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ZIBER ON RICARDO: A NOTE

Roberto Scazzieri

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Forthcoming in Contributions to Political Economy

ZIBER ON RICARDO: A NOTE *

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Nikolai Ivanovich Ziber is probably one of the outstanding figures in the development of classical political economy after Ricardo. His work as an economic theorist is founded on the search for the 'first principles' giving unity and coherence to Ricardo's discoveries. This approach makes Ziber's interpretation of Ricardo and other classical writers considerably different from the standard 'rational reconstruction' of classical economic theory that emerged after Mill's Principles.

In particular, Ziber bases his definition of classical political economy on the treatment of division of labour and structural interdependence by classical writers, rather than on the principle of cost-dependent valuation of commodities. In Ziber's work, the whole classical tradition takes a new shape, and its internal development is described in a manner that calls attention to lines of inquiry seldom considered by other writers. This permits Ziber to consider classical political economy as a consistent intellectual tradition spanning from Boisguillebert and French Physiocracy to Marx's contribution in the first volume of Das Kapital, and including, among other works, a considerable number of contributions from the German historical school.

The purpose of this paper is to make available a number of preliminary findings obtained in the course of joint research with A. Quadrio-Curzio on Ziber and classical political economy. We intend to produce further results as we proceed in our work on the edition of Ziber's theoretical writings (to be published in English and Italian). The first section presents

* This paper has originated from joint work between the author and Alberto Quadrio-Curzio; further collaboration in this research is planned for the future.

an outline of Ziber's life and work. Sections II-IV discuss selected issues considered in Teoriia Tsennosti i Kapitala D. Rikardo (Ziber, 1871), Ziber's first major theoretical work. Section II presents Ziber's reconstruction of the methodological principles underlying Ricardo's work, and provides the groundwork on which Ziber's own theoretical position is based. Section III discusses the general conception of economic life underlying Ziber's analysis of the relationship between value, labour and utility. Section IV presents Ziber's study of the relationship between capital and value, and discusses his criticism of Ricardo's view that different proportions of capital are associated with exceptions to the law of value.

ZIBER'S LIFE AND WRITINGS

Ziber was born on the 10th March 1844 in Sudak (Tavrik) from a family of Swiss origin that had settled in Russia. After attending the Gymnasium at Simferopol¹, he entered the Law Faculty of Kiev University (1864). The cultural environment at Kiev had a lasting influence on Ziber's intellectual development. In particular, from his university years Ziber derived that firm grasp of the relationships between the various aspects of social life that was to characterize his economic writings.

Aleksander Romanovič-Slavatinskij, Professor of 'State Doctrine' at Kiev University, unsuccessfully tried to persuade him to devote his energies to the field of study. In fact, Ziber's interest in political economy swiftly brought him under the influence of the economics professor, Friedrich George Bunge. In 1866, Ziber concluded his Law course, obtaining the degree of 'candidate' in law. Partly through Bunge's patronage, he then acquired the position of judicial mediator in the Volynskij province. However, this was only a short interruption in Ziber's academic career; after eight months, and on Bunge's proposal, Ziber obtained a scholarship at Kiev University, which permitted him to undertake full-time research in political economy. ^{From} this period also date his earliest published works: a study on co-operative societies (Ziber, 1869) and an essay on classical rent theory (Ziber, 1870).

His doctoral dissertation (on Ricardo's theory of value and capital, examined 'in relation with the latest additions and explanations', as the subtitle explicitly states) was ready by 1871 (Ziber, 1871). It presents a detailed reconstruction of the classical theories of value and capital, and compares them with the subsequent theoretical developments, both in the 'classical' and the 'subjectivist' traditions (see below).

Ziber's dissertation also attempted an assessment of Marx's theoretical contribution in Das Kapital, Book I (1867) within the framework of Ricardian economics. It was published in Kiev's Universitetskia Izvestia

(1871, nn. 1-2 and 4-11) and , almost immediately, drew the attention of Marx, who mentioned it with praise in the afterword to the second German edition of Das Kapital, Book I (1).

Ziber's development of Ricardian theory, as well as his critical appraisal of the supply-and-demand approach to price determination, exerted great influence in the evolution of economic theory in Russia (2). For some time, Ziber's theoretical work also enjoyed some reputation among economists of Continental Europe, as is shown by two references to Ziber's writings in Luigi Cossa's 'Saggio bibliografico sulla teoria del valore' (Cossa, 1895) (3) and by various references and quotations in the works of Achille Loria (4).

After receiving his doctorate, Ziber was sent on study leave to Western Europe. There he remained for approximately two years, travelling extensively through Germany, Switzerland, Belgium and England. During this period, he attended economic courses at leading universities (such as Heidelberg and Leipzig). He also visited factories, cooperative societies, statistical offices, gaining a first-hand acquaintance of the social conditions in the most developed countries of his time.

In 1873 Ziber returned to Russia in order to take up the chair of political economy and statistics at Kiev University. During his short tenancy of the chair he lectured three hours a week . In this period he was occupied with research on classical political economy (Ziber, 1873a; 1873b; 1875a) and on economic statistics (Ziber, 1874; 1875b).

(1) 'As early as 1871, N. Sieber, Professor of Political Economy in the University of Kiev, in his work "David Ricardo's Theory of Value and Capital", referred to my theory of value, of money and of capital, as in its fundamentals a necessary sequel to the teaching of Smith and Ricardo. That which astonishes the Western European in the reading of this excellent work, is the author's consistent and firm grasp of the purely theoretical position' (Marx, 1983, p. 26).

Ziber soon became dissatisfied with the cultural and political environment that he had found in Kiev after returning from Western Europe. In particular, he could not stand the transformation of his academic milieu, in which the pursuit of purely material interests of many of his colleagues clashed with his scholarly attitude to science and research.

In 1875, he left his academic position and country, settling in Bern (Switzerland). There he remained for a number of years, undertaking research in economic theory, applied economics, sociology and economic anthropology (a field that attracted a good deal of his energies in the latter part of his life). In particular he focused on the following issues:

(i) The social institutions and problems of a modern industrial economy (Ziber, 1876a; 1877a; 1880; 1881; 1882a; 1883a; 1883b; 1886)

(ii) The economic and social conditions of contemporary Russia (Ziber, 1876b)

(iii) The economic structure of 'primitive' communities (Ziber, 1878; 1881a; 1881b; 1882b; 1882c)

(iv) Classical (and marxian) political economy, particularly in its connexions with legal institutions and economic anthropology (Ziber, 1877b; 1876-78; 1879-80; 1882d; 1883c).

He also contributed occasional articles on current political controversies (Ziber, 1878c; 1879a; 1879b) and on general methodological issues (Ziber, 1879c).

(2) The influence exerted by Ziber's interpretation of Ricardo might be a factor explaining the persistence of classical political economy in Russia, and the distinctive character of this intellectual tradition with respect to the 'modernised' form of classicism then prevailing in Britain under the influence of Mill and Marshall. This is shown by a number of references to Ziber's work in subsequent Russian economic literature. For example, Dmitriev refers twice to Ziber in the first of his Economic Essays (Dmitriev, 1974 ; 1st edn 1904), the first time when criticising Marx's and Ziber's attribution to Boisguillebert of the original formulation of the theory of the cost-determination of price (Dmitriev, 1974, p.39), the second time when discussing the logical consistency of this theory. Here Dmitriev quotes a passage of Johann von Komorsynski in which the Austrian economist notes how cost-based price theories end up in a circular argument, by defining price by means of other prices (and thus determining one unknown by means of other unknowns) (see

In this period, Ziber also edited a Russian edition of Ricardo's works, to which he contributed substantial comments (Ziber, 1882d). In 1883 he published Ocherki pervobytnoi ekonomicheskoi kult'ury [Essays on primitive economic culture] (Ziber, 1883d). This work is a pioneering contribution in the field of economic anthropology and comparative (economic) organization. Here, Ziber outlines a general theory of primitive economic systems, on the assumption that the study of such systems permits one to see with greater clarity the community structures that are also at the basis of more modern and 'complex' types of economic organization.

Kemorszynsky is followed by a quotation from Ziber's David Rikardo i Karl Marks, in which Ziber maintains that Kemorzynski's argument 'is a clear expression of the discontent which arises in the minds of some, unfortunately very few of the newest economists when discussing terms which only seemingly contain a known and definite meaning ...' (Ziber, 1885, p. 109; translated in Dmitriev, 1974, p. 41 n)

Many years later, I.I. Rubin referred to Ziber's argument that, under conditions of long-run equilibrium, relative prices ought to be proportional to quantities of embodied labour: 'A type of exchange that would not be based on equal quantities of labour would lead economic agents to destroy each other. This, however, might not last for long, whereas scientific analysis requires consideration of the long-run' (Ziber, 1871, p. 88; quoted in Rubin, 1928, Chapter XI).

(3) Ziber's Kiev dissertation is entry 47 of Cossa's bibliographical essay, and it appears there under the title 'Teorie o psinnosti i capitale Ricardo's'. The other reference is to David Rikardo i Karl Marks (Ziber, 1885) which appears there as entry 95 under the title (in Italian) 'Le teorie economico-sociali di D. Ricardo e C. Marx'

(4) In his essay on the history of value theories in Italian political economy (Loria, 1882), Loria gives the Italian translation of a passage from Chapter I of Ziber's dissertation, in which the Russian economist argues that the inverse relationship between market price and quantity demanded is not based on diminishing marginal utility but on the increasing fear that demand might not be adequately supplied as the quantity available of a certain commodity is diminished (Loria, 1882, p. 34n). Ziber's passage is quoted in section III below. In Loria's Analisi della proprieta' capitalistica, Chapter II (Loria, 1889) we found two references to Ziber. The former concerns Ziber's criticism of Ricardo's proposition that inter-industry differences in the proportion between direct and indirect labour might 'considerably modify' the principle that the relative value of commodities is regulated by the quantities of embodied labour; 'Sieber ... slightly criticises the two sections of Ricardo that we have often recalled above, and declares it impossible that technical capital may determine a divergence of value from the actual quantity of labour' (Loria, 1889, vol. I, p. 46n). (Loria refers here to a passage from Ziber (1885, pp. 400-2); Ziber's criticism of Ricardo on this point is examined in section IV below). The second reference in this work of Loria is made in connection with Loria's criticism of Storch. This economist had argued that it would not be possible to reduce Smith's natural price to the sum of its constituent parts (wages, profit, rent), owing to the fact that wages consist of commodities bought at their natural price (Storch, 1823, tome I, p. 422n; 1st edn 1815). Loria argues that, contrary to Storch

In 1884, poor health (due to a spinal marrow disease) persuaded Ziber to go back to his native country and family. He settled in Yalta, on the Black Sea, with his mother and sister, and continued to do research work. In 1885 he published David Rikardo i Karl Marks (Ziber, 1885), a volume based on his doctoral dissertation and his subsequent work on Marx's theory. (The title might reflect Ziber's conviction that Ricardo's and Marx's theoretical contributions ought to be considered as complementary aspects of the same research programme.)

Eventually, neither the mild climate of Yalta nor the cares of his family could provide long-term healing. The Russian economist and social scientist died on the 28th April 1888. His personality (a combination of rational principles and of an anxious attitude towards life and research) was described as follows by Romanovich-Slavatinskij, his former professor at Kiev:

He had a nervous, deeply sensitive, nature, which his balanced and highly positive intelligence could not always master ... A pure idealist, he was unable to neglect the advice of his conscience, nor to accept compromise. He always maintained a disdainful and intolerant attitude, which was ill-suited to his needs of a honest puritan.

(A. Romanovich-Slavatinskij, in Russkii Biograficheski Slovar, vol. VII, p. 370)

the determination of the natural price presupposes knowledge of the quantity of subsistence goods, but not of their value. He then adds that this quantity, 'as Sieber rightly points out, is altogether independent both of the value of products and of its determining causes' (Loria, 1889, vol. I, p. 171). (Loria here refers to a passage from Ziber (1885), p. 111). Many years later, Loria again referred to Ziber in his paper on Ricardo published in the Annali di economia, 1925 (Loria, 1925): 'Notwithstanding the fact that [...] the Russian economist Sieber [...] considers Marx's theory as the logical development of Ricardo theory, in reality the former is in large part a twisting and forgery of the latter' (Loria, 1925, p. 58).

THE METHOD OF RICARDO

Ziber's study of Ricardo is based on a rational reconstruction of Ricardo's methodology, in which the originality and strength of Ricardo's approach are defended against attempts to conceal differences with respect to Adam Smith, and against criticism made from a 'subjectivist-utilitarian' point of view.(5)

This rational reconstruction is carried out through discussion of a number of methodological issues in which Ricardo's position is carefully distinguished from that of other economists.

The rationale of such an approach is expounded in the Preface of Teoriia Tsennosti:

We found it necessary to follow in our research an intermediate course between comparative analysis and a separate consideration of the theory of value and capital formulated by Ricardo and his followers. In this way, we have shared the opinion that, in the present state of economic science, the field of controversy is still wide, which makes it necessary to compare different and often contrasting ideas. On the other hand, we are convinced that, in many cases, the last word has not yet been written: this clearly shows the need of a comparison between this or that solution, which has been proposed, and the new solution that is still possible.
(Ziber, 1871, Preface)

The reconstruction of Ricardo's method moves from a statement of fact ('the field of controversy is still wide') and from a methodological belief (in order to find new solutions, the comparison between all existing solutions is necessary). Ricardo's method is 'reconstructed'

(5) In the Preface of Teoriia Tsennosti, Ziber argues for the need of a general methodological study of Ricardo's work, maintaining that this study had only been attempted, before him, by Baumstark (1838) and Zhukovskii (1864).

through comparison of Ricardo's work with alternative economic theories. This approach derives from a distinct awareness of the problem of meaning variance in economic theory (see, in particular, the discussion of the different meanings of 'value' in chapter One) and is associated with Ziber's attempt to discover the specific features of Ricardo's strategy of inquiry.

