becomes scarce. At the very least, the banks may require higher interest rates to meet these demands. During a crisis, however, firms are forced to accept the higher interest rates.[22]

5.5 Summary

Two alternative formulations have been presented in order to resolve some apparent contradictions in Marx's monetary and crisis theories. The first formulation resolved the contradictions by incorporating the Keynesian distinction between *ex ante* and *ex post* flows of saving and investment. The second formulation resolved the contradictions by concentrating on the expenditures out of the stock of monetary hoards and the levels of presentation utilized by Marx.

The two alternative formulations carry implications for the integration of Marx's theory of money and crisis. Each formulation has demonstrated the dual causation of crisis between the monetary and real sides of the economy. The possibility of crisis developed from the introduction of money cannot move to actuality without incorporating

---

[22]During the expansion, money capital "is applied on an increasing scale but at a very low rate of interest, since it is now the industrial and commercial capitalists who set terms to the money capitalist" (Marx 1894: 626). This points to the post-Keynesian notion that credit money is demand driven. The idea of the Horizontalists, and leading exponent Moore (1988), is that the quantity of credit-money is demand determined whereas the interest rate is fixed exogenously by banks. Compare this to what has already been stated regarding Marx's endogenous credit money and the following statement on the interest rate: "Variations in the rate of interest (setting aside those taking place over longer periods....) depend on the supply of loan capital (all other factors, the state of confidence, etc., taken as equal), ..." (Marx 1894: 631).

real factors. The dual causation of the two formulations implies that any real theory of crisis, in the cyclical sense, will need to incorporate a monetary analysis in order to move from possibility to actuality. The chapter has attempted to move from Marx's abstract level of analysis to a more concrete level. At the abstract level, a crisis breaks out when money is called upon to be simultaneously the particular and general commodity (Hunt, 1986). The resolutions demonstrate that this is precisely what occurs at the more concrete level when "a whole series of conditions" have been incorporated which did not exist at the more abstract level.

The chapter has attempted to come to grips with some of the difficulties in the connection between money and crisis. During the course of the discussion there have been points which appear to need further research. A better understanding of Marx's banking firm is needed in order to present a more detailed analysis of crisis. Clearly, more research is required to understand Marx's distinction between money and real accumulation and how this would relate to the modern treatment of saving and investment. Marx's development of a theory of endogenous money needs to be treated in greater detail to understand its implications. It is interesting to see that some of these issues are being debated today in the post-Keynesian literature. One such example can be seen in the debates between the post-Keynesians and the French circulation approach. Both of these schools rely on endogenous money but disagree on its implications and the nature of crisis. The interesting aspect is that some of these debates essentially hinge upon which alternative resolution presented here is ultimately accepted.[23] Part 5 appears

[23]The Circulation Approach rejects the *ex ante* saving and investment distinction (i.e., Keynesian Perspective), choosing to focus more on the initial financing (Realization of Surplus-Value Perspective). In their introduction, Deleplace and Nell (1996) present

to be a crucial step in further developments of these subjects and the inclusion of specifically Marxist economics into the current debates.

---

some of the common features of these two schools of thought, as well as their points of disagreement. Many of the points of disagreements can be found in Marx's apparent inconsistencies, which suggest that Marx may have been struggling with the same issues that these two schools are debating.

CHAPTER 6

A MODIFIED SAVING-INVESTMENT APPROACH

Chapter 1 listed several ways to approach the history of monetary theory. One way to begin would be by placing economists on the side of the quantity theory or its critics, such as the Currency versus Banking School. Alternatively, the study could employ a dichotomy between the approaches using the quantity theory of money or saving-investment framework. The current chapter proposes to use the saving-investment approach as a benchmark for studying the monetary theory of Marx and Keynes.

Chapter 5 attempted one reconstruction of Marx's monetary theory from a Keynesian perspective. In this chapter, it will be demonstrated that there exists a fundamental flaw in this interpretation which requires a modification. Once the modification is made the two alternative resolutions presented in the previous chapter become closer in some essential aspects. Moreover, the modification to Marx's work makes a direct connection to the early drafts of Keynes's *General Theory*.

The saving-investment approach to monetary theory has a long and distinguished history. Axel Leijonhufvud (1981, 133) takes as the starting point of the saving-investment approach the writings of Knut Wicksell. T.M. Humphrey (1993) has traced the origins of this approach prior to Wicksell in the writings of Henry Thornton (1802) and Thomas Joplin (1832). Many of the basic features of this approach can be illustrated using Keynes's *Treatise*. The chapter will therefore begin with a brief discussion of the

theoretical framework of the *Treatise* in order to review the saving-investment approach. The natural rate of interest will be one of the key features in this approach and a point of transition to a modified approach.

The chapter includes an interpretation of Keynes's theory in order to draw attention to the line of transition in the history of monetary theory. At least since the publication of the *General Theory* there have been attempts to reconcile the theories of Keynes and Marx (see for example Alexander 1939-1940, Dillard 1984, and Fan-Hung 1939-1940). In recent years there has been an attempt to make the connection between the classical school and the theories of Marx and Keynes via the average rate of interest.[24] This link is sometimes stated explicitly and other times left implicit. It is somewhat surprising that the authors writing in this general area could not be considered Marxist economists. It is mainly the economists of the post- Keynesian school that have argued for a connection between Keynes and Marx via the average rate of interest. The difficulty is that although the connection is made, Marx's work in this literature is not developed in detail.

The writings of Keynes have received so much attention that another rehashing might appear tedious. However, in many instances developments in modern literature allow for new insights to be obtained in the of history of economic thought. In terms of this chapter, the relevant developments in modern literature have been due to the resurfacing of the endogenous money supply theories being worked out by post-Keynesian economists. The work of the French circulation approach can also be credited

[24]The work by Panico (1988), Pivetti (1991), Rogers (1989), and Moore (1989) all contain some element of forging a reconciliation by using the average rate of interest.

for creating new insights into the history of economic thought. This literature has resulted in questioning the basic features of the economics of Keynes and the standard interpretations. Two of the most prevalent questions arise concerning the saving-investment distinction and the multiplier analysis. The French circulation approach, along with Basil Moore's ideas (1988), attempts to demonstrate that the *ex ante* and *ex post* distinctions are not valid since saving and investment are always identical. The new literature on endogenous money has also questioned the theoretical validity of the multiplier analysis. The debate surrounding this issue, characterized by Allin Cottrell (1994) and Basil Moore (1994), may also provide new insights into the work of Keynes. The current chapter may shed light on some of this new literature by investigating the possibility for an interpretation of Keynes's monetary theory as leading towards a modified saving-investment approach.

Previous chapters have already dealt significantly with the body of work on monetary theory left by Marx. The aspect of his monetary theory has traditionally not been studied as much as other parts of the theory (De Brunhoff 1976, and Hilferding 1910 are notable exceptions). However, Marx's monetary theory received renewed interest during the 1980s from papers by Crotty (1985, 1986, 1987), Kenway (1980), Lavoie (1983, 1986), Parson (1988), Roche (1985), and Shuklian (1991).[25] Much of this literature attempted to demonstrate the disequilibrium and crisis effects that money initiates. The theme of this literature is the connection between Marx's monetary theory and the possibility for crisis.

---

[25]Other works of interest during this period are Foley (1982, 1983), Lianos (1987), and Lipietz (1982, 1985).

During the 1990s there had been another attempt to investigate Marx's monetary theory, this time focusing on the financial system as found in Part 5. A recent publication edited by Riccardo Bellofiore (1998) having its origin in a conference on Volume III, along with the spring 1997 issue of the *International Journal of Political Economy* which devotes the entire issue to papers on Marx's monetary theory in Part 5, are indications that this work still holds out hope of being incorporated into the main body of Marxian economics. Although this literature correctly directs attention to the part of the theory in need of development, it remains incomplete. The literature concerning Marx's monetary theory seems to isolate him from the history of economic thought. By placing Marx close to the saving-investment approach and even closer to Keynes, the chapter also attempts to place his work within the history of monetary theory.

The current chapter argues that a possible link between Keynes and Marx may exist in the form of a modified saving-investment approach to monetary theory. It is argued that the *Treatise* provides a better way in terms of methodology and dynamics as a means of linking the monetary theories of Marx and Keynes. However, the method of the *Treatise* lies squarely within the traditional (or, Wicksellian) saving-investment approach. It will be seen that this approach cannot incorporate many of the economic aspects which Keynes and Marx wished to investigate. The chapter proposes that both Keynes and Marx laid the foundations for an alternative framework which could be labeled as a modified saving-investment approach.

The chapter will attempt to demonstrate the above proposition in the following three sections, with a final section for concluding remarks. Section 6.1 summarizes the relevant features of the *Treatise* in order to review its foundation in the traditional saving-

investment approach and demonstrate its classical features. Section 6.2 demonstrates that although Marx fits within a saving-investment approach, it is not an easy fit. It will be shown that a modified saving-investment approach can be constructed from Marx's writings in order to describe a theory of the business cycle. One of the important features of this reconstruction will be its ability to demonstrate Marx's proposed interaction between the profit rate and interest rate. Section 6.3 will use Keynes's early drafts for the *General Theory* to demonstrate a possible shift toward a modified saving-investment approach. A final section makes some comments on qualifications to the results and further considerations.

6.1 Keynes's *Treatise on Money*

The influence of Alfred Marshall on Keynes's *Treatise* and *General Theory* has been examined by many economists (Bigg, 1990; Panico, 1987; Rogers, 1989). Marshall's work is based in classical concepts augmented with marginalist tools. The method employed by Keynes in the *Treatise* appears consistent with a classical interpretation (Erturk 1996). In this section, two aspects of the method in the *Treatise* will be considered. First, the notion of equilibrium will be considered. Second, the method of analysis employed by Keynes will be examined.

The notion of equilibrium in the *Treatise* refers to a position of equalized rates of profit. Clearly the equilibrium used in the *Treatise* is consistent with that of Marshall's long-run equilibrium characterized by normal profits. Furthermore, this is closely related to the notion of equilibrium employed by the classical economists and Marx. In the classical and Marxian framework once profit rates are equalized market prices correspond

to their natural price (Smith and Ricardo), or price of production (Marx). The natural price acts as a center of gravitation for market prices. The dynamics are well spelled out in the sense that competition ensures that capital migrates from low profit rate sectors to high profit rate sectors. In the two sector model of the *Treatise*, equilibrium requires uniform rates of profit between consumption and investment goods sectors which implied that long-run prices simply equaled normal costs, or costs plus the normal return. This is a different notion of equilibrium than the ones Keynes settled on in the *General Theory* where the "underlying notion of equilibrium became that of a *position of rest* that was based not on the balance of optimising choices as in neoclassical theory but on the accuracy of expectations" (Erturk 1996: 8).

The notion of equilibrium attributed to the classical economists, Marx, and Keynes of the *Treatise* can be compared with neoclassical general equilibrium theory. Equilibrium in neoclassical theory is based on the satisfaction of agents' desires. The important conceptual implication is that the equilibrium is a microconcept, rather than a macroconcept concerned with the ability of the society to reproduce itself as in the classical theory. Erturk (1996: 5) argues that the neoclassical notion of equilibrium refers "to the market's ability to transform independent and possibly incompatible choices and claims of agents into an harmonious, and thus stable, outcome." The important technical implication is that the neoclassical equilibrium does not require profit rates to be equalized (Walsh and Gram, 1980). Rogers (1989) has argued persuasively that this result along with the capital debate ultimately destroys any notion of a natural rate of interest. The important point for the current chapter is that the *Treatise* offers a notion of equilibrium compatible, if not identical, to the classical economists and Marx.

The second point to be considered is the method of analysis employed in the *Treatise*. The *Treatise* employs a sequence analysis, rather than a static equilibrium method. Edward J. Amadeo (1989: 17), following to some extent G.L.S. Shackle (1974), has been able to characterize Keynes's transition from the *Treatise*, the drafts, to the *General Theory* as a transition in method from "historical statics and dynamics" to "equilibrium dynamics" and finally "equilibrium statics." A short-run period in historical time is referred to as a production period. It is this production period analysis which is used in the *Treatise*. The production period is characterized by firms forming expectations concerning the market price and thus determining output and employment decisions. The sequence of production periods are then connected by changes undertaken by firms when expectations are not fulfilled. These changes take the form of price or inventory adjustments. Amadeo (1989: 17) argues that in the "historical dynamic" method of the *Treatise*:

> [T]he representative single period is the production period. The equilibrium position, and hence the equilibrium period, does not play an important role in the analysis. In fact, the lack of a definite set of equilibrating mechanism (or reaction functions) precludes the analysis of definite configurations associated with an equilibrium position. (Amadeo 1989: 17)

Although accepting much of Amadeo's claim, the current interpretation suggests that the natural rate of interest operates as an equilibrating mechanism in the *Treatise*.

The traditional criticism of the *Treatise* model is the assumption of constant output. However, this traditional interpretation has been discredited by Amadeo. The use of a period of production method made it appear that output remained constant. However, this was only true within the period. Moreover, in response to criticism from

Joan Robinson, Keynes argued that he held output constant only when deriving the fundamental equations (Keynes 1973a: 270). Two points can be noted before proceeding. First, although Keynes does in fact discuss changes in output after developing the fundamental equations, the discussion is not systematic. Second, the long-run equilibrium position does in fact have the assumption of full employment. It becomes clear in the drafts of the *General Theory* that Keynes began working out a systematic treatment of changes in output within the framework of the *Treatise*.

The theoretical framework of the *Treatise* consists of two fundamental equations. These equations were supposed to lay bare the causal process hidden in the various versions of the quantity theory of money (Keynes 1971: 120). The causal mechanism in the fundamental equations becomes explicit as the difference between saving and investment. It is in this sense that the *Treatise* can be thought of as an attempt to break away from the quantity theory and move toward the saving-investment approach. The uniqueness in Keynes's approach, as compared to Wicksell for example, is the explicit treatment of windfall profits and losses as the "mainspring of change." This phrase, emphasized by Amadeo (1989) and repeatedly referred to in the *Treatise*, will be used in the reconstruction of Marx's monetary theory.

The fundamental equations represent the theoretical framework of the *Treatise*. The equations are well known and therefore will be stated here without derivation.

$$P = \frac{E}{O} + \frac{I - S}{R} \tag{6.1}$$

$$\Pi = \frac{E}{O} + \frac{I - S}{O} \tag{6.2}$$

Equation 6.1 is the price level (P) for the consumption goods sector. Equation 6.2 is the overall price level (Π). The first term in both equations represent costs of production, or the rate of efficiency earnings, where earnings (E) is divided by output (O) . The second term in equation 6.1 represents windfall profits for consumption good producers when the cost of investment (I') exceeds saving (S). The second term in equation 6.2 represents total windfall profits when the value of investment (I) exceeds saving (S). Therefore, the long-run equilibrium is reached when the second term in each equation drops out and prices equal costs, including normal profits.

The peculiar definitions of income and saving need further consideration. Initial comments will be made now with more detailed considerations in Section 6.3. Income in the *Treatise* refers to the costs of production and includes a normal return on capital, or normal profits. The normal profits are not defined explicitly except with the idea that they leave the owner without any incentive to change his current decisions (Keynes 1971: 112). A distinction will be made later between income and earnings. The definition of income used here will later take the label of earnings. Saving is defined as income minus consumption. However, it is the definition of income that creates certain difficulties. Since income does not include windfall profits or losses, saving is not defined exactly as in the *General Theory* or subsequent literature.

Following Amadeo (1989), the saving and investment functions can be written as $S(r)$ and $I(r)$, where r is the natural rate of interest. Keynes defines the natural rate of

interest in the manner of Wicksell as the interest rate which will just make saving and investment equal (Keynes 1971: 139). The market interest rate is determined by the public and banking system. Moore (1988) has demonstrated convincingly that within the *Treatise* Keynes employs an endogenous theory of the money supply. The current interpretation differs with Moore only in the sense that the money supply is not perfectly horizontal. In discussing the turning point of an expansion, Keynes states:

> [T]he requirements of the industrial circulation will be increasing-first of all to look after the increased volume of employment and subsequently to look after, in addition, the increased rates of remuneration. A point will come, therefore, when the banking system is no longer able to supply the necessary volume of money consistently with its principles and traditions. (Keynes 1971: 272)

The endogenous nature of the money supply is not being questioned, only Moore's contention that the money supply is perfectly horizontal. Immediately following the previous quotation, Keynes is astonished at "how large a change in the earnings bill can be looked after by the banking system without an apparent breach in its principles and traditions" (Keynes 1971: 272). The money supply schedule is not perfectly horizontal, but rather begins to rise at some point (see Figure 1 in Chapter 5). Although Keynes offers two other mechanisms which may cause a turning point in the expansion (i.e., attraction of new investment and change in the price level of consumption goods), the natural rate of interest can still be thought of as a center of gravitation for the market rate.

The disagreement with Amadeo concerning an equilibrating mechanism in the *Treatise* can now be illustrated. Suppose initially that the market interest rate is below the natural rate. In this case, windfall profits will arise due to the value of investment exceeding saving. The windfall profits, and hence higher than normal prices, will initiate

an expansion calling forth an increase in the demand for bank money. Eventually, if other factors do not come into play, this process will put pressure on the market interest rate to rise until it reaches the natural rate. The windfall profits disappear, and prices are again associated with costs of production. The natural rate of interest then acts as an equilibrating mechanism (or, a center of gravity in classical terminology). W.B. Gaynor (1992) has given a clear recognition of the importance that the natural rate of interest plays in the *Treatise*. Gaynor writes that the "element put forward in this monetary tradition to maintain the smooth process and the perpetual full-employment economy is the natural rate itself. It acts as a centre of gravity" (1992: 58). The use of the natural rate of interest in the *Treatise* makes a direct link to the traditional saving-investment approach as developed by Wicksell and the Stockholm school.

One of the problems in the *Treatise* analysis concerns the investment schedule during an adjustment process. This problem was pointed out by Shackle (1967) and again by Gaynor (1992). Formally, if the natural rate of interest is to play the role of an equilibrating mechanism, then the saving and investment schedules must remain stationary. However, in certain points of the discussion Keynes does allow this natural rate of interest to drift. A distinction must be made between an exogenously given change in the natural rate (e.g., productivity of capital changes over time) and a change that occurs during the adjustment process itself. The current problem arises when the natural rate changes during the adjustment process. Once the investment schedule is allowed to shift during the process of adjustment, then the natural rate of interest could no longer act as a center of gravitation. However, Keynes allows for both types of changes. In the following quotation, it will be observed that Keynes allows the natural rate to

adjust because of a change in the market rate.

> As we have hinted above, a change in bank rate may itself alter the natural rate of interest in the opposite direction to that in which bank rate has been changed, by altering expectations as to the future course of prices. For example, if bank rate *falls*, this tends to *raise* the natural rate of interest, if it arouses expectations of a tendency towards rising prices, thus increasing the attractiveness of investment in terms of money. (Keynes 1971: 189)

Once this is accepted as a possibility, then the natural rate is lost as an anchor for the system. Using Keynes's example, the decline in the bank rate would cause an increase in the natural rate only if the investment schedule shifts outward. The investment schedule would then be allowed to fluctuate for changes in the market interest rate. Gaynor (1992: 60) has pointed out that the investment "shifts are not lost on Keynes in the *Treatise*, he simply fails to integrate them fully, but through them the theory he has built around the quantity theory and a stationary or steady state breaks down." These points can be seen in the transition from the *Treatise* to the *General Theory*, which was marked by a systematic treatment of investment and the abandonment of the natural rate of interest.

The saving-investment approach to monetary theory appears to require a natural rate of interest for its equilibrating mechanism. Wicksell used the concept to demonstrate one condition for a monetary equilibrium. The natural rate referred to the productivity of capital or the rate that would exist without money (see Blaug 1985, and Rogers 1989). However, as pointed out in Chapter 4, the capital debate seems to have ruled out a natural rate of interest associated with the productivity of capital (see Moore 1988, and Rogers 1989). The notion of equilibrium in neoclassical general equilibrium which lacked the necessity of equalized profit rates also seems to shut the door on this approach to a

natural rate of interest. These points in association with what has been said above concerning the *Treatise* requires an abandonment or modification to the saving-investment approach.

The theories of Marx and Keynes appear to offer the preliminaries for a modified saving-investment approach to monetary theory. These theories are not developed to any great extent in their writings for various reasons. In the case of Keynes, this modification appeared to be only in the beginning stages during the early drafts of the *General Theory*. However, due to the change in method this possible alternative was abandoned. As argued persuasively by Amadeo (1989), Keynes in the *Treatise* and early drafts employed a process analysis but in the *General Theory* opted for an equilibrium analysis. The subsequent literature, interpreting the *General Theory* embraced an approach which depended upon the distinction between *ex ante* and *ex post* investment. In the case of Marx, the theory was not developed due to the lack of a well understood saving-investment approach and the incomplete nature of Part 5. It has been demonstrated in previous chapters that many of the insights that Marx obtained concerning the role of money and financial institutions were simply not incorporated into the main body of literature in Marxian economics.

Some of the new literature on Marx and Keynes offers a point of commonality centered upon the notion of the average, or long-run, rate of interest. The average rate of interest replaced the concept of a natural rate of interest in the work of both Marx and Keynes. Keynes progressively moved away from using the natural rate of interest until finally in the *General Theory* it was explicitly rejected. Marx, on the other hand, rejected the natural rate of interest from the outset for reasons explained in Chapter 4. The

reasons for the rejection of the natural rate of interest represent a similar critique of the traditional theory for Marx and Keynes. A rational reconstruction of Marx's work intended to identify a saving-investment approach without the incorporation of a natural rate of interest is presented in the following section.

6.2 Marx's modified approach

Marx did not frame his monetary theory within a saving-investment approach. However, Chapter 5 demonstrated that the system of thought that Marx was developing appears to lend itself to such an interpretation. Although such an interpretation appears possible, ultimately it cannot be made the basis for Marx's monetary theory because of his rejection of the natural rate of interest. Alternatively, it does not seem valid to attempt to incorporate the *ex ante* and *ex post* distinction within Marx's framework, as Garegnani (1978: 339) claims, because the "mainspring of change" is profits, not changes in the inventory of final goods. In other words, the driving force of change is the movement of the profit rate rather than unfulfilled expectations. This is not to say that expectations could not be brought into the theory. The argument here is that Marx puts primary importance on movements in the profit rate.

The reconstruction that will be presented in this section is designed to address certain propositions that have been pointed out in previous chapters. The propositions consist of the following:

(1) [T]he accumulation process proper is promoted because the low interest rate ... increases portion of the profit that is transformed into profit of enterprise. This is all the more so when interest rises to its average level during the height of the prosperity period; although it has risen, it has not done so in relation to profit. (Marx 1894: 627)

(2) As long as the *social* character of labour appears as the *monetary existence* of the commodity and hence as a *thing* outside actual production, monetary crisis, independent of real crises or as an intensification of them, are unavoidable. (Marx 1894: 649)

(3) In a general crisis of overproduction the contradiction is not between the different kinds of productive capital, but between industrial and loanable capital - between capital as directly involved in the production process and capital as money existing (relatively) outside of it. (Marx 1939: 413)

(4) In a system of production where the entire interconnection of the reproduction process rests on credit, a crisis must evidently break out if credit is suddenly withdrawn and only cash payment is accepted, in the form of a violent scramble for means of payment. At first glance, therefore, the entire crisis presents itself as simply a credit and monetary crisis. And in fact all it does involve is simply the convertibility of bills of exchange into money. The majority of these bills represent actual purchases and sales, the ultimate basis of the entire crisis being the expansion of these far beyond the social need. (Marx 1894: 621)

(5) This interruption itself is in part the effect, in part the cause, of the collapse of credit and the circumstances that accompany it: flooding of markets, devaluation of commodities, interruption of production, etc. (Marx 1894: 592)

The reconstruction that follows will attempt to address these propositions by developiong a modified saving-investment approach. The approach will use the saving and investment relation as a mechanism for determining profits. It will be argued that this relation is intimately tied to the realization of surplus-value discussed in Chapter 5. The market interest rate will continue to be determined in the money market as presented by Marx. However, the average rate of interest will not be determined by the intersection of stationary saving and investment schedules. This marks a difference with the Keynesian perspective offered in Chapter 5.

The first step in the construction of a modified saving-investment approach from Marx's writings will be to demonstrate the problem associated with the Keynesian

perspective of Chapter 5. The realization problem will be reviewed next in order to specificy the connection to the saving and investment relation. Once in place, the first two steps will be combined to form a modified saving-investment approach. The result will be a short-run theory focused on the interaction of the market interest rate and profit rate during the business cycle. The development of this approach from Marx's writings does not claim to be a historical reconstruction. The interpretation here is concerned with formulating a plausible framework for Marx's monetary theory.

Chapter 5 introduced a Keynesian perspective to resolve some apparent contradictions in Marx's writings. A rational reconstruction of Marx's work was developed by way of saving and investment schedules. The interest rate was determined in the money market which fed into the saving and investment functions. The average rate of interest was said to be the interest rate where saving equaled investment. Interest rates above the average indicated points of crisis where an excess supply of commodities existed. Interest rates below the average indicated that demand exceeded supply representing an expansionary phase of the business cycle. Prior to demonstrating the flaw of this reconstruction in terms of the above propositions (especially the first), it would be useful to review a paper by Lianos (1987) where he attempted to demonstrate the relationship between the market interest rate and the profit rate.

Theodore Lianos (1987) provides one of the few formal models of Marx's work on the cyclical nature of the market interest rate. The strength of the work is the demonstration that Marx's theory of the interest rate can be represented in a formal (mathematical and graphical) model. However, the formal nature of Lianos's interpretation exhibits certain weaknesses. Lianos's stated objectives rest in making

contributions in three areas. The first objective is to lay bare the relationship among the rate of profit, rate of profit of enterprise, and rate of interest. The second objective is to examine the determination of the market interest rate. The third objective is to identify the connection between monetary and real phenomena within Marx's theory. Although they are important, the current review chooses to ignore the last two objectives of Lianos's paper. There appear to be several mistakes in Lianos's paper as an interpretation of Marx. Moreover, the interpretation appears strained to read ideas into Marx which simply do not appear in order to fit into the formal model. Finally, some apparent mistakes in the paper arise because of the disequilibrium that occurs during times of crisis.

Lianos's paper begins with Marx's definition of total profits as the sum of profit of enterprise and interest. This identity is transformed into rates by dividing profit by total capital advanced, profit of enterprise by owned capital, and interest by borrowed capital. From this starting point, an identity can be derived to demonstrate the relationship among the three rates which depends upon the division of the total capital advanced into owned and borrowed capital. The result of Lianos's transformation of the beginning identity is questionable as an interpretation of Marx. In Part 5, while criticizing Overstone, Marx makes a reference to a case in which money lenders do not exist. Under this unrealistic assumption, loans are made in real terms only (e.g., machinery, commodities, etc.) which leads to the division of profit being made solely in terms of borrowed to owned capital. Therefore, it would be surprising that Marx would reach the same conclusion when loans are made in the money form, and yet not state this conclusion.

It is not clear that the rate of profit of enterprise in Lianos's presentation should be based on owned capital advanced. However for modeling purposes it appears necessary. In order to illustrate the concern, the effect upon profit of enterprise can be observed when the industrial capitalist works solely with borrowed capital. In this case, Lianos's definition would result in the total profit going to interest. This does not appear to be a likely situation and actually is used by Marx to illustrate a point concerning profit of enterprise not being antithetical to wage-labor. Furthermore, Marx mentions in the final chapter to Part 5 that the ability to borrow in order to become a capitalist demonstrates how the dominant class recruits the best of the lower class. However, if the capitalist, who is rising up from the working class, uses only borrowed capital there would be no way to ever break free from the monied capitalists. The result would seem to depend upon the way the rate of profit of enterprise has been defined. Furthermore, the beginning identity abstracts from Marx's concern with competition between industrial capitalists and monied capitalists determining the interest rate. The primary reason for this distortion by Lianos appears to be the desire to formally model Marx's interest rate theory.

Lianos uses the beginning identity to illustrate a first approximation to the movements of the interest rate and rate of profit of enterprise over the course of the business cycle. The result is that given the gross profit rate and borrowed to owned capital ratio, it can be shown that during the initial expansion phase of the business cycle both the rate of profit of enterprise and the interest rate rise. Furthermore, during the expansion the rate of profit of enterprise rises faster than the interest rate. The relative increases in these rates imply that the motive for real accumulation is not dampened by

increases in the interest rate during the upswing of the cycle. During the second phase of the business cycle both rates begin to fall. It is the profit rate itself which drives these changes in the rate of profit of enterprise and interest rate.

It appears that Lianos's presentation is consistent with the first of the propositions listed at the beginning of this section. During the expansionary phase of the business cycle the rising interest rate does not necessarily slow accumulation. However, Lianos obtains this result by simply assuming the proper movement of the profit rate. In other words, during the expansion the profit rate increases, thus pulling the other rates up with it. However, there is simply no discussion of how the interest rate may impact the profit rate. Lianos's model deals only with the relationship between the rate of profit of enterprise and the interest rate. The question remains as to what is driving the movement in the profit rate. One of the objectives of the modified saving-investment approach will be to supply an answer to this missing piece of Lianos's model.

The model by Lianos helps to illustrate the problem with the Keynesian perspective of Chapter 5. Given stationary saving and investment schedules, any increase in the market interest rate would tend to detour further accumulation. In terms of Figure 1, the increase in the interest rate would be illustrated by a northwest movement along the investment schedule. The investment schedule derived from Marx's writings is based upon an assumed profit rate. If, however, the profit rate changes during the course of the business cycle then the investment schedule must shift. In other words, there will no longer be a unique average rate of interest or natural rate of interest. The problem is similar to the natural rate of interest used by Keynes in the *Treatise*. The problem gets more serious for the Keynesian perspective interpretation of Marx in Chapter 5, just as it

did for Keynes of the *Treatise*, if the investment schedule shifts during the adjustment process. Once the investment schedule shifts for changes in the interest rate, then the Keynesian perspective of Chapter 5 becomes untenable. This is precisely what is implied by the first of the propositions listed above; the interest rate rises but does not necessarily detour further accumulation. This is the point at which the discussion of Keynes's *Treatise* ends.

A further similarity can be drawn from the correspondence between Keynes and Ralph Hawtrey. In making his case against the determination of the rate of interest by saving and investment, Keynes hit upon the above difficulty in an example begun by Hawtrey concerning the market for German lessons.

> You say quite correctly that the price of the lesson equates the propensity to give German lessons with the marginal efficiency of German lessons. In the case you have chosen price does play that function. But suppose that whenever the price of a German lesson went down the demand schedule also shifted its position, the whole thing would have no meaning. You get your point of equilibrium because the demand and supply schedules for German lessons do not shift their position whenever the price changes. (Keynes 1973a: 550)

Keynes goes on to explain how the saving schedule would be shifting for changes in the interest rate, since income would have changed. However, Section 6.3 demonstrates that in the early drafts Keynes was able to employ a saving-investment approach which allowed the investment schedule to shift. This is then similar to the first proposition stated above from Marx. Marx's insights can be taken further by incorporating the relation between money creation and the profit rate. This investigation would then force a return to an analysis of the realization of surplus-value.

The above discussion demonstrated the weakness of the Keynesian perspective as

a reconstruction of Marx's work. Any notion of an interest rate, whether natural or average, associated with stable saving and investment schedules raises serious problems for an interpretation of Marx's theory. However, the above discussion of both Marx and Keynes does not necessarily imply that the saving-investment relation is unimportant. The relation can be recast in the realization problem in order to use the approach in a slightly different way.

It was pointed out in Chapter 5 that a primary objective for Marx was not only to uncover the origin of surplus-value, but also to understand how the surplus-value once created could be realized. The problem of the realization of surplus-value has been revived by the French circulation approach and some post- Keynesian economists. However, the problem has a long history dating back at least to Rosa Luxemburg (1963), and presented clearly in Claudio Sardoni (1987, 1989). Marx dealt with the realization problem repeatedly, with special emphasis in the *Grundrisse* and Volume II.

The realization problem will be reviewed here in slightly different way than in Chapter 5. In order to begin the production process the capitalist must advance a sum of money (M) in order to purchase means of production and labor-power (C). Once production (P) is completed a new commodity emerges (C') carrying within it surplus-value. However, the money in circulation is only of the amount M, not M'. The circuit of capital can be used to visualize this process: M - C - ... P ... - C' - M'. The question then is how the surplus-value gets realized. Alternatively stated, the question concerns how commodities can be sold for a total of M', when only M is present. In Volume II, Marx offers three solutions to this problem. First, the velocity of money in circulation may increase. This solution would require rapid and systematic changes in velocity. It

will be assumed throughout that the velocity remains constant (a discussion of this assumption will be taken up in the final section of the chapter). Second, gold production may increase in order to meet the needs of circulation. This solution is viable only in a commodity money economy. Third, capitalists may choose to dishoard in order to realize surplus-value. The last solution will always be a possibility.[26] Given the stage of development in Volume II, these are the only possible solutions. However, once a banking and credit system is introduced in Volume III, then another possibility arises. Marx in fact gives the banking system great latitude in its ability to create credit money as discussed in Chapter 5.

The way in which the question of realization has been posed appears consistent with a period of production method. At the beginning of a production period, capitalists must decide upon the quantity of output to produce given an expectation of selling prices. Thus, the decision to produce a certain amount of output is tied to the purchase of means of production and labor-power (M-C) and the financing of these purchases. Assuming that technology and the rate of surplus-value do not change during the period, then output will be fixed, and adjustments must come about through market prices and/or inventory adjustments. At the end of the period the commodities may or may not be realized at the expected prices. It is this question which is at issue when discussing the realization of surplus-value. Thus, realized surplus-value may be greater than, less than, or equal to the expectations depending upon the realized prices. If profits are greater than expected, hence implicitly rising prices, then next period output may increase. The same questions

[26]The French circulation approach does not allow for this solution given the assumption that all money is credit money. This rather restrictive assumption appears to lead the theory into unnecessary difficulties.

will then appear in period 2. The interpretation given here, similar to Weeks (1981) along with Fine and Harris (1979), is that Marx's circuit of capital can be interpreted as using a period of production method. In *Theories of Surplus Value*, Part 2 Marx appears to be using just such a method when discussing crisis: "The fixed charges -interest, rent - which were based on the anticipation of a constant rate of profit and exploitation of labour, remain the same and in part cannot be paid. Hence crisis" (Marx 1962: 515). The anticipation of a constant profit rate and exploitation of labor also represents an anticipation of the market price. These anticipations must be formed during the decision to produce a certain amount of output and purchase means of production and labor-power, while entering into debt obligations.

