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Léon Walras on the Worker-Entrepreneur:
New Light on his Concept of Profits

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Léon Walras on the Worker-Entrepreneur: New Light on his Concept of Profits¹

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Abstract

The aim of this research is to clarify Walras' idea of the worker-entrepreneur and to re-examine his explanation about the origin of profits. It is well-known that in Walras's general equilibrium model, the entrepreneur receives no profit, and that the model also lacks in the analysis of uncertainty. In this paper, I show how Walras' idea of the worker-entrepreneur originated from his thoughts and experiences in the cooperative association, which include a fragmental analysis of uncertainty, and show how this idea is related to his general equilibrium theory. The objective of this research is to reconsider the theoretical, historical, and intellectual significance of the abstraction of the concept of uncertainty in Walras' general equilibrium model.

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Introduction

It is well-known that in Walras' theory of pure economics, the entrepreneur receives no profit in a state of general equilibrium. Under the hypothetical regime of absolute free competition, Walras assigned this zero-profit entrepreneur no realistic role, which raised criticism from many economists. However, in his writings on social and applied economics, where he pursued the fairness and efficiency of a real economy, Walras argued for the role of a real entrepreneur, based on his pure theory of the entrepreneur. One plausible role he envisaged involves the state-entrepreneur, whose functioning can help prevent extra profits for monopolies. The implications of this proposal for state-entrepreneurship have been debated by several historians of economic thought³.

The aim of this research is to clarify Walras' idea of the worker-entrepreneur, which has not been previously studied, and to re-examine how he interpreted or explained the origin of profits. In his theory of pure economics, Walras emphasized the theoretical distinction between workers and entrepreneurs. Yet, he also allowed for the possibility of real entrepreneurs making a living as workers⁴. In this paper, I show how Walras' idea of the worker-entrepreneur originated from his thoughts about the cooperative association he engaged with during his pre-Lausanne days, and how it influenced his zero-profit entrepreneur theory in pure economics.

Walras's analysis of profit generated by the worker-entrepreneur includes a fragmental analysis of uncertainty. As Rebeyrol (1999) points out, Walras' plan of the cooperative association supposes uncertainty in the real economy, but he made an abstraction of it in his discussion of pure economics⁵. The objective of this research is to reconsider the significance of this abstraction of uncertainty in Walras' pure economics; from a theoretical perspective, the lack of analysis of uncertainty in Walras' general equilibrium model has been considered a definitive flaw and the study of uncertainty remains a subject for post-Walrasian research even today. From a historical and intellectual perspective, it is also noteworthy to focus on this abstraction to shed new light on the traditions of Cantillon, Say and Schumpeter, and other scholarly discussions on post-twentieth century entrepreneurship.

³ See Boson (1951), (1963). Dockès (1996), Baranzini & Fèvre (2019), and Potier (2019).

⁴ Thus, Walras' entrepreneurs, in his pure economics, can be considered not as a class, but as a function. Therefore, Walras considered Marx's capitalist to be a "capitalist-entrepreneur", by his own definition. On this point, see also Misaki (2018).

⁵ Rebeyrol 1999, p.27.

1. Entrepreneurs, workers, and capitalists in Walras' pure economics

In Walras' pure economics model, in the state of equilibrium, entrepreneurs are supposed to earn no profits. This idea has been criticized even by his contemporaries for its inaccurate description of real economic activity.⁶ To examine Walras' concept of the worker-entrepreneur with precision, we begin by examining Walras' clear distinction between the roles of entrepreneurs and of workers and capitalists⁷, in his pure economics.

Walras describes holders of land as "landowners", those possessing personal faculties as "workers", and those possessing capital-proper as "capitalists". The prices of the services of land, personal faculties, and capital-proper are called rent, wage, and interest, respectively.

Walras used the French word for "profit" to refer to capital services⁸. In our English translation, "profit" corresponds to Walras' "bénéfice" in the original in French, in the same way as Jaffé's English translation of *Elements* does⁹.

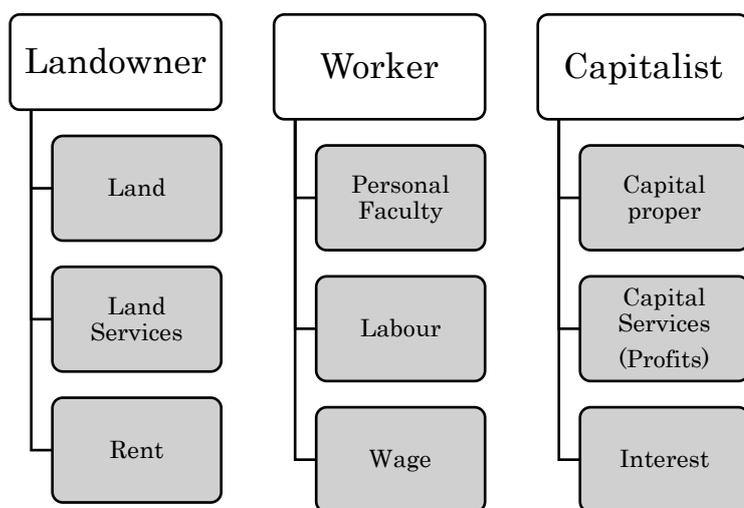


Figure 1. Walras' distinction of the three classes

In Walras' theory of production in pure economics, the role of the entrepreneur is to

⁶ For example, see F. I. Edgeworth's criticism in his review of the third edition of *Elements*, "But surely, he goes too far in the way of abstraction when he insists that the ideal entrepreneur should be regarded as [making neither gain nor loss]" (Bridel 1996, p. 268).

⁷ For Jaffé's criticism of Morishima's misinterpretation of Walras' concept of profit and his distinction between the capitalist and entrepreneur, see Jaffé 1980.

⁸ Walras, L. 1988, pp. 264-265.

⁹ Translation by Jaffé 1954, p. 212.

lease land from the landowner, hire personal faculties from the worker, and borrow capital from the capitalist, and then combine them in agriculture, industry, or commerce to manufacