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**A problem in the theory of distribution
from Ricardo to Wicksell**

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PREFACE

A dissertation which has been the result of a few years' research and touches on so intricate a subject as the theory of capital cannot be written but with the awareness that the results expounded would undergo corrections and changes after a deeper analysis of some of the questions involved and after having gained a closer acquaintance with the concrete problems to the solution of which the theory must be applied. I am therefore conscious of the provisional nature of certain formulations and relative stresses, or of the possibility of mistakes at some points of the dissertation. These defects are also due in part to my having been unable to carry out an overall revision of the exposition, because detained by some problems which arose in the progress of the work.

I regard my contribution as consisting of: a) bringing out how the difficulties Ricardo met in his theory of value and distribution can be reduced to a problem of consistently measuring capital similar to the one the marginal productivity theories also met and did not solve satisfactorily; b) showing how a measurement of capital as a complex of quantities — obtained by generalizing Bortkiewicz's solution of Marx's 'transformation problem' — may constitute a satisfactory basis

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for the solution of the problem in a theory of the Ricardian type; c) showing how that same measurement of capital as a complex of quantities becomes unsatisfactory when applied to a marginal productivity theory.

Although in general statements it has often been admitted that unsolved difficulties lay behind the concepts of capital used in the marginal productivity theories, no attempt seems to have been made at a detailed discussion of the problem in the range of possible measurements and conceptions of capital (value in terms of some standard; average period of production, the complex of absolute periods of production of original factors; quantities of physically homogeneous capital goods). A first step in that direction is attempted in our examination of Walras and Wicksell's theories of distribution in Part II of the dissertation, in connection with the argument directed to bring out point (c) above.

I wish here to thank Mr. Sraffa and Mr. Dobb who have successively supervised my work during the terms of research I have spent in Cambridge. My debt to them is double since it regards not only the guidance and encouragement they have given to me in the course of the preparation of the dissertation, but it refers also to the fact that the interpretation advanced here of the connection between Ricardo's theory of value and his

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theory of distribution, and, more generally, my interest in the subject, owe much to sections IV and V of the introduction to the Principles written by Mr. Sraffa with the collaboration of Mr. Dobb. and contained in Vol. I of their edition of Ricardo's Works.

Whenever I have been aware of being indebted to some particular authors for concepts or interpretations used in the following dissertation. the relevant works are mentioned in the footnotes.

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INTRODUCTION

At the cost of severe simplification, it seems that we can distinguish in the history of economic analysis, two broadly different approaches to a theory of the distribution of the social product among the members of the community.

The first one to appear had its centre in the concept of social surplus. It was first used in a systematic form by the Physiocrats; it became a part of what Smith has to say on distribution in the 'Wealth of Nations'; it gave the basis to the analysis of Ricardo; finally Marx took it over and developed it at a time when the dominant trend of economic thought was already moving in another direction.

The other approach is the one which has been dominant in recent economic thought: it centre on the concept of a marginal productivity of homogeneous 'factors of production' and makes of the theory of distribution an application of a general theory of value, relating values to marginal increments in subjective satisfactions derived from commodities.

The aim is here to show how in the attempt to develop each of these approaches into a consistent theory of

distributions the same theoretical difficulty has arisen and has not been satisfactorily solved. In the context of the first approach, the difficulty underlies Ricardo's search for an 'invariable' standard of value; it was inherited by Marx in the form of the determination of a link between 'values' and 'prices of production'. In the context of the second approach that difficulty arose in the attempts to give meaning to a 'marginal productivity of capital' on which to found the determination of the rate of interest.

The two approaches to distribution are basically different and the problem arose, in the two contexts, in a different form, in the form of different difficulties. But, it is submitted here, once these difficulties are stated in their simplest form, they can be reduced to the same problem which can be described as that of finding a way of measuring capital in terms which while relationship to the 'value' of capital are, at the same time, independent of changes in distribution¹.

In part I of the dissertation we shall examine the problem as it arises in the surplus theories of distribution and we shall consider the possibility of its solution within those theories. For that purpose we shall mainly refer to Ricardo's theory of distribution but, when discussing Bortkiewicz's 'transformation' of 'values' into 'prices of

¹ What is meant by this, should become clear in what will be said below.

production', we shall also refer to the different way in which Marx faced the same problem.

In part II we shall examine the problem as it arises in the marginal productivity theories of distribution. We shall there discuss and criticize the solutions Walras and Wicksell offered to the problem in that setting.