Monetary hoards play an important role in the realization problem prior to Volume III. In Chapter 5, it was shown that throughout Volumes I and II hoards play a predominantly passive role by adjusting to allow the quantity equation to hold. The nature of these monetary hoards changes in Volume III. With the introduction of the banking system, the reliance on hoarding (dishoarding) for the realization of surplus-value is altered. In modern terminology, a monetary hoard is an amount of savings as a stock variable. In the remainder of the chapter the term hoard will refer to this definition. The change in monetary hoards will be used to designate saving as a flow variable in modern usage. Investment is similar to Marx's real accumulation with the exception that for Marx this includes the purchase of labor-power.[27] Furthermore, for Marx the

[27]The modern terminology used in place of Marx's terms may not strictly be correct. The correspondence between Marx's real accumulation and investment is one case in point. However, it seems that the loss of strict textual definitions may be outweighed by the convenience of the modern terminology.

capitalist may consume or invest out of profits. The consumption component will be ignored for the purposes of this chapter. It should be noted that including it would require further investigation into disproportionalities between sectors, much like Keynes in the *Treatise*.

The previous discussion of the realization of surplus-value demonstrated that holding velocity constant realization could occur when capitalists dishoard. The role of the banking system and its ability to create money can now be introduced into this framework.[28] The condition for Marx's assertion concerning the interaction of the profit rate and interest rate to be correct and realization of surplus-value to occur, given this simplified picture, is that capitalists' expenditures must continuously increase. These expenditures must originate from either new money creation or dishoarding. The following equation can be derived from the circuit of capital.

$$Q = \Delta M - \Delta H \tag{6.3}$$

This simply states that profits (Q) will be equal to the change in the money supply (M) minus the change in monetary hoards (H). Assuming that all money created by the banking system is used to finance new investment (I) and the change in monetary hoards denotes saving (S), then equation 6.3 can be restated in the following equation.

$$Q = I - S \tag{6.4}$$

[28]Throughout the chapter the composition of capital will be assumed constant. The framework being developed also abstracts from technological change. These assumptions necessitate viewing this approach as a short-run theory.

This alternative makes clear that Marx's theory can be cast within the saving-investment approach.

Equation 6.4 represents the analysis conducted in Figure 1 of Chapter 5. However, Marx's analysis requires that specific account be taken of the change in investment. Furthermore, Marx's comments regarding the relationship between the profit rate and interest rate require that the change in profits be specified. The changes (Δ) of each variable in equation 6.4 can be taken in order to yield the following equation.

$$\Delta Q = \Delta I - \Delta S \tag{6.5}$$

The "mainspring of change" being the direction of change in profits in Marx's theory is now taken explicitly into consideration. This appears consistent with proposition 1. In Figure 2 a four-quadrant graph is drawn using equations 6.3 and 6.5 to demonstrate the interaction of the profit rate and interest rate. At this point, the change in saving is being set to zero. The figure can also be interpreted as describing what would happen if capitalists took the Moses commandment of Chapter 5 seriously. As long as capitalists continued to increase their expenditures, profits and the profit rate would increase. Given capitalists' expenditures, the only possibility for changing the direction of the profit rate would be if the money supply curve began to bend backward at some high level of the money supply.

The northeast quadrant in Figure 2 represents the money market where the market interest rate is determined. Changes in the demand for money capital for purposes of speculation and payment of past debts have been ignored for now in order to focus on the

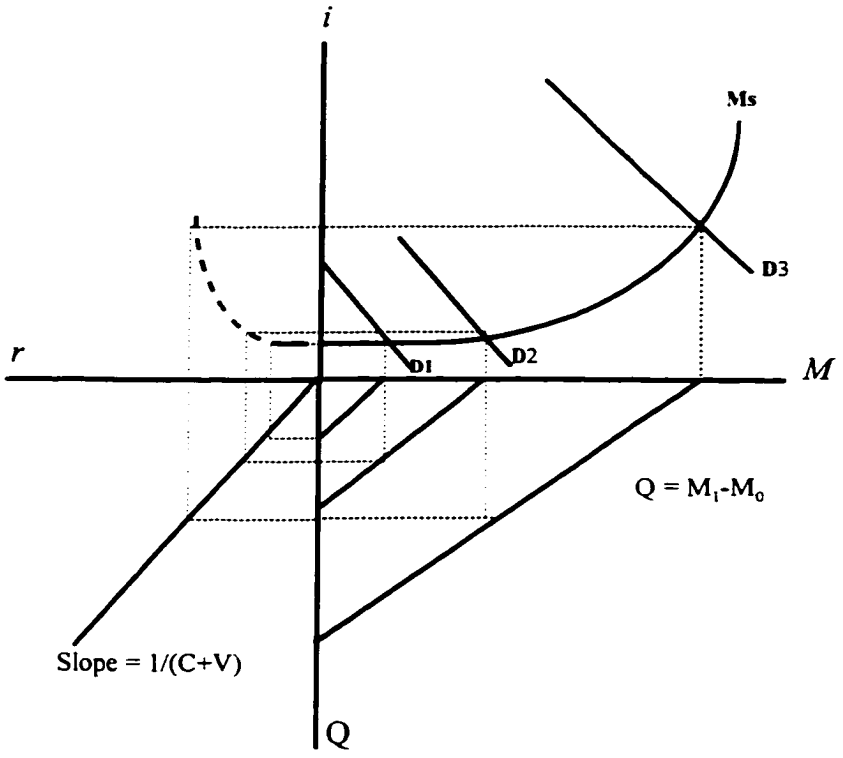

Figure 2: Modified Approach without Saving

financing of productive activities. Thus, the demand for money capital is strictly related to investment. The southeast quadrant translates changes in the money supply (i.e., investment) into profits (using equation 6.3, continuing to ignore for the time being saving). The southwest quadrant then transforms profits into the profit rate. The capital advanced (C+V) has been held constant for ease of exhibition. However, incorporating changes in the capital advanced while retaining the results would only require that total investment, or the change in money supply, exceed the change in variable capital.[29] The northwest quadrant illustrates the result by tracing the relationship between the interest rate and profit rate. Without taking saving into account, it is possible for the profit rate to continue increasing, at a decreasing rate, with increases in the interest rate.

Figure 3 demonstrates the determination of the maximum possible profit rate with saving included. Saving is graphed as solely a function of the interest rate and therefore excludes other determinants discussed in Chapter 5. Figure 3 demonstrates that the maximum possible profit rate depends solely upon the sensitivity of saving to the interest rate and the behavior of the banking system. The actual maximum profit rate will also depend upon the expenditure pattern of the capitalist class. However, as long as expenditures increase smoothly the slopes of the saving and money supply schedules will determine the point of change in the profit rate as in Figure 3 where the dashed line

[29]The assumption of a constant organic composition of capital implies that this condition would be met.

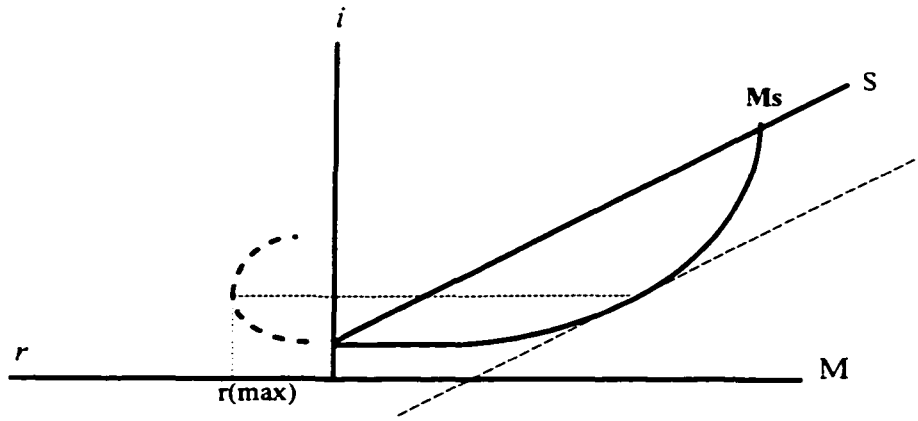

Figure 3: Maximum Possible Profit Rate

indicates the point of tendency.[30]

The position of the saving schedule can be influenced by the factors being currently left out of consideration. Specifically, income and speculation would need to be incorporated in order to position and specify the shape of the saving schedule. More importantly, the framework developed above appears to lend itself to the incorporation of the average rate of interest. Allowing for the role of speculation could be used to incorporate the average rate of interest in a similar way to Keynes's *General Theory*. The average rate of interest, as discussed in Chapter 4, is determined in Marx and Keynes by something loosely called "common consent" or "common opinion." It is well known that Keynes's speculative motive is used to derive an inverse relationship between money demand and the interest rate. This speculative motive was not exactly new; Marshall clearly had the beginnings for such a motive (Bigg, 1990). What is not well recognized is that Marx also had the beginnings for a speculative motive. Purely in terms of speculation, Marx recognized that a higher interest rate, especially occurring during times of crisis, would lead to the purchase of financial assets. The motivation behind this was that eventually the price of these financial assets would rise again when the interest rate fell and a profit could be made.

In contrast to Keynes, the speculative motive for Marx could operate on saving and money demand. For Keynes, the demand for holding money declined when the

---

[30]On the one hand, Figure 3 may fudge the stock-flow distinction associated with money and saving. Money is normally defined as a stock variable, whereas saving is defined as a flow variable. The difficulty could be safely ignored on the grounds that the theory concerns saving, investment, and profit as flows. On the other hand, Rochon (1997, 1999) has demonstrated that money, specifically credit-money, should be viewed as a flow variable as well. Money within the current approach is more akin to Rochon's definition and therefore no fudge in Figure 3 exists.

market interest rate was expected to fall to the average thus increasing the price of bonds. For Marx, on the other hand, money is broadly defined to incorporate credit money. This leads Marx to argue that speculation will take the form of an increased demand for credit money. When speculation begins to take place there will be further pressure on the market interest rate to rise. The financial circulation then becomes independent of industrial circulation. The framework being developed here could then be used to explain the third proposition that monetary crisis may occur independent of, or along with, a real crisis.

Figure 3 illustrates the idea that saving for Marx is a leakage from the reproduction process. Recalling from Chapter 2, Lapavitsas (1994, 1997) demonstrated the importance and some implications for this view of saving within Marx's theory of the reproduction process. Saving is simply viewed as income not consumed. On the other hand, the introduction of interest-bearing capital allows capitalists to actively accumulate outside of the sphere of production. It again seems likely that this framework would allow for the incorporation of the average rate of interest as the value of interest-bearing capital.