The fact that John Stuart Mill and Henry Fawcett had reversed the order of argument common to all classical economists from Smith to McCulloch, by considering value after production and distribution, and not before, suggests, according to Ziber, 'a theoretical framework in which production is considered the most important economic factor, and exchange a secondary, subordinate factor' (Ziber, 1871, p. 4b). Now, such a theoretical framework '[i]n a general sense [...] is absolutely true and contributes to explaining a whole series of economic facts much more than the identification of production with exchange (Noled), which is derived from a superficial analogy' (Ziber, 1871, p. 4b). However, Ziber also points out a fallacy underlying Mill's and Fawcett's approach. In fact, the idea that production and distribution can be studied before value and exchange overlooks that social division of labour is a prerequisite for the organization of productive activities at the social level, and also for distributive issues to arise at all:

Before examining production and distribution relationships in the economic systems that have adopted the social division of labour, it was necessary to know the properties of the apparatus that permitted economic units not to remain isolated, but to produce a single social organism. (Ziber, 1871, p. 3b)

The order of argument followed by the early classical economists (and reversed by John Stuart Mill) recognized, explicitly in Smith and implicitly in the other writers, the primacy of division of labour with respect to the other categories of political economy.

In economic literature, division of labour is generally associated with exchange as if the latter were a necessary condition of the former. This is considered by Ziber a result of the historical process that led to the formation of political economy:

[A] scientific systematisation of political economy was only carried out in the period in which the interests of exchange came to represent the dominant type of national economic interests [...]. It is no wonder that, as a result of this conception of economic relationships, the study of value has been associated with exchange much more closely than it would have been appropriate.
(Ziber, 1871, pp. 3a-4a)

In fact, political economy presupposes division of labour and a value system, but not exchange:

Exchange relationships cannot be conceived in the absence of value, but value can be conceived even without exchange.
(Ziber, 1871, p. 4a)

Authors such as Mill and Fawcett share with 'catalactic' writers, such as Bastiat and McLeod, the idea that division of labour is necessarily associated with exchange. This belief leads Mill and Fawcett to consider production and distribution independently of value (6). On the other hand, Bastiat and McLeod reduce production to exchange, on the assumption that 'l'échange c'est l'économie politique' (Bastiat, 1850, p. 93). Ziber disagrees with either position, by maintaining that value is presupposed by division of labour, and that the study of value (though not necessarily of exchange) ought to be carried out before production and distribution can be considered in political economy.

This result permits Ziber to examine Ricardo's theory from an original point of view, in which attention is focussed on the 'macro-social' laws governing a community founded on division of labour, rather than on the

(6) As is well known, Mill defends such an approach by arguing that 'of the two great departments of Political Economy, the production of wealth and its distribution, the consideration of Value has to do with the latter alone; and with that, only so far as competition, and not usage or custom is the distributing agency. The conditions and laws of Production would be the same as they are, if the arrangements of society did not depend on Exchange, or did not admit of it [...]. [E]xchange is not the fundamental law of the distribution of the produce, no more than

allocative criterion ensuring mutual consistency of individual actions.

The statistician and social scientist Lambert-Adolphe Quételet provides Ziber with the idea that the study of political economy ought to be based on a method of inquiry radically different from the one suitable to the study of the economic behaviour of individual units. In particular, Ziber calls attention to the following statement of Quételet:

If we examine them [social laws] too closely, it becomes impossible to grasp them, and we are impressed by infinite individual details. Even if the individuals were exactly identical with one another, it might happen that, by considering them one by one, we shall end up ignoring for ever the most unusual laws to which they are subject under certain conditions. (Quételet, 1835, tome I, p. 6; quoted in Ziber, 1871, p. 18a; Ziber's italics)

The adoption of this standpoint suggests to Ziber a number of critical remarks concerning the methods of inquiry in political economy. First, Ziber criticizes Smith's habit of associating 'social economy' and 'individual economy', and of extending to the former results derived from the latter (see Ziber, 1871, pp. 19a-19b). In particular, Ziber notes that, by concentrating upon individual economic units, it is impossible to have a full grasp of the advantages of cooperation in society: 'the results of cooperation [...] become effective as soon as we move to the consideration of the whole of private economies' (Ziber, 1871, p. 20b)). Another fallacy is discovered behind Smith's idea that 'the natural system of private interests, which are left free to operate, leads to higher economic harmony and general welfare' (Ziber, 1871, p. 21a). In fact, this might only be true in the case of economic units having equal strength: a system of interacting individuals might, 'within

roads and carriages are the essential laws of motion, but merely a part of the machinery for effecting it' (Mill, 1965, pp. 455-6; 1st edn 1848).

certain limits, attain a kind of equilibrium, if each individual pursues his particular ends' (Ziber, 1871, p. 21b). However, this result is not generally true in the case of the actual economic system, since 'the social economy is not simply the aggregate of identical economic units; it is also, to a much greater extent, the aggregate of economic units consisting of larger or smaller groups of individuals' (Ziber, 1871, p. 22a).

Finally, the habit of making generalizations about the whole economy starting from consideration of individuals' behaviour is criticized on the ground that the general interdependence of parts within a system often makes the system to react to any particular event in a different way with respect to how any one of its parts would. An instance of this fallacy is found in the belief that saving is a necessary condition of capital formation: 'to save, namely to abstain from consumption of useful goods, is possible for an individual person only, not for all the owners of such goods. In this latter case, we should assume that the production of the whole society, or at least the 9/10 of this production, provides society with luxury goods. Otherwise, where could the capitalists find the objects for their consumption?' (Ziber, 1871, pp. 23b-24a) (7). Another wrong generalization is found in the theory of public finance. Here Ziber argues against the idea that 'recourse to credit by the State involves a call on future work' (Ziber, 1871, p. 25a) by maintaining that 'this is certainly the case for an individual economy. For the social economy [...] this is a secondary issue, since credit involves a simple shift of purchasing power, from A to B today, from B to A tomorrow. As a result, there is no

(7) In Ziber's view, political economy ought to substitute the concept of 'productive expenditure' for the subjective concept of 'saving', going back to a view held by Adam Smith and 'Smith's school' (Ziber, 1871, pp. 24a-24b).

call on future work, but simply the use of existing purchasing power' (Ziber, 1871, pp. 25a-25b).

Another important point in Ziber's discussion of economic methodology relates to his treatment of economic dynamics. Here it is argued that static analysis requires 'that a single period be chosen' (Ziber, 1871, p. 31). On the other hand, 'when motion is considered (be it uniform, progressively quicker or progressively slower) it is necessary to observe a series of periods, in each of which the phenomenon takes on a new aspect' (Ziber, 1871, p. 31a). In this latter case, political economy ought to start with the consideration of an 'average period', namely of a period in which, 'even if there is no perfect identity between the magnitudes of the given phenomenon at different moments of time, yet we can assume that there is approximate balancing of divergences. The complexity of social phenomena does not permit us to use any other method of observation, except that of average numbers' (Ziber, 1871, pp. 31a-31b) ().

The criterion of the 'average period', together with the idea that the laws of political economy cannot be derived from the study of individuals' behaviour, are Ziber's basic tools in his rational reconstruction of Ricardo's method.

The method followed by Ricardo and Ricardian economists is described at the beginning of Chapter Two of Teoriia Tsennosti as consisting of the three following elements:

- 1) [I]n the economic research, not this nor that particular act of exchange is considered, but a typical or average act of exchange; 2) it is assumed that, between the objects that are actually exchanged, there is a type of equivalence that is not external, based upon an indeterminate relationship, but rather internal, based on the fact that

(8) In a footnote to this passage Ziber refers for this view to a work on 'moral statistics' by M.W. Drobisch (Drobisch, 1867).

each object has a certain property, which can be compared with the same property of another object [...]; 3) the circumstance that is being considered in order to determine the law of value, i.e. a single act of exchange, does not make us to forget [...] that this latter is nothing but a typical representative of the whole mass of exchange relationships [...]; in this way, the particular circumstances that make it difficult, from time to time, this or that act of exchange, or even a whole series of acts, are considered nothing but disturbing influences, and the student's attention is exclusively concentrated on the force that, on average, exerts the more important and lasting influence in determining the amounts of products that are actually exchanged.

