

Outline of solution

1. A treatment of the examples to be found in Smith and later in Mill of goods which serve the common good and which cannot be expected to be taken care of by the market alone, supplemented with comments on Ricardo who paid little attention to this type of goods while dealing at length with problems of taxation. The existence of such goods was noticed by most of the marginalists, in particular by Walras, and while the first generation of marginalists added little to what was already noticed by the classical writers, later contributors such as Marshall, Pigou, and Wicksell were more specific.

(a) The notion of consumers' surplus is usually attributed to Marshall, but the underlying ideas can be traced back to Dupuit. Although mainly used in connection with private goods, its use with public goods can be found in Marshall and subsequent authors.

(b) Most writers notice that the production of public goods should be paid for by taxes, and considerations of their form are increasingly detailed in the later marginalist writers. Wicksell comes closest to an explicit formulation, later followed up by Lindahl and Samuelson.

2. (a) Utility functions can be found at least implicitly in Bernouilli, and the concept of utility was brought into economic thinking by Bentham, and it was mentioned by Mill and put to use in the treatment of price theory by Gossen, who also was the first to deal with utility as a function of the amount of commodity consumed. With the marginalists it obtained an important position in the theory which it has retained since.

(b) The discussion of cardinal versus ordinal utility should contain some form of explanation of the concepts, either in terms of transformations of utility or in a more intuitive way. The early marginalists used cardinal utility in their argumentation, but in many cases its use was not essential since the arguments could have been reformulated in terms of ordinal utility. The cardinality is essential when dealing with interpersonal comparisons and when summing up individual utilities.

(c) As stated by Mata, Osório was the first to give an explicit formulation of the marginalist price theory without use of cardinal utility, even if he anticipated other contributors only slightly. That he was not acknowledged as such is to some degree a shortcoming of the academic community, which at that time did not pay sufficient attention to ideas of outsiders.

3. (a) The considerations of overproduction in Malthus is usually considered as the first, although it can be debated whether he considered it as a regular phenomenon. Ricardo did not allow for regular overproduction, and the subsequent classical writers subscribed to Say's law according to which overproduction could occur only as the occasional case of a producer not being able to sell the particular product. Mill largely agreed with Say's law although he was open for a more flexible interpretation. An exemption to the classical adherence to Say's law

is provided by Sismondi who was among the first to consider overproduction as an inherent phenomenon. This was taken up by Marx who considered it as part of the functioning of capitalist production, a line of thought which was further developed by subsequent marxian theorists.

(b) International trade was considered by the classical writers but mainly in other connections, and many of them considered overproduction as a phenomenon which could occur only as locally and at small scale. The importance of international trade for the domestic economy is however indicated by several of them, ranging from the notion of vent-for-surplus in Smith and to the debate over the Corn laws.