It has been noted previously that for Marx saving does not automatically lead to investment. The absence of such an identity caused several difficulties of expression for Keynes which will be dealt with in Section 6.3. The difficulty of handling such an identity has similarities to the quantity theory of money which Marx claimed in Volume I to be a simple tautology. As in Keynes, it is possible to observe the difficulty caused by the saving-investment identity in Marx's work. In the schemes of reproduction introduced in Volume II, it is easily seen that saving and investment are equal by identity.

Recalling that department 1 is the total value produced in the capital goods sector and department 2 is the total value produced in the consumer goods sector (hence W is the total value produced for the economy as a whole), the identity can be illustrated with the following definitions.

(a) Total Income ≡W ≡I + II
(b) Saving ≡Income - Consumption ≡W - II
(c) Investment ≡I
therefore, Saving ≡Investment; or, W - II ≡I.

However, it is possible by using Keynes's definition of saving and income in the *Treatise* to demonstrate a close link to Marx's balancing condition that must occur in simple reproduction.[31]

The interpretation of saving as a leakage leads to the result that the profit rate cannot increase continuously as it did in Figure 2. In other words, the profit rate no longer simply depends upon the behavior of the banking system and pattern of capitalist expenditures. As the expansion continues the demand for money will eventually pull the

---

[31]Simple algebraic manipulation of the balancing condition in the schemes of reproduction can be used to derive a result very close to the equilibrium condition in the *Treatise*. Using notation for surplus-value as q, and where c denotes constant capital, and v denotes variable capital. All subscripts refer to the department (i.e., means of production and means of consumption). Finally, the Q refers to the total surplus-value. Beginning with the balancing condition:

$$c_2 = v_1 + q_1$$

the following can be achieved:

$$(c_1 + c_2) - [(c_1 + v_1 + c_2 + v_2) - (c_2 + v_2 + q_2)] = Q.$$

The first term in the last equation represents investment. The second term represents Keynes's saving defined as earnings minus consumption. I will not go into this further since it requires a discussion of long-run equilibrium.

interest rate upward and saving along with it. The profit rate may continue to rise as long as the change in saving is not greater than the change in investment. This process is illustrated in Figure 4. A point is reached (i.e., saving schedule tangent to money supply schedule) where the profit rate reaches the maximum possible, given the behavior of the banking system and savers. Any further expansion will be met with a decline in the profit rate. If the function of money as a means of payment (i.e., money needed to meet past debts) were incorporated, then a declining profit rate along with an increase in the interest rate could be observed. Notice that profits are still positive until the intersection of the saving schedule and money supply curve. Any demand for money beyond this point would be met with losses. In terms of the third proposition, a crisis results from a disproportion between industrial and loanable capital. In other words, a disproportion occurs between money and real accumulation. Propositions four and five follow directly from the modified saving-investment approach. The shape of the money supply curve dependent upon the behavior of the banking system influences when money creation is not forthcoming (i.e., proposition four). Finally, in what has been developed, there is a dual causation between the financial and industrial circulation thus leading to proposition five.

It has been demonstrated that the traditional saving-investment approach does not fit well within Marx's monetary theory. This conclusion is based upon Marx's rejection of the natural rate of interest, the importance of changes in investment, and the direction of change in profits as the "mainspring of change" for the system. Once the natural rate is abandoned, Marx can be interpreted as providing the preliminaries for a modified saving-investment approach. Marx's discussion of the business cycle within Part 5

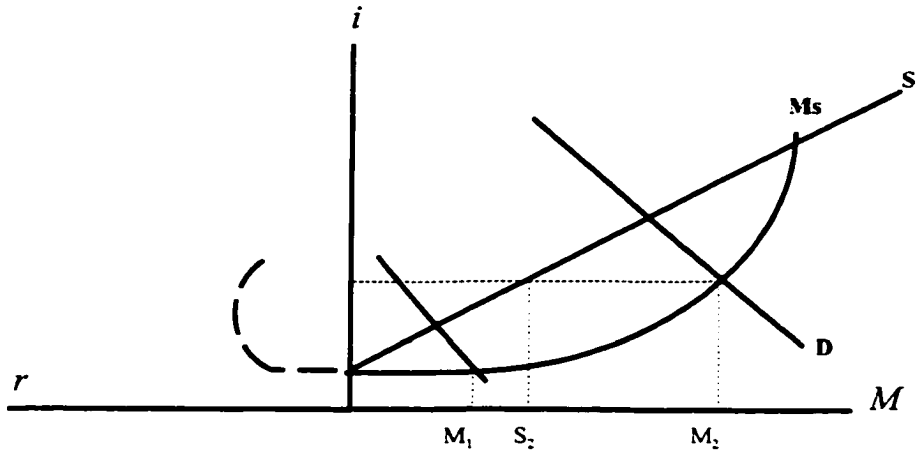

Figure 4: Modified Saving-Investment Approach

appears to lend support to the conclusions arrived at here. Although many important aspects of Marx's discussion have not been incorporated, it appears that the approach developed above might be used as a framework for further investigations. In the next section, it will be demonstrated that in the early drafts of the *General Theory*, Keynes laid the foundations for a modified saving-investment approach closely resembling the current interpretation of Marx.

6.3 Keynes's modified approach

Section 6.1 indicated that the *Treatise* was framed within the traditional saving-investment approach to monetary theory. The connection between Keynes and Marx appears severed by the approach in the *Treatise*. However, in the early drafts to the *General Theory* Keynes made some subtle changes to his *Treatise* framework that would appear to reestablish a connection to Marx.[32] Once the *Treatise* was complete Keynes shifted his focus towards a more systematic analysis of changes in employment and output. This also required a better theory of the implications of changes in investment. The natural rate of interest dropped out of the framework altogether. Keynes was then able to relate changes in investment to changes in profit. It was then not the existence of windfall profits that mattered, but rather the direction of change in the profits that acted as the "mainspring of change."

A mild change occurred from transition of the *Treatise* to the early drafts in the

[32]The term "early drafts" is used to indicate lecture notes and draft chapters written by Keynes approximately during the period 1931-1933. It appears that by mid-1934 Keynes had made a significant move towards the final version of the *General Theory*. The drafts beginning in mid-1934 (Keynes 1973a: 423-484), and some correspondence leading up to the publication of the *General Theory*, could be justifiably labeled as the "late drafts."

way the fundamental equations were written. Keynes pulled normal returns out of earnings and made it part of the second term in the fundamental equations.

$$P=\frac{N}{O}W+\frac{I-(E-C)}{O} \tag{6.6}$$

Employment (N) was now explicitly included in the fundamental equations. The implication of pulling normal returns out of the first term was that the second term would not drop out when saving and investment were equal. The equilibrium price equations became identical to the classical long-run price equations. Keynes argued that this would allow the equation to be read as the first term representing return to employment and the second term as return to capital (Keynes 1973b: 71-72). Keynes also wrote this equation in terms of changes. Assuming that the value of the marginal product equaled variable cost (i.e., $P\Delta O = W\Delta N$) this meant that equation 6.6 could be written in the following manner (Keynes 1973b: 71-73):

$$\Delta P=\frac{N}{O}\Delta W+\frac{\Delta I-\Delta S'}{O} \tag{6.7}$$

Keynes no longer appeared to want to use the fundamental equations to analyze the price level, but rather to focus on the determination of output. Equation 6.7 has been reproduced in order to demonstrate Keynes's initial move towards a framework that dealt in changes.

The correspondence between Keynes and Dennis H. Robertson, as well as Fredric A. Hayek, in addition to papers in the *Economic Journal* after the *Treatise* illustrate the

confusion that the definition of saving caused among the participants. Prior to moving on to the modified approach, the confusion of the definition of saving requires discussion. In equation 6.7, a change in notation can be observed. Saving in equation 6.7 is denoted as S' rather than simply S as in the *Treatise*. This change in notation seems to have come about in order to clarify the definition of saving. Keynes oftentimes appears frustrated with the terminology and lack of consistency the debates took. In several places, Keynes takes great pains to clarify what he means by saving and how it might be related to other definitions such as Robertson's lacking and the classical forced saving concept. Keynes also comes to grips with the identity of saving and investment. He is able to do all of this without any notions of *ex ante* and *ex post*.

In a memorandum to Robertson in March of 1932 entitled "Notes on the Definition of Saving" (Keynes 1973a: 275-289), Keynes discusses the definition of saving in some detail. Keynes notes that there are two different definitions of saving being used. First, the one used in today's literature and results in the identity with investment, saving is defined as aggregate income minus consumption. Second, the one used in the *Treatise*, saving is defined as aggregate earnings minus consumption. Keynes writes:

> [T]he [S] definition of savings works out to be identical with the value of current investment. And this is the justification for the old-fashioned 'common-sense' view that savings and investment are, necessarily and at all times, equal, -being, indeed, the same concept looked at from opposite points of view. (Keynes 1973a: 276)[33]

Keynes argues that he can avoid some of these confusions by using changes in aggregate

[33]The quotation has been slightly altered to make it consistent with the notation used below.

expenditure. In order to avoid unnecessary complications Keynes was willing to change the terms which were used to explain the dynamics. Keynes was of course correct in that changes in expenditures could be used rather than saving, problems of definition could be avoided. However, as discussed in Section 6.4, this minor change enabled a much more significant change to occur in the interpretation of his theory, an interpretation which if not inconsistent with the final version of the *General Theory*, at least inconsistent with the early drafts.

In the early drafts, Keynes makes some of the above discussion clearer. Saving (*S*) in the *Treatise* was defined as "E-C, the excess of earnings over consumption" (Keynes 1973b: 69). The definition of saving as aggregate income (*Y*) minus consumption (*C*) he now denotes simply with *S*. The *Treatise* definition of saving is labeled as *S'* (as in equation 6.7 above). Keynes does not want to give up using the *Treatise* definition of saving but appears at a loss as to how to make the distinction.

> Whilst I still think that $\Delta(E-C)$ is the important concept for us to isolate, I have been in great perplexity whether to continue to call it the change in *Saving*. For the reasons given in the next chapter, I have decided to give up doing so. Nevertheless we shall need some name for $\Delta(E-C)$, i.e. for the decrease in spending after allowing for any decrease in earnings. I propose to call it the amount of *Economising*, designated by S'. Thus the community is economising, if it reduces its consumption by more than its earnings. (Keynes 1973b: 69)

The conclusion that Keynes is able to arrive at is that saving (*S*), defined as income minus consumption, equals investment by identity. However, economizing (*S'*) is only equal to investment when windfall profits are zero, or in a position of long-run equilibrium. Thus, the aggregate saving can be broken down into two parts.

$$\Delta S = \Delta(E - C) + \Delta Q = \Delta S' + \Delta Q \qquad (6.8)$$

Equation 6.8 represents aggregate saving as the sum of voluntary saving (or, economizing) and forced saving (windfall profits). Since aggregate saving and investment are equal by identity, Keynes can rearrange equation 6.8 to arrive at the basic relation.

$$\Delta Q = \Delta S - \Delta S' = \Delta I - \Delta S' \qquad (6.9)$$

This equation will play an important role in Keynes's discussion of a monetary production economy.