(Ziber, 1871, pp. 81a-83a)

The foregoing passage shows that Ziber is interpreting Ricardo's method on the basis of the methodological principle of 'social averages' discussed above. This principle is further developed in the discussion of the difference between Ricardian method and the method followed by economists who adhere to the 'subjectivist' line of inquiry:

Ricardo's school takes as its starting point the likelihood between exchange phenomena; as a result, this school is capable of formulating the social law of value in exchange; the school of most German economists, and of many French economists as well, takes as its starting point the difference between such phenomena, which leads to a theory of individual cases. (Ziber, 1871, pp. 146b-147a)

VALUE, LABOUR AND UTILITY

The combination of the 'average period' criterion with the special attention for 'macro-social' observations and laws provides the foundations of Ziber's value theory and of his interpretation of Ricardo's contribution.

Ziber's analysis is grounded on the idea that value is a property of 'objects' that could not exist unless objects are related with human beings. This makes the study of value to depend upon the consideration of the three following relationships between persons and things: '1) things are used; 2) things are produced; 3) things are in the possession of somebody' (Ziber, 1871, p. 40a). Use, production and ownership are the person-to-object relationships from which the value of objects is determined. Ownership, as the right to the free use and disposal of an object, is considered to be the legal prerequisite of the social division of labour in an exchange economy (see Ziber, 1871, pp. 77b-78b). However, ^{Ziber} points out that 'all the component parts of the mechanism of division of labour and exchange must already be complete and operative when the right of the individual economy and person to dispose of the object at discretion first appears' (Ziber, 1871, p. 78a) (9). As a result, ownership relationships are considered to be 'a sanction of the existing economic forms, much more than an essential component of them' (Ziber, 1871, p. 79a). On the other hand, use and labour are the person-to-object relationships essential in determining value formation. In considering both of them, Ziber stresses the 'objective' aspects, namely the aspects that can be studied without examining man's inner motivations and states of mind;

(9) In a footnote to this passage, it is pointed out that 'the substitution of private for communal land property coincides, in Western Europe, with the age of the remarkable strengthening of the division of labour at the end of the 18th and in the course of the 19th century' (Ziber, 1871, p. 78a).

1) Both utility and labour, which are the only elements of value, do not express anything subjective; on the contrary, they are actual facts that may become the object of research. This implies that value too, which is derived from them, has a fully real existence, not an abstract one. As a result, value provides the subject-matter of rigorous scientific inquiry; 2) both utility and labour are attributes of any economic object, hence value cannot be considered simply as a relationship between objects, as certain economists tried to argue; 3) the elements of value [..] can be found both in the isolated economy and in the economy with division of labour. The difference between the two types of economy from the point of view of value is that value, by means of exchange, is better defined and clarified. (Ziber, 1871, pp. 79a-80a)

Utility and labour are person-to-object relationships that can be studied as purely 'objective' phenomena, i.e. as phenomena external to economic agents' feelings and opinions. Ziber calls attention to an important difference between the two relationships. In an economic system in which the production of objects requires different quantities of labour, the organization of production must follow, on average, a precise criterion of allocation: 'a common quantity of labour-time and strength is subdivided into parts according to the length of time and the quantity of labour needed in the production of each individual product' (Ziber, 1871, pp. 54b-55a). In this case, any economic system based on social division of labour and exchange has a rigorous criterion according to which produced commodities can be compared (see Ziber, 1871, p. 74a) (10). On the other hand, the 'objective' utility of goods cannot provide a fixed standard of comparison for different goods. The reason for this is that the aspect of the utility relationship that is relevant in political economy is, in Ziber's view, the actual use of any given object in a certain average period (11). This conception makes it impossible to say whether, in general, good x_1 is

(10) 'Only labour expended in producing this or that particular object may serve as a standard of comparison. Only the comparison between two quantities of labour can explain, first the permanence of the ratios at which products are exchanged, secondly the relatively low valuation of objects that satisfy

more useful than good x_2 , since any such comparison is possible only in the particular instant in which a person is comparing the urgencies $\left| \right|$ of the corresponding needs (or the relative 'efficiency' of the two goods in satisfying the same need).

The classification of needs according to $\left| \right|$ relative urgency 'is purely dynamic rather than static in character' (Ziber, 1871, p. 45a). In particular, if we consider the actual time sequence of 'need urgency', and we classify the utility of objects accordingly, we find that, starting from any given position on that sequence, 'the object that is nearer also appears to be the more useful' (Ziber, 1871, pp. 47b-48a). We can say that wood is more useful than bread only if we compare the relative urgency of needs in the particular moment in which the human body needs heat rather than food (see Ziber, 1871, pp. 46a-46b). In general, however, ' \int uring a given average period of economic life, the safety-pin, the comb, the scissors, all have their place, in the same degree, just as wood, coal, bread. As a result, any attempt to derive from relative urgencies a statistical classification of goods is bound to be fruitless' (Ziber, 1871, p. 45a).

The method of the 'social averages' persuades Ziber that no meaningful

demands such as that for bread' (Ziber, 1871, pp. 74a-74b).

(11) This conception of utility implies the separation of two aspects of 'use' that, in economic analysis, are ^{often} combined together: 'the transmission of an object from hand to hand and its use, namely the real destruction of its form' (Ziber, 1871, p. 12b). Ziber considers the latter aspect only.

comparison among goods can be made on the basis of ^{their} relative utility; all objects appear to be equally useful to an external observer who is considering the average social conditions during an average period of time.

Ziber's objective theory of utility permits him to criticize both the idea that consumers' demand is related with preference and choice, and the principle of diminishing marginal utility. In the former case, Ziber points out that the preference ranking of goods is related to the fact that goods have characteristics that permit a person to satisfy different needs, or the same need in different degrees (12). Given that the vast majority of objects are related with specific needs, 'preference' appears to be the expression of the principle that 'until the need is satisfied, two units of the relevant object are more valuable than one' (Ziber, 1871, p. 43a). In Ziber's view, this is hardly an instance of subjective preference and rational choice; 'this is the result of an objective valuation, and we cannot speak of a valuation that is personal, individual and free. Ivan, Petr, anybody prefers a pair of boots to a single boot' (Ziber, 1871, p. 43a). The principle of diminishing marginal utility is criticized on similar grounds. Given a fixed relationship between goods and needs, there is no reason for assuming that 'the more we have of useful products, the lower is the utility associated with each of them' (Ziber, 1871, p. 61a). In fact, 'within the limits of the existing need, an additional unit

(12) The credit for this discovery is given to Friedländer's 'Theorie des Werths' ^(Friedländer, 1852) in which the idea can be found that 'the value in use of any given type of food is determined by the ratio between the real nutritional content of that particular food and the amount of nutritional content that, on average, man needs at any given time. The value in use of any particular good is thus a certain fraction of a whole unit of need' (Ziber, 1871, p. 49a).

of product is associated with an additional unit of utility; beyond such limits, the product is completely useless and total utility is unchanged' (Ziber, 1871, pp. 61a-61b; our italics). After dismissing diminishing marginal utility, Ziber formulates an alternative explanation of the fact that diminished supply ^{of a commodity} might be associated with higher market price: '[1] If we now diminish the number of products, their utility is not increased because part of demand is not satisfied; what is increased is only the fear that a certain share of demand might not be satisfied. This factor is completely external both to utility and to value, even if, in this particular case, it exerts on value the kind of influence that induced Bruno Hildebrand to find a perfect correspondence between the two phenomena' (Ziber, 1871, p. 61b) (13).

CAPITAL AND VALUE

The discussion of 'the internal and continuous bond existing between Ricardo's study of value and his analysis of capital' (Ziber, 1871, Preface) is a dominant theme of Teoriia Tsennosti. In this discussion, Ziber defends the generality of Ricardo's 'law of value', in spite of the qualifications admitted by Ricardo himself (Ricardo, 1951, ch.I, sections iv-v).

In this section, we shall present Ziber's argument as expounded in chapter VII of Teoriia Tsennosti ('Constant and Circulating Capitals'). Here we shall also consider a number of statements belonging to other

(13) Here Ziber refers to the formulation of the psychological law of diminishing marginal utility in Hildebrand's Nationalökonomie der Gegenwart und Zukunft (Hildebrand, 1848). The alternative explanation of the relationship between demand and market price had already been advanced by a number of authors in the course of the 19th century. (See, in particular, Valeriani, 1817, p.14 ; Rossi, 1840, pp. 57-8).

chapters of that book which, in our view, might help one to understand Ziber's mode of reasoning.

Ziber's study of the relationship between capital and value is grounded in the criticism of Smith's idea that 'as soon as stock has accumulated in the hands of particular persons' (Smith, 1776, p. 65; 1st edn 1776) and 'as soon as the land of any country has all become private property' (Smith, 1776, p. 66), the price of a commodity is determined 'by a process of adding up the wages, profit and rent' (Sraffa, 1951, p. xxxv). In Ziber, criticism of Smith's adding-up theory is combined with criticism of Ricardo's association of the cost or 'real value' of a commodity with the quantity of labour required to produce it. This point of view is reinforced by the adoption of a particular conception of capital, in which the distinction between 'constant' and 'circulating' capitals is given a subordinate role with respect to the idea that both raw materials and productive instruments contribute to determine the quantity of 'average labour' required to produce any given commodity, and that 'from the point of view of the social economy, we cannot speak of past and present labour' (Ziber, 1871, p. 341b).

Ziber's appraisal of the adding-up theory is based upon work by Thünen and Komorzynski. Johann von Thünen, in his Salaire naturel (Thünen, 1857), had pointed out that Smith's theory is bound to fall into a vicious circle, since 'the natural price of corn is the price that exactly covers the normal values of wage, profit and rent. But after this? What is natural rent? Everything that is left to the farmer after deducting the wage, productive expenditures and profit from the price at which the product is sold [...] Thus, in computing the natural price of corn, we take rent as given and, on the contrary, in computing rent we take the natural price of corn as given [...] If $y = a + b + x$ and $x = y - (a + b)$, the latter equation [...] is not ^{new,} it is simply a different formulation of the former, and the unknowns x and y remain as ^{undetermined} as beforehand' (Thünen, 1857, pp. 93-4; 1st edn 1850; |

quoted in Ziber, 1871, pp. 171a-171b). After Thünen, Johann von Komorzynski had observed that the cost-of-production theory of price 'explains the price of a good not on the basis of elements independent of price, but on the basis of other prices; in fact, cost of production is determined by the prices of all goods necessary for production' (Komorzynski 1869; quoted in Ziber, 1871, pp. 171b-172a).

Ziber accepts the conclusions of Thünen and Komorzynski, but proposes to overcome the indeterminacy of cost-of-production prices without having recourse to the supply-and-demand mechanism in a competitive setting (14). This is done by following a route that was suggested by Smith himself in his analysis of natural wage (15):

[S]mith argues that the level of wage is determined, not only by demand and supply for labour, but also by the prices of goods entering workers' consumption. There is no doubt that these prices are not completely determined, that the prices of workers' consumption goods are themselves composed of the same elements as the price of the product. The problem of wage determination remains as unsolved as beforehand, yet it is clarified, in the sense that wage is given an external foundation. (Ziber, 1871, pp. 173a-173b)

In Ziber's view, Smith's problem cannot be completely solved unless the distinction between the cost of producing a commodity and the quantity of labour embodied in it is firmly established. Confusion between the two

(14) In Ziber's view, the theory of competitive markets would be unable to determine natural prices as 'centers of gravity' of market prices since competition 'is nothing but chance in all its manifold expressions' (Ziber, p. 172b).

(15) Ziber gives credit to the Russian economist Heinrich Storch for the discovery of the special position of wage in the theory of the cost of production: '[i]t is true that workers' wage, just as that share of entrepreneurial profit consisting of wage, if we consider them as shares of necessaries, are equally composed of commodities purchased at the current

concepts reflects a confusion between 'private economy' and 'social economy'. The idea of 'cost of production' as the sum of expenses necessary in order to supply a certain commodity, belongs to the theory of the 'private economy' (it is relevant when we consider the special circumstances under which any given commodity can be supplied by the individual producer). On the other hand, the concept of 'embodied labour', as the quantity of labour that is on average employed in order to produce a certain commodity under given technological and social conditions, belongs to the theory of the 'social economy'. (It is relevant when the method of the 'social averages' is applied to the study of the circumstances under which any given commodity is being produced.) (See Ziber, 1871, pp. 177a-177b.)

In the theory of the private economy, the determination of the natural price is considered as a process by which exchange must provide the amount of purchasing power necessary in order to cover expenses for the payment of wages plus the entrepreneur's profit. In this way, the theory of price combines 'the conception of expenditure for the payment of wages with the conception of income (this is the entrepreneur's profit)' (Ziber, 1871, p. 178a). But this approach leads to a problem for the theory of profit determination: '[E]ither the theory of productive expenses admits that the seller has a certain power over the buyer, so that the former is always extracting a profit from the latter, and the latter always bears a loss, or both the seller and the buyer do pay, and both get their profit' (Ziber, 1871, pp. 178b-179a). The former solution (a case of 'profit upon alienation') cannot

prices, which include wages, capital rents, land rents and entrepreneurial profits. But, since it is impossible to reduce wage to any other component of price, due to the fact that wage is subject to other laws, this simply proves that it is impossible to solve the necessary price for its simplest elements' (Storch, 1823, tome I, p. 422 n; 1st edn 1815; quoted in Ziber, 1871, p. 194b).

hold for society as a whole over an average period of time; under the assumption that society consists of persons who are, in general, both producers and consumers, profit upon alienation is not compatible with the reproduction of the economic system. (For , in this case, profit would not be a form of net product, and its generalization would involve that society is not producing the quantity of commodities necessary for the replacement of raw materials, subsistence, etc.). (See Ziber, 1871, pp. 179a-179b). The latter solution, on the other hand, would involve that profits and losses are randomly distributed among producers and consumers. However, this result is not compatible with the fact that profits as a category of social income are, on average, greater than zero. (See Ziber, 1871, pp. 180b-181a.) This difficulty arises from the attempt to determine the natural rate of profits within the theory of the cost of production (a theory of the 'private economy'). Once we adopt the point of view of the 'social economy', profit is bound to appear as a share of the net product of society. This point of view is at the basis of Ziber's suggestion that there is no reason for modifying the principle of exchange between labour equivalents when profit is gained over capital advances:

Could it be that the surplus, or profit, is already embodied in the product that is being exchanged, and which changes its form through exchange? And that the parity between labour equivalents is not at all violated by the introduction of profits into the exchange-values?