In the early drafts the subtle changes being discussed led to a significant change in approach. In the opening Chapter 7 of these drafts Keynes states that the "essence of the monetary theory of production ... can be expressed quite briefly, starting from the equation..." (Keynes 1973a: 381).

$$\Delta Q = \Delta I - \Delta S \qquad (6.10)$$

Equation 6.10 is exactly the equation used to construct a modified saving-investment approach to monetary theory based in Marx's writings. Keynes uses this basic equation to illustrate the effect of an initial decrease in disbursements which lead to a decrease in profits. The situation for Keynes is one in which the initial change would lead to a cumulative process of contraction. This results because "the reduction in entrepreneurs' profit will have a tendency to retard new capital development in respect both of value and volume, for it will not be so attractive to expand plant" (Keynes 1973a: 382). There

follow from this various possibilities for a new equilibrium to be reached (e.g., decline in earnings, increased disbursements, etc.). It should be noted that Keynes in these passages explicitly looks at the effect on investment. The initial decrease in profits will leave "little expectation of relief by way of an increase in I, since the more probable reactions happen to be in the wrong direction" (Keynes 1973a: 385). The "mainspring of change" is now related to the direction of change in profits. It is worth quoting Keynes on this aspect:

> Since the volume of capital development largely depends on the expectation of a satisfactory rate of entrepreneurs' profits, the experience of a steadily diminishing rate of receipts by entrepreneurs may be expected to be deterrent to development; and since the current valuation of capital goods is much influenced by the existing rate of profit, the value of investment is likely to fall off even more than the amount of development. (Keynes 1973a: 385)

The adjustment process is taking place according to changes in profits. This is in sharp contrast to a reliance on changes in the inventory for final goods used in the traditional Keynesian literature.

In the early drafts Keynes introduces a distinction between short-run and long-run notions of equilibrium. In contrast to the *Treatise*, the early drafts give primary importance to the short-run equilibrium position of the economy. The early drafts indicate a short-run equilibrium will be achieved when the change in profits is zero.

> Thus, apart from any stimulus to investment, we may reasonably rely upon a point of equilibrium being reached eventually at which $-\Delta Q$ averaged over the entrepreneurs who are still producing ceases to fall further, so that there is no reason for any further decline in output in the short period. (Keynes 1973a: 386)

Within this passage, Keynes relegates to a footnote a comment on the long-run equilibrium: "Though in this case, equally with the case where expenditure falls off

equally with income, there can be no equilibrium in the long period, since in the long period income and earnings are equal" (Keynes 1973a: 386). Therefore, the position of long-run equilibrium is characterized by normal profits, or the absence of windfall profits. In a similar manner, two pages before these passages appear Keynes provides another footnote to distinguish short-run and long-run equilibrium:

> If spending were to fall off by the same amount as *incomes*, the argument would be *a fortiori*; and so long as this continued to be the case, *no* equilibrium would be possible, either in the short period or in the long. (Keynes 1973a: 384)

The passages from the early drafts clearly indicate an overall concern for the short-run achieved when profits stop changing. The stability of the short-run equilibrium positions are not spelled out by Keynes. Furthermore, it is not clear from the early drafts how a position of long-run equilibrium would be achieved. These passages do make clear, however, a correspondence between the framework of the early drafts and the interpretation of Marx's Part 5 outlined in Section 6.2.

Keynes proceeds within the early drafts to investigate the possibility for an equilibrium to be established by automatic forces. One of the possible means for the equilibrium to be achieved is by a decline in the interest rate. Keynes does not deny that the interest rate will fall. He questions, however, that "these 'automatic' forces will, in the absence of deliberate management, tend to bring about not only an equilibrium between saving and investment but also an optimum level of production" (JMK, XIII 395). In terms of the natural rate of interest, it seems clear that it no longer plays an equilibrating role defining a long-run equilibrium position of full employment. In the early drafts, Keynes appears to have already arrived at the conclusion that an equilibrium

interest rate can occur at various levels of output. Furthermore, the basic conclusions of the *General Theory* can also be seen in the following statement:

> Thus the actual level of output depends, given the habits and policies of the community in respect of saving, on their habits and policies in respect of investment. That is to say, given the response of the community's spending to changes in the levels of profits and earnings, the level of output will depend on their prevailing practices and policy in regard to the control of investment. Thus if we regard the response of individual spending to any given conditions of earnings and profits as something which is determined by nature and habit and virtually outside deliberate control at the centre, then the level of output, which will be a stable level, entirely depends on the policy of the authorities as affecting the amount of investment. An active policy of stimulating investment renders a greater volume of saving consistent with a greater volume of output. Thus it might be truer to say that the amount of saving over a period of time depends on the amount of investment, than the other way round. (Keynes 1973a: 388)

One point of the passage is that there is no unique natural rate of interest. Investment and saving may coincide at various levels of interest rates thus defining an equilibrium level of output but not necessarily one in which full employment exists. The movement of the economy seems to be very close to the interpretation assigned to Marx. The saving behavior, response to changes in profits, and prevailing practices to control investment (part of which would be the money supply) are all factors that determine the movement of the system within the interpretation constructed for Marx.

These early drafts for the *General Theory* represent the foundations for a dynamic theory of effective demand (Erturk 1998) and a modified saving-investment approach. Many of the significant changes that appear at a preliminary stage in these drafts have by necessity been left out of the current presentation. However, what has been covered should at least initiate a rethinking of the standard interpretation of the *General Theory*. It is also this framework which appears to enable a new kind of reconciliation between

the theories of Marx and Keynes.

6.4 Summary

The current interpretations of Marx and Keynes need careful consideration. The results arrived at by the interpretations may not be completely acceptable to either Marx or Keynes. One of the main features left out of consideration has been changes in the velocity of money. In the discussion of Marx's three possible resolutions to the realization problem, it was noted that he allowed for changes in velocity to occur. In his reply to Hayek, Keynes also made clear that he did not rely solely on the change in the money supply to make up the difference between investment and saving (Keynes 1973a: 246). Bridel (1987: 136) demonstrates that Keynes was allowing for changes in velocity in addition to the money supply to explain the existence of windfall profits. Possible changes in the velocity of money have not been taken into account here in order to highlight the role of the banking system. Furthermore, according to Moore (1994) velocity appears to follow a random walk which would cut off any systematic reliance on this feature for theories of the business cycle. In any case, incorporating changes in velocity would only seem to lessen, but not completely obliterate, the significance of the banking system.

Throughout the chapter references have been made to the lack of a reliance on *ex ante* and *ex post* distinctions. These references were made in order to demonstrate the difference between the type of approach that Marx and Keynes seemed to be leading towards and the traditional Keynesian interpretation of the *General Theory*. The result that the current chapter would lead to is that the traditional Keynesian interpretation relies

more on the Stockholm school than on Keynes. The papers in the *Economic Journal* after the *General Theory* concerning the interest rate provide a good representation of Keynes's thinking. Keynes finds that Ohlin's *ex ante- ex post* investment provides a useful distinction. However, in a footnote Keynes states that he cannot make sense of the *ex ante* and *ex post* saving distinction (Keynes 1937a: 248). Keynes makes this point even clearer in the reply to Pigou, Ohlin, Robertson, and Hawtrey stating that *ex ante* saving cannot be a useful concept since entrepreneurs "do not know what their incomes are going to be, especially if they arise out of profit" (Keynes 1937b: 664). This statement makes a direct link back to the material covered on the distinction between (S) and (S'). The final opinion that Keynes had concerning these interpretations cannot be known since he did not fulfill his intention of a future article "to write dealing with the relation of the 'ex-ante' and 'ex-post' analysis in its entirety to the analysis in my General theory" (Keynes 1937b: 663). It can be said, however, that this distinction does not play a role in the early drafts since the adjustment process occurred by way of changes in profits rather than changes in the inventory of final goods.

The position arrived at in this chapter is that both Marx and Keynes provided a preliminary foundation for a modified saving-investment approach. This approach rests on an analysis of the direction of change in profits acting as the "mainspring of change" for the economic system. The interaction of profits and investment has then been shown to require the abandonment of the natural rate of interest. The current chapter has only attempted to demonstrate the short-run aspects of this modified approach, thus leaving open the long-run equilibrium position.

CHAPTER 7

CONCLUSION

The dissertation began with the claim that by focusing on Marx's monetary theory broadly defined, a contribution could be made to Marxian economics and the history of economic thought. The difficulty of making a contribution rested on the fact that Marx's economic writings had been a constant source of study for over a century. However, Marx's monetary theory as presented in Part 5 had not received as much attention. A contribution was therefore deemed possible by reconstructing various aspects of this particular writing.

The reconstructions of the three topics have demonstrated the importance of Part 5 for Marxian economics and the history of economic thought. The monetary theory embedded within Part 5 demonstrates the importance of the financial system for Marx's overall economic theory. However, Marxian economics has traditionally paid little attention to this area of Marx's writings. The reconstructions have also contributed to the literature defining a new line of transition in the history of monetary theory. A detailed study of Part 5 is able to reenforce Marx's break from classical theory and movement towards the monetary theory of Keynes.

The reconstructions have been able to better situate Marx's monetary theory within the history of economic thought. The reasons given for Marx's rejection of the natural rate of interest indicated a new appreciation of the break he made with classical

monetary theory. The rejection of the natural rate and replacement with the average rate of interest placed Marx's monetary theory much closer to that of Keynes. The rational reconstructions of the relationship between monetary and crisis theory led to viewing Marx as a forerunner of the saving-investment approach. In addition, the reason that Marx could not fit comfortably within this approach again led to placing his theory much closer to certain parts of Keynes's work. Marx can therefore be seen as a point of transition in the history of monetary theory between the classical theory and Keynes.

The relationship established between the labor theory of value and interest-bearing capital provided the foundation for the study of Marx's monetary theory. The review of the literature on this issue demonstrated the false opposition created between the labor theory of value and the value of interest-bearing capital. This opposition led to a tension in the literature since interest originates from surplus-value. The literature seemed to rely on an interpretation of the labor theory of value as a normal type of theory. The labor theory of value seemed to be interpreted as an empirical theory in the sense that one could prove that abstract labor was the substance of value. By replacing value determination with price determination, this type of interpretation could then be used to ignore Marx's repeated comments that interest-bearing capital did constitute a value.

The interpretation of the labor theory of value made within the dissertation treated it as a very different kind of theory. The labor theory of value was interpreted as deriving from the rationalist tradition. Interpreted within this tradition, the labor theory of value is definitional. However, the definition is not arbitrary, but is rather a true definition of an essential aspect of capitalism. This interpretation of the labor theory of value implied that the value of capital, in this case interest-bearing capital, could be postulated even without

embodied labor. It was only necessary to demonstrate that Marx defined the value of this commodity to capture its essential aspect within capitalism. It was Marx's definition of capital as capital as a self-expanding value which led to the definition of its value as interest. The value of interest-bearing capital defined as interest, or the average rate of interest, came to symbolize the inner nature of capital. The fact that interest originated from surplus-value was now indicated by the definition of value itself. The conception of capital as capital allowed Marx to make a significant break from the classical theory which the literature in Marxian economics has not recognized. Finally, this break from the classical theory led to another significant break in the rejection of the natural rate of interest.

The value of interest-bearing capital being determined by the labor theory of value implied a denial of the natural rate of interest. The value of this commodity is socially determined, similar to the value of labor-power. Its value became the average rate of interest as influenced by common opinion, institutional, and social factors. Once the value of interest-bearing capital could be seen as compatible with the labor theory of value, then the typical reasons given in the literature for Marx's rejection of the natural rate of interest had to be recast. Rather than relying on a rejection based in the value of interest-bearing capital being opposed to the labor theory of value, it has been argued that the rejection must be understood in terms of the definition of economic laws. For Marx, there did not appear to be any mechanism to ensure the convergence of market interest rates to one particular natural rate. The reasons for the rejection of the natural rate discussed in Chapter 4 created a closer connection to that of Keynes.

Marx's discussion of the average rate of interest has not been incorporated into

the literature on Marxian economics. It has been shown repeatedly that the literature has not attempted to make room for this particular concept. The Keynesian perspective of Chapter 5 demonstrated that the average rate of interest created a connection between Marx's monetary and crisis theories. The average rate of interest determined by common opinion, institutional, and social factors also marked the point of intersection between *ex ante* saving and investment schedules. A crisis of overproduction characterized by a disproportionality between real and monetary accumulation (or, industrial and loan capital) occurred when the market interest rate as determined in the money market lay above the average rate. This could occur due to changes in the money market; thus the monetary side could cause a crisis in the real sector. Alternatively, the traditional crisis theories (wage squeeze, falling rate of profit) could come into play starting the crisis from the real side of the economy.

The Keynesian perspective makes a contribution to both Marxian economics and the history of economic thought. First, most literature in Marxian economics argues in favor of the one particular direction of causation, either money to real, or real to money. The Keynesian perspective argues that a crisis can begin from either starting point. Thus, the framework is more generalized to take into account both sides of the literature. In addition, the Keynesian perspective creates a framework which has room for the average rate of interest to play an important role in the theories of money and crisis. Second, the Keynesian perspective demonstrates that one possible interpretation of Marx would place him as a forerunner in developing a saving-investment approach to monetary theory. This would help solidify the view that Marx stands in between the transition from classical monetary to the work of Keynes.

The initial formulation of the relationship between monetary and crisis theories by Marx in Part 5 is extremely obscure. This led to three separate, although related, reconstructions within the dissertation. The Keynesian perspective was built on Marx's average rate of interest and saving as a flow variable. Another line of thought could also be detected within Part 5 when read in conjunction with other parts of Marx's writings, especially the *Grundrisse* and Volume II. The problem of the realization of surplus-value as formulated in these earlier writings was used as a starting point for the second reconstruction in Chapter 5.

The literature in Marxian economics has traditionally dealt with the problem of realization by employing Marx's more abstract monetary theory. Recently, the problem has resurfaced in the French circulation approach to monetary theory. However, the French circulation approach does not attempt to make a detailed study of Marx's writings, especially Part 5, to resolve the problem. The second reconstruction in Chapter 5 demonstrates that Part 5 can be used to provide a stronger resolution to the problem while at the same time developing the relationship between monetary and crisis theory.

The second reconstruction in Chapter 5 focused on the role of monetary hoards (as a stock variable), capitalists' expenditures, and the banking system. The market interest rate influenced the capitalists' decision to hoard in the form of monetary accumulation or dishoard in the form of real accumulation. A crisis could begin when the market interest rate rose to a level which created an increased incentive for capitalists to accumulate in the form of interest-bearing capital. This implied that the total surplus-value would no longer be realized. The banking system played a major part in this reconstruction by influencing the market interest rate, creating credit-money, and

receiving payments from capitalists (i.e., the general law of reflux). By creating credit-money, the banking system was able to drive the circulation sphere beyond the barriers of the production sphere. The chain of payments became increasingly interconnected until the system was "oversensitive." The crisis could then begin whenever the capitalists slowed real accumulation, in favor of increasing monetary accumulation. Alternatively, the crisis could begin when banks perceived danger, either real or imaginary, and withdrew credit. The system was oversensitive in the sense that in either situation the chain of payments once broken would spread throughout the economy. The circulation sphere had grown beyond the barriers of the production sphere in that new credit, not just capitalists' monetary hoards, had to be issued if surplus-value were to be realized.

Central features of the two reconstructions in Chapter 5 were combined in order to develop a third reconstruction in Chapter 6. The third reconstruction utilized saving and investment as a method to study the realization problem. This modified saving-investment approach seemed able to capture various important propositions found in Marx's writings. The Keynesian perspective was not able to deal adequately with Marx's proposition that accumulation could proceed in the face of a rising market interest rate. In order to deal with this proposition the stable *ex ante* investment function had to be abandoned and with it the defined average rate of interest. The approach which resulted had particular links to the literature in Marxian economics. It combined the work on the realization problem, particularly the Kalecki formulation, with Lianos's work on the relationship between the rate of profit of enterprise and the interest rate. The modified approach combined this work in order to derive the relationship between the profit rate and interest rate. This relationship does not seem to have been developed within the

Marxian literature.

The modified saving-investment approach points toward the line of transition in the history of monetary theory as stated several times throughout the dissertation. However, the transition actually stops with Keynes's 1931-1932 drafts of the *General Theory*. It was argued in Chapter 6 that within these early drafts Keynes had the beginnings of a monetary theory centered in the movement of profits as the "mainspring of change." This is precisely the result obtained from the third reconstruction of Marx's writings. The history of monetary theory normally describes a direct shift from the saving-investment approach of Wicksell's writings and Keynes's *Treatise* to the return of the identity of saving and investment with Keynes of the *General Theory*. However, it is now possible to detect the very beginnings of a theory of employing the saving-investment distinction in order to derive changes in the profit rate.

The dissertation has necessarily left some of the reconstructions and ideas incomplete. The incorporation of the average rate of interest must be explicitly incorporated into the reconstructions. We have attempted to indicate how such an incorporation might be made. In addition, each of the reconstructions can be developed further by a more detailed incorporation of the real side of the economy. A possible avenue might be to attempt to explicitly combine some of the more traditional crisis theories into the reconstructions of Chapters 5 and 6. One of the most glaring weaknesses of the reconstructions is their implicit treatment of the short-run. This can especially be seen in the modified saving-investment approach. Further work needs to be done to study the long-run position of equilibrium implied by the reconstruction. In doing this, however, the first two topics (i.e., interest-bearing capital and the average rate of interest)

will need to made more explicit in the reconstructions.

There are several possible directions for further research in this area. The dissertation has attempted to make clear that taking up this research agenda is important for Marxian economics. Furthermore, this research agenda should lead to a better appreciation of Marx within the history of monetary theory. Part 5 provides the foundation for developing Marx's monetary theory and finding its place in the history of economic thought.

REFERENCES

Alexander, Sidney S. 1939-1940. Mr. Keynes and Mr. Marx. *Review of Economic Studies* 7: 123-35.

Amadeo, Edward J. 1989. *Keynes's Principle of Effective Demand.* Brookfield, Vt.: Edward Elgar.

Arnon, Arie. 1984. Marx's Theory of Money: The formative years. *History of Political Economy* 16(4): 555-75.

Bigg, Robert J. 1990. *Cambridge and the Monetary Theory of Production.* New York, N.Y.: St. Martin's Press.

Bellofiore, Riccardo, ed. 1998. *Marxian Economics: A Reappraisal Essays on Volume III of Capital: Volume 1: Method, Value and Money.* New York, N.Y.: St. Martin's Press.

Bellofiore, Riccardo. 1998. Marx's Theory of Money and Credit Revisited: A Comment on the Chapters by Suzanne De Brunhoff and Ferdinando Meacci. In *Marxian Economics: A Reappraisal Essays on Volume III of Capital: Volume 1: Method, Value and Money.* Riccardo Bellofiore (ed.). Pp. 205-209. New York, N.Y.: St. Martin's Press.

Blaug, Mark. 1990. On the Historiography of Economics. *Journal of the History of Economic Thought* 12: 27-37.

_____. 1991. Introduction. In *The Historiography of Economics.* Mark Blaug (ed.). Brookfield, Vt.: Edward Elgar.

_____. 1995. *Economic Theory in Retrospect,* 4th edition. New York, N.Y.: Cambridge University Press.

_____. 1999. Misunderstanding Classical Economics: The Sraffian Interpretation of the Surplus Approach. *History of Political Economy* 31(2): 213-36.

Bridel, Pascal. 1987. *Cambridge Monetary Thought: Development of Saving-Investment Analysis from Marshall to Keynes.* New York, N.Y.: St. Martin's Press.

Burkett, Paul. 1991. Some Comments on 'Capital in General and the Structure of Marx's

Capital.' *Capital & Class* 44(Summer): 49-72.

Caminati, Mauro. 1981. The Theory of Interest in Classical Economists. *Metroeconomica* 33: 79-104.

Chiodi, G. and M. Messori. 1984. Marx's Analysis of the Relationship Between the Rate of Interest and the Rate of Profits: A Comment. *Cambridge Journal of Economics* 8: 93-7.

Cipolla, Francisco Paulo. 1997. Interest Rate Changes in Marx's Theory of the Industrial Cycle. *International Journal of Political Economy* 27(1): 73-84.

Clarke, Simon. 1994. *Marx's Theory of Crisis*. New York, N.Y.: St. Martin's Press.

Cottrell, Allin. 1994. Endogenous Money and the Multiplier. *Journal of Post Keynesian Economics* 17: 111-20.

Crotty, Jim. 1985. The Centrality of Money, Credit and Financial Intermediation in Marx's Crisis Theory, an Interpretation of Marx's Methodology. In *Rethinking Marxism: essays for Harry Magdoff and Paul Sweezy*. S. Resnick and R. Wolff (eds.). Pp. 45-81. New York, N.Y.: Autonomedia.

_____. 1986. Marx, Keynes, and Minsky on the Instability of the Capitalist Growth Process and the Nature of Government Economic Policy. In *Marx, Schumpeter, and Keynes*. Suzanne W. Helburn and David F. Bramhall (eds.). Pp. 297-324. Armonk, N.Y.: M.E. Sharpe.

_____. 1987. The Role of Money and Finance in Marx's Crisis Theory. In *The Imperiled Economy: Macroeconomics from a Left Perspective*. Editorial Collective (eds.). Pp. 71-82. New York, N.Y.: Union for Radical Political Economics.

_____. 1993. Rethinking Marxian Investment Theory: Keynes-Minsky Instability, Competitive Regime Shifts and Coerced Investment. *Review of Radical Political Economics* 25(1): 1-26.

De Brunhoff, Suzanne. 1976. *Marx on Money*. New York, N.Y.: Urizen Books.

_____. 1990. Fictitious Capital. In *The New Palgrave: Marxian Economics*. John Eatwell, Murray Milgate, and Paul Newman (eds.). Pp. 186-87. New York, N.Y.: W.W. Norton &Co.

_____. 1998. Money, Interest and Finance in Marx's Capital. In *Marxian Economics: A Reappraisal Essays on Volume III of Capital: Volume 1: Method, Value and Money*. Riccardo Bellofiore (ed.). Pp. 176-88. New York, N.Y.: St.

Martin's Press.

Deleplace, Ghislain and Edward J. Nell, eds. 1996. Introduction. *Money in Motion: The post Keynesian and circulation Approach*. New York, N.Y.: St. Martin's Press.

Dillard, Dudley. 1984. Keynes and Marx: A Centennial Appraisal. *Journal of Post Keynesian Economics* 6(3): 421-32.

Dymski, Gary. 1990. Money and Credit in Radical Political Economy: A Survey of Contemporary Perspectives. *Review of Radical Political Economics*. 22(2-3): 38-65.

Erturk, Korkut. 1996. On the Keynesian Notion of Equilibrium and Dynamics. *Cambridge Journal of Economics* 20: 1-16.

_____. 1998. From the *Treatise* to the *General Theory*: The Transformation of Keynes's Theory of Investment in Working Capital. *Cambridge Journal of Economics* 22: 173-85.

Fan-Hung. 1939-1940. Keynes and Marx on the Theory of Capital Accumulation, Money and Interest. *Review of Economic Studies* 7: 28-41.

Fine, Ben. 1975. *Marx's Capital*. London: Macmillan.