(Ziber, 1871, p. 182a)

A full answer to this question is only attempted in the final chapter of Teoriia Tsennosti, after a thorough discussion of capital and capital accumulation. (This discussion is carried out in chapter V: 'The Conception of Capital', and in chapter VI: 'On the Origin and Increase of Capital'.)

Ziber's analysis of capital is grounded on the idea that it would be wrong to separate analytically the means of production and the means of

consumption, and that it would ^{also} be wrong to separate the production of commodities and their utilization;

In economic reality there is a continuous exchange between production and uses. Any production is the necessary condition of a future use and, on the other hand, any use is the necessary condition of future production.

As a result, it is entirely logical and correct to consider in the same category both the means of subsistence and the means of production of such means of subsistence; on the other hand, their separation into different categories is not logical and does not correspond to the truth.

(Ziber, 1871, p. 281)

This view is related with the idea that, on average, the consumption of necessities prevails over the consumption of luxuries, and that consumption is itself part of the process of 'production-utilization' of commodities (16). This approach has one important shortcoming in Ziber's theory. In fact, Teoria Tsennosti shows a concentration of attention on the 'circular' system of production and productive consumption. On the other hand, in this work Ziber describes the productive system as if each production process were a process producing, directly or indirectly, commodities entering productive consumption;

[/t]he series of operations performed on skin by the butcher, the tanner, the shoemaker, from the point of view of the social economy are nothing but a direct, single operation of boot production.

(Ziber, 1871, p. 321b)

(16) Ziber recognizes the distinct role of necessities and luxuries by noting that: '[/t]he production of necessities and consumption goods for the average man prepares the conditions for the production of luxuries and objects used by particular groups of the population, whereas

In the end, this view of the productive system stresses the aspect of the reproduction of individuals whose activities are themselves essential for the reproduction of the whole system. Ziber's concentration on the production of 'final' consumption goods that enter workers' subsistence permits him to combine a 'circular' view of production with a description of the productive system that we might tentatively associate with the 'vertical integration' of productive activities. (In the sense that intermediate stages of production and intermediate commodities are not given any independent economic function, apart from their role in producing 'final' necessities) (17) .

Another important aspect of Ziber's analysis of capital is the idea that the theory of the social economy cannot accommodate the distinction between past and present labour. (See above.) This view is a result of the method of 'social averages', which has a pervasive application in Teoriia Tsennosti; in any average period of time, the economic system would be performing, for all produced commodities, all the different stages of the production process. The concentration on 'final' necessities makes it immaterial to study in detail intermediate processes and commodities. The method of the 'social averages' provides a rationale for considering such processes and commodities redundant for the analysis of value;

[I]n spite of the fact that the work of the spinner produces a value, it is not distinguished from the

the production of luxuries does not perform a similar function with respect to the necessities' (Ziber, 1871, pp. 312b-313a).

(17) The introduction of the notion of 'vertical integration' into economic theory is due to Luigi Pasinetti (1973). An application of this concept to the 'rational reconstruction' of the history of economic

labour embodied in the tools necessary for spinning, or from the labour needed to produce the raw cotton or the spindle [...]. Here it is important to consider not the quality, properties and content of labour, but its quantity. It is very important that in the course of the production process, i.e. in the transformation of raw cotton into yarn, only the socially necessary labour be used. It is only this amount of time that originates value. (Ziber, 1871, p. 359b)

This view of production and capital provides the framework in which Ziber examines the possibility of exceptions to the principle of exchange according to labour equivalents. In section iv of the chapter 'On Value' of his Principles, Ricardo had admitted that '[t]he principle that the quantity of labour bestowed on the production of commodities regulates their relative value' is 'considerably modified by the employment of machinery and other fixed and durable capital' (Ricardo, 1951, p. 30). In section v of the same chapter, Ricardo had also admitted that the general law of value is modified 'by the unequal durability of capital, and by the unequal rapidity with which it is returned to its employer' (Ricardo, 1951, p. 38).

In chapter VII of Teoria Tsennosti, Ziber comments extensively on the passage of section iv of the Principles in which Ricardo writes:

Suppose two men employ one hundred men each for a year in the construction of two machines, and another man employs the same number of men in cultivating corn, each of the machines at the end of the year will be of the same value as the corn, for they will each be produced by the same quantity of labour. Suppose one of the owners of one of the machines to employ it, with the assistance

theory may be found in Quadrio-Cursio and Scazzieri (1984, 1986).

of one hundred men, the following year in making cloth, and the owner of the other machine to employ his also, with the assistance likewise of one hundred men, in making cotton goods, while the farmer continues to employ one hundred men as before in the cultivation of corn. During the second year they will all have employed the same quantity of labour, but the goods and machine together of the clothier, and also of the cotton manufacturer, will be the result of the labour of two hundred men, employed for a year; or, rather, of the labour of one hundred men for two years; whereas the corn will be produced by the labour of one hundred men for one year, consequently if the corn be of the value of 500 l. the machine and cloth of the clothier together, ought to be of the value of 1000 l. and the machine and cotton goods of the cotton manufacturer, ought to be also of twice the value of the corn. But they will be of more than twice the value of the corn, for the profit on the clothier's and cotton manufacturer's capital for the first year has been added to their capitals, while that of the farmer has been expended and enjoyed. On account then of the different degrees of durability of their capitals, or, which is the same thing, on account of the time which must elapse before one set of commodities can be brought to market, they will be valuable, not exactly in proportion to the quantity of labour bestowed on them, - they will not be as two to one, but something more, to compensate for the greater length of time which must elapse before the most valuable can be brought to market.

(Ricardo, 1951, pp. 33-4)

In his comment on this passage, Ziber maintains that '[t]here are grounds for believing that Ricardo's results are not correct' (Ziber, 1871, pp. 379a-379b). In particular, one should not forget that the value of the three products (corn, cloth, cotton goods) consists of the value of the wage goods necessary for production plus a certain value added, which

Ricardo identifies with the entrepreneur's profit. (See Ziber, 1871, p. 380a). Under the assumption, made by Ricardo, that the cloth and cotton goods do not contain any fraction of the value of the machine that is used to produce them, 'at the end of the second year, the value of the product, augmented by the whole sum of the new labour, and which contains another 10% of value added, is twice the value of [corn], nothing more nor less' (Ziber, 1871, p. 380a).

Under conditions of a uniform rate of net produce in the different fields of production, there is no reason why the total value produced by one year's labour should be different from one productive sector to another. In Ziber's view, Ricardo's opposite opinion is due to his neglect that:

[A] detailed economic analysis cannot be limited to the single statement that, under certain conditions, the price of produce must contain a given surplus. It is also necessary to show where this surplus comes from. The growth of interests over and above the interests, which is here mentioned by Ricardo, is, just as the origin of such interests, a phenomenon of production, not of exchange. (Ziber, 1871, p. 380b)

The attention for the labour content of total output, rather than for the entrepreneur's claim to a certain 'mark up' over productive expenses, explains Ziber's stress on the 'net produce' aspect of profits. The same point of view explains Ziber's criticism of Ricardo's statement that, in the case of different proportions of capital, a rise of the unit wage will bring about changes in the relative values of commodities independently of their labour content.