_____. 1985-86. Banking Capital and the Theory of Interest. *Science & Society* 49(4): 387-413.

_____. 1988. From Capital in Production to Capital in Exchange. *Science and Society* 52(2): 326-37.

Fine, Ben and Laurence Harris. 1979. *Rereading Capital*. London: Macmillian.

Foley, Duncan. 1982. The Value of Money, the Value of Labor Power, and the Marxian Transformation Problem. *Review of Radical Political Economics*. 14(2): 37-47.

_____. 1983. On Marx's Theory of Money. *Social Concept* 1(1): 5-19.

_____. 1986. *Understanding Capital: Marx's Economic Theory*. Cambridge, Mass.: Harvard University Press.

_____. 1997. Credit and Fictitious Capital. In *A Dictionary of Marxist Thought*, 2nd edition. Tom Bottomore (ed.). Pp. 115-6. Cambridge, Mass.: Harvard University Press.

Garegnani, Pierangelo. 1978. Notes on Consumption, Investment and Effective

Demand: I. *Cambridge Journal of Economics* 2(4): 335-53.

Gaynor, W.B. 1992. The Transformation of the Natural Rate of Interest into *The General Theory's* State of Long-Term Expectations. *Cambridge Journal of Economics* 16: 55-68.

Guttmann, Robert. 1994. *How Credit Money Shapes the Economy*. Armonk, N.Y.: M.E. Sharpe.

Harris, Laurence. 1976. On Interest, Credit and Capital. *Economy and Society* 5(2): 145-77.

Heinrich, Michael. 1989. Capital in general and the structure of Marx's Capital. *Capital & Class* 38(Summer): 63-79.

Hilferding, Rudolph. 1910. *Finance Capital*. Reprint 1985. London, England: Routledge & Kegan Paul.

Humphrey, T.M. 1993. Cumulative Process Models from Thornton to Wicksell. In *Money, Banking and Inflation: Essays in the History of Monetary Thought*. Brookfield, Vt.: Edward Elgar.

Hunt, E.K. 1977. Empiricism and Rationalism in Economic Theories of Value. *The Social Science Journal* 14(3): 11-25.

_____. 1982. Marx's Concept of Human Nature and the Labour Theory of Value. *Review of Radical Political Economics* 14(2): 7-26.

_____. 1983. Joan Robinson and the Labour Theory of Value. *Cambridge Journal of Economics* 7: 331-42.

_____. 1986. Philosophy and Economics in the Writings of Karl Marx. In *Marx, Schumpeter, and Keynes*. Suzanne W. Helburn and David F. Bramhall (eds.). Pp. 95-120. Armonk, N.Y.: M.E. Sharpe.

_____. 1991a. The Role of Value Theory in the History of Thought. In *Explorations in Political Economy: Essays in Criticsm*. Rajani K. Kanth and E.K. Hunt (eds.). Pp. 35-52. Savage, Md.: Rowman & Littlefield Publishers.

_____. 1991b. The Relation between Theory and History in the Writings of Karl Marx. In *Explorations in Political Economy: Essays in Criticsm*. Rajani K. Kanth and E.K. Hunt (eds.). Pp. 329-42. Savage, Md.: Rowman & Littlefield Publishers.

Kalecki, Michal. 1968. The Marxian Equations of Reproduction and Modern

Economics. In *Collected Works of Michal Kalecki*, Volume II. Jerzy Osiatynski (ed.). New York, N.Y.: Oxford University Press.

Kenway, Peter. 1980. Marx, Keynes and the Possibility of Crisis. *Cambridge Journal of Economics* 4: 23-36.

Keynes, John Maynard. 1936. *The General Theory of Employment, Interest and Money*. Reprint 1964. New York, N.Y.: Harcourt Brace Jovanovich.

_____. 1937a. Alternative Theories of the Rate of Interest. *The Economic Journal* 47(186): 241-52.

_____. 1937b. The "Ex-Ante" Theory of the Rate of Interest. *The Economic Journal* 47(188): 663-9.

_____. 1971. *A Treatise on Money*. In *Collected Writings of John Maynard Keynes*, Volume V. D.E. Moggridge (ed.). London: Macmillan.

_____. 1973a. *The General Theory and After: Preparation*. In *Collected Writings of John Maynard Keynes*, Volume XIII. D.E. Moggridge (ed.). London: Macmillan.

_____. 1973b. *The General Theory and After: A Supplement*. In *The Collected Writings of John Maynard Keynes*, Volume XXIX. D.E. Moggridge (ed.). London: Macmillan.

Lapavitsas, Costas. 1994. The Banking School and the Monetary Thought of Karl Marx. *Cambridge Journal of Economics* 18: 447-61.

_____. 1997. Two Approaches to the Concept of Interest-Bearing Capital. *International Journal of Political Economy* 27(1): 85-106.

Lavoie, Don. 1983. Some Strengths in Marx's Disequilibrium Theory of Money. *Cambridge Journal of Economics* 7: 55-68.

_____. 1986. Marx, the quantity theory and the theory of value. *History of Political Economy* 18(1): 155-70.

Leijonhufvud, Axel. 1981. *Information and Coordination: Essays in Macroeconomic Theory*. Oxford: Oxford University Press.

Lianos, Theodore P. 1987. Marx on the Rate of Interest. *Review of Radical Political Economy*. 19(3): 34-55.

Lipietz, Alain. 1982. Credit money, a Condition Permitting Inflationary Crisis. *Review*

of Radical Political Economics 14(2): 49-57.

_____. 1985. *The Enchanted World: Inflation, Credit and the World Crisis.* London: Verso.

Marx, Karl. 1867. *Capital. A Critique of Political Economy.* Volume I, *The Process of Production of Capital.* F. Engels (ed.). Reprint 1990. New York, N.Y.: Penguin Books.

_____. 1885. *Capital. A Critique of Political Economy.* Volume II, *The Process of Circulation of Capital.* F. Engels (ed.). Reprint 1992. New York, N.Y.: Penguin Books.

_____. 1894. *Capital. A Critique of Political Economy.* Volume III, *The Process of Capitalist Production as a Whole.* F. Engels (ed.). Reprint 1991. New York, N.Y.: Penguin Books.

_____. 1939. *Grundrisse. Foundations of the Critique of Political Economy (Rough Draft).* Martin Nicolaus (translations and forward). Reprint 1993. New York, N.Y.: Penguin Books.

_____. 1959. *Theories of Surplus Value.* Part II. Reprint 1975. Moscow: Progress Publishers.

_____. 1962. *Theories of Surplus Value.* Part III. Reprint 1975. Moscow: Progress Publishers.

Meacci, Ferdinando. 1998. Fictitious Capital and Crises. In *Marxian Economics: A Reappraisal Essays on Volume III of Capital: Volume 1: Method, Value and Money.* Riccardo Bellofiore (ed.). Pp. 189-204. New York, N.Y.: St. Martin's Press.

Minsky, Hyman P. 1982. *Can "It" Happen Again?.* Armonk, N.Y.: M.E. Sharpe.

_____. 1986. *Stabilizing an Unstable Economy.* New Haven, Conn.: Yale University Press.

Moore, Basil J. 1988. *Horizontalists and Verticalists: the Macroeconomics of Credit Money.* New York, N.Y.: Cambridge University Press.

_____. 1994. The Demise of the Keynesian Multiplier: A Reply to Cottrell. *Journal of Post Keynesian Economics* 17: 121-133.

Morris, Jacob. 1967. Marx as a Monetary Theorist. *Science and Society* 31(Fall): 404-27.

Panico, Carlo. 1980. Marx's Analysis of the Relationship Between The Rate of Interest and the Rate of Profits. *Cambridge Journal of Economics*. 4(4): 363-78.

_____. 1984. Interest Costs, Profit and Pricing: A Reply. *Cambridge Journal of Economics* 8(2): 99-104.

_____. 1985. Market Forces and the Relation Between the Rates of Interest and Profits. *Contributions to Political Economy* 4(2): 37-60.

_____. 1988. Marx on the Banking Sector and the Interest Rate. *Science and Society* 52(2): 310-25.

_____. 1988. *Interest and Profit in the Theories of Value and Distribution*. New York, N.Y.: St. Martin's Press.

Parson, John E. 1988. Bubble, Bubble, How Much Trouble? Financial Markets, Capitalist Development and Capitalist Crisis. *Science and Society* 52(3): 260-89.

Perelman, Michael. 1990. The Phenomenology of Constant Capital and Fictitious Capital. *Review of Radical Political Economics* 22(2&3): 66-91.

Pivetti, Massimo. 1991. *An Essay on Money and Distribution*. New York, N.Y.: St. Martin's Press.

Plasmeijer, Henryk W. 1998. Marx on the Natural Rate of Interest: Did Marx Hold a Monetary Theory of Income Distribution? In *Marxian Economics: A Reappraisal Essays on Volume III of Capital: Volume 1: Method, Value and Money*. Riccardo Bellofiore (ed.). Pp. 233-53. New York, N.Y.: St. Martin's Press.

Ricciardi, Joseph. 1987. Rereading Marx on the Role of Money and Finance in Economic Development: Political Perspectives on Credit from the 1840s and 1850s. In *Research in Political Economy*, Volume 10. Paul Zarembka (ed.). Pp. 61-81. Greenwich, Conn.: JAI Press.

Roche, John. 1985. Marx's Theory of Money: A Re-interpretation. *Review of Radical Political Economy* 17(1&2): 201-11.

Rochon, Louis-Philippe. 1997. Keynes's Finance Motive: A Re-Assessment. Credit, Liquidity Preference and the Rate of Interest. *Review of Political Economy* 9(3): 277-93.

_____. 1999. *Credit, money and Production: An Alternative Post-Keynesian Approach*. Northhampton, Mass.: Edward Elgar.

Rogers, Colin. 1989. *Money, Interest and Capital*. New York, N.Y.: Cambridge

University Press.

Sardoni, Claudio. 1989. Some Aspects of Kalecki's Theory of Profits: Its Relationship to Marx's Schemes of Reproduction. In *Kalecki's Relevance Today*. Mario Sebastiani (ed.). Pp. 206-19. New York, N.Y.: St. Martin's Press.

_____. 1987. *Marx and Keynes on Economic Recession*. Brighton: Wheatsheaf.

Schumpeter, Joseph A. 1954. *History of Economic Analysis*. New York, N.Y.: Oxford University Press.

Shackle, G.L.S. 1967. *The Years of High Theory*. New York, N.Y.: Cambridge University Press.

_____. 1974. *Keynesian Kaleidics*. Edinburgh: Edinburgh University Press.

Shaikh, Anwar. 1978. An Introduction to the History of Crisis Theories. In *U.S. Capitalism in Crisis*. Editorial Collective (eds.). pp. 219-41. New York, N.Y.: Union for Radical Political Economics.

Shuklian, Steve. 1991. Marx on Credit, Interest and Financial Instability. *Review of Social Economy* 49(2): 196-217.

Sweezy, Paul. 1994. The Triumph of Financial Capital. *Monthly Review*. June: 1-11.

Walsh, Vivian and Harvey Gram. 1980. *Classical and Neoclassical Theories of General Equilibrium*. New York, N.Y.: Oxford University Press.

Weeks, John. 1981. *Capital and Exploitation*. Princeton, N.J.: Princeton University Press.

Wolfson, Martin. 1994. *Financial Crises: Understanding the Postwar U.S. Experience*. Armonk, N.Y.: M.E. Sharpe.

Wray, L. Randall. 1990. *Money and Credit in Capitalist Economies: the Endogenous Money Approach*. Brookfield, Vt.: Edward Elgar.