Ricardo, in his discussion of the example considered above, had presented the following numerical case:

Suppose [..] that owing to a rise of wages, profits fall from 10 to 9 per cent., instead of adding 550 l. to the common price of their goods (to 5,500 l.)

for the profits on their fixed capital, the manufacturers would add only 9 per cent. on that sum, or 495 l., consequently the price would be 5,995 l. instead of 6,050 l. As the corn would continue to sell for 5,500 l., the manufactured goods in which more fixed capital was employed, would fall relatively to corn or to any other goods in which a less portion of fixed capital entered. The degree of alteration in the relative value of goods, on account of a rise or fall of labour, would depend on the proportion which the fixed capital bore to the whole capital employed. All commodities which are produced by very valuable machinery, or in very valuable buildings, or which require a great length of time before they can be brought to market, would fall in relative value, while all those which were chiefly produced by labour, or which would be speedily brought to market would rise in relative value.

(Ricardo, 1951, p. 35)

In his comment on this passage, Ziber has again recourse to the idea that the value of commodities originates in production rather than in exchange, and that the distribution of produce between wages and profits should be examined independently of the 'adding up' approach to the cost of production:

The increase and decrease [...] of the two component parts of any given sum by a certain common proportion [...] leaves the sum total unchanged, when the percentages are computed with respect to that total. If, for example, we suppose of increasing one component part of 200, say 150, by 10%, and of decreasing the other component part, namely 50, by the same percentage, the sum total of the two new numbers [...] would still be 200, on condition that the 10 per cent increase and decrease be referred to 200 [...]. Ricardo appears to increase wages and to decrease profits by the same percentage, when he is decreasing profits down to 9 per cent and increasing wages by 1 per cent. In fact, the decrease of profits from 10 to 9 per cent, if compared with the total (6,050 pounds) corresponds to a decrease of 2 per cent,

whereas the increase of wages by 1 per cent corresponds to an increase by less than one percentage point. It is not surprising that a large decrease of a minor component of value, not compensated by a smaller increase of the principal component, has diminished the sum total, namely the total value of the product obtained with the machine. (Ziber, 1871, pp. 382a-383b)

In Ziber's view, Ricardo's analysis shows an inadequate grasp of the idea that profits and wages are parts of the social product, and that profits derive from the production process as a form of net product. Ricardo's argument appears to Ziber a result of the 'private economy' approach, in which the individual entrepreneur has to obtain a certain profit as a 'mark up' over and above his productive expenses. The point of view of the 'social economy' suggests to Ziber an alternative interpretation, in which the value of the total output in each productive sector remains unchanged, independently of the capital proportions and of the distribution of product between profits and wages. In this case, given the increase of wages, the compensating decrease of profits is computed directly from the social product measured in labour equivalents. The rate of profits is thereby obtained as the rate of remuneration of capital advances compatible with the given value of the produce.

This point of view might seem somehow surprising and paradoxical. It is in fact the result of the particular method of inquiry that Ziber consistently adopts in Teoriia Tsennosti. The consideration of 'social averages' and the concentration on the average conditions for the reproduction of necessities, make possible both the stress on labour equivalents in value determination and the view of the productive system as a set of vertically integrated sectors. (The reason of this is that each productive sector is described as a set of processes delivering a particular subsistence good by means of direct labour, whereas intermediate commodities are not considered).

As a result, we approach the picture of a 'natural' economy in which labour is the fundamental category, and the determination of net products takes place independently of the special rules that might be followed by the individual agents in the 'private economy'.

REFERENCES

- Bastiat, F. (1850) Harmonies économiques, Meline, Cans et C.^{ie}, Bruxelles.
- Baumstark, E. (1838) Volkswirtschaftliche Erläuterungen vorzüglich über David Ricardo's System, W. Engelmann, Leipzig.
- Cossa, L. (1895) 'La teoria del valore. Saggie bibliografice', Giornale degli economisti, 2nd series, vol.X, January, pp. 117-224.
- Dmitriev, V.K. (1974) Economic Essays on Value, Competition and Utility, [1904], Cambridge, Cambridge University Press.
- Drobisch, M.W. (1867) Die Moralische Statistik und die menschliche willensfreiheit, L. Voss, Leipzig.
- Friedländer, E. (1852) 'Die Theorie des Werths', in Zur Jubelfeier der Kaiserlichen Universität Dorpat am 12. und 13. December 1852; Festschrift der historisch-philologischen Facultät, Druck von H. Laakmann, Tartu.
- Hildebrand, B. (1848) Die Nationalökonomie der Gegenwart und Zukunft, Erster band, J. Rütten, Frankfurt a.M.
- Komorzynski, J. von (1869) 'Ist auf Grundlage der bisherigen wissenschaftlicher Forschung die Bestimmung der natürlichen Höhe der Güterpreise möglich?', Zeitschrift für die gesamte Staatswissenschaft, vol. XXV, pp. 189-238.
- Loria, A. (1882) 'La teoria del valore negli economisti italiani', Archivio Giuridico, vol. XXVIII, n. 1, pp. 3-66.
- Loria, A. (1889) Analisi della proprietà capitalista, Bocca, Torino.
- Loria, A. (1925) 'Davide Ricardo', Annali di economia, vol. II, n. 1, November, pp. 43-63.
- Marx, K. (1983) Capital. A Critique of Political Economy. Book One: The Process of Production of Capital [Afterword to second German edition first published in 1872], Lawrence and Wishart, London.
- Mill, J.S. (1965) Principles of Political Economy with Some of Their Applications to Social Philosophy (1848), ed. J.M. Robson, with an introduction by R.F. McRae, University of Toronto Press, Toronto.
- Pasinetti, L.L. (1973) 'The Notion of Vertical Integration in Economic Analysis', Metroeconomica, vol. 25, pp. 1-29.
- Quadrio-Cursio, A. and Scazzieri, R. (1984) 'Sui momenti costitutivi dell'economia politica', Giornale degli Economisti e Annali di Economia, vol. XLIII (n.s.), vol. XLIII, nn. 1-2, January-February.
- Quadrio-Cursio, A. and Scazzieri, R. (1986) 'The Exchange-Production Duality and the Dynamics of Economic Knowledge', in M. Baranzini and

- R. Scazzieri (ed.) Foundations of Economics. Structures of Inquiry and Economic Theory, Basil Blackwell, Oxford, pp. 377-407.
- Quételet, L.A. (1835) Sur l'homme et le développement de ses facultés, ou essai de physique sociale, Bachelier, Paris.
- Ricardo, D. (1951) On the Principles of Political Economy and Taxation [1817¹, 1819², 1821³], vol. I of Works and Correspondence of David Ricardo, ed. by Piero Sraffa with the collaboration of M.H. Dobb, Cambridge University Press, Cambridge.
- Rossi, P. (1840) Cours d'économie politique, Société Belge de Librairie, Bruxelles.
- Rubin, I.I. (1928) Ocherki po teoriij stoimosti Marksa [Essays on Marx's Theory of Value], Gosudarstvennoe Izdatel'stvo, Moscov-Leningrad.
- Smith, A. (1976) An Inquiry into the Nature and Causes of the Wealth of Nations [1776] ed. R.H. Campbell, A.S. Skinner and W.B. Todd, Clarendon Press, Oxford.
- Sraffa, P. (1951) 'Introduction' in D. Ricardo, On the Principles of Political Economy and Taxation, vol. I of Works and Correspondence of David Ricardo, ed. by Piero Sraffa with the collaboration of M.H.Dobb, Cambridge University Press, Cambridge, pp. xiii-lxii.
- Storch, H. (1823) Cours d'économie politique, ou exposition des principes qui déterminent la prospérité des nations [1815], J.P. Aillaud, Bossange père, Rey et Gravier; Paris.
- Thünen, J.-H. von (1857) Le salaire naturel et son rapport au taux de l'intérêt [1850], Guillaumin et C.^{1e}, Paris.
- Valeriani, L. (1817) Discorso apologetico [...], Jacopo Marsigli, Bologna.
- Zhukovskij, Ya. (1864) 'Smittovskoe napravlenie i pozitivizm v êkonomicheskoj naukie' [The Smithian approach and positivism in economic science], Sovremennij Ziber, N.I. (1869) Potrebitel'nyia obshchestva [The societies of use and consumption], Kiev.
- Ziber, N.I. (1870) 'K Ucheniu o rentie' [For the study of rent], Universitetskia Izviestia (Kiev), nn. 5-6.
- Ziber, N.I. (1871) 'Teoriia Tsennosti i Kapitala D. Rikardo, v sviazh s pozdniejshimi dopolneniami i raz'iasneniami' [Ricardo's theory of value and capital, in relation to the latest additions and explanations], Universitetskia Izviestia (Kiev), nn. 1-2 and 4-11.
- Ziber, N.I. (ed.) (1873a) Nachala politicheskoj êkonomii [Principles of Political Economy], by David Ricardo, translation of the first part, Universitetskia Izviestia (Kiev), nn. 1-10.
- Ziber, N.I. (1873b) 'Zhizn i trudy Davida Rikardo' [The life and works of David Ricardo], Universitetskia Izviestia (Kiev), n. 9.

- Ziber, N.I. (1874) 'Chto takoe statistika' [What is statistics?], Znanie, n.8.
- Ziber, N.I. (1875a) 'Tsena truda' [The cost of labour], Universitetskiiâ Izvestiia, n. 2.
- Ziber, N.I. (1875b) 'Opyt programmy dlia sebiraniâ statistiko-âkonomicheskikh sviâdenii' [Essay of a programme for the collection of economical-statistical information], Kiev.
- Ziber, N.I. (1876a) 'Berlinskie griundery i ikh moshennichestva' [Berliners entrepreneurs and their deceptions], Znanie, n. 9.
- Ziber, N.I. (1876b) 'Materialy dlia nabliudeniâ nad obshchestvenno-âkonomicheskogo zhizniâ russkago gereda' [Materials of observation on the economical and social life of the Russian people], Znanie, nn. 3-4.
- Ziber, N.I. (1876-8) 'âkonomicheskaiâ Teoriâ Karla Marksa' [The economic theory of Karl Marx], Znanie (1876), nn. 10, 12; Znanie (1877), n. 2; Slovo (1878), nn. 1, 3, 9, 12.
- Ziber, N.I. (1877a) 'Nevieishee fabrichnoe zakonodatel'sto Bâlikebritanii' [The latest factory legislation in Great Britain], Otechestvennye Zapiski, nn. 1, 4, 5.
- Ziber, N.I. (1877b) 'Nieskolko zamiehaniâ po povedu stat'si Yu. Zhukovskago: "K. Marx i ego kniga o kapitalie" [Some notes on the article by Yu. Zhukovskii "Karl Marx and his book on capital"], Otechestvennye Zapiski, n.11.
- Ziber, N.I. (1878 a) 'Obshchinno-pozemel'nyiâ otnosheniâ vladiel'cheskikh krest'ian Êl'zasa v srednie vieka' [Community relationships and land among the peasant proprietors of Alsace in the Middle Ages], Otechestvennye Zapiski, nn. 1 and 4-5.
- Ziber, N.I. (1878b) 'F. Lassal skvoz ochki g. B. Chicherina' [F. Lassalle in B. Chicherin's eyes], Slovo, n. 4.
- Ziber, N.I. (1879a) 'Fiasko natsional'nago liberalizma' [The failure of liberal nationalism], Slovo, n. 9.
- Ziber, N.I. (1879b) 'Chicherin contra Marks' [Chicherin against Marx], Slovo, n. 2.
- Ziber, N. I. (1879c) 'Dialektika v eia primieneni k naukie' [Dialectics and its application to science], Slovo, n. 11.
- Ziber, N.I. (1879-80) 'Mysli ob otnosheni mezhdy obshch estvennoiâ âkonomicii i pravom' [Thoughts on the relationship between general economics and law], Slovo (1879), n. 2; Slovo (1880), n. 6.
- Ziber, N.I. (1880) 'Zemledielie v Soedinennykh Shtatakh Sievernoi Ameriki' [Agriculture in the United States of Northern America], Otechestvennye Zapiski, n. 11.
- Ziber, N. I. (1881a) 'Obshchinai gosudarstvo v Niderlandskoi Indii' [Community and state in the Dutch Indies], Otechestvennye Zapiski, n. 3.

- Ziber, N. I. (1881b) 'Istoriia Shveitsarskoĭ Al'mendy' [History of the Swiss almende] Vestnik Evropy, n. 10.
- Ziber, N. I. (1882a) 'Khod vsemirnago kheziaĭstva v poslednee 10-tiliĕtie' [The movement of the world economy in the past 10 years], Russkaia Mysl, n. 6.
- Ziber, N.I. (1882b) 'Sud'ba obshchinnago vladienĭia v Shveĭtsarii' [The future of the goods of the community in Switzerland], Vestnik Evropy, n. 7.
- Ziber, N. I. (1882c) 'Noviĭ trud o pervobitnikh Uchrezhdeniĭakh' [New work on primitive institutions], Otechestvennye Zapiski, n. 7.
- Ziber, N.I. (ed.) (1882d) Sochinenĭia Davida Rikarde. [Works of David Ricardo], with translator's supplements, S. Peterburg.
- Ziber, N. I. (1883a) 'O vliĭanii progressa na bĕdnost' [The influence of progress on poverty], Russkaia Mysl, n. 6.
- Ziber, N.I. (1883b) 'Raspredielenie pozemed'noiĭ sobstvennosti v Germanii' [The distribution of property in Germany], Russkaia Mysl, nn. 1-2.
- Ziber, N. I. (1883c) 'Obshchestvennaia ĕkonomiĭa i prave' [General economics and law], Yuridicheskii Vestnik, nn. 5, 9, 10.
- Ziber, N. I. (1883d) Ocherki pervebytnoiĭ ĕkonomicheskoiĭ kult'uri [Essays on primitive economic culture], Izd. K.T. Soldatenkova, Moscow.
- Ziber, N. I. (1885) David Rikardo i Karl Marks v ikh obshchestvenno-ĕkonomicheskikh izsliĕdevaniĭakh [David Ricardo and Karl Marx in their social-economical researches], Tip. M.N. Stasiulevicha, S. Peterburg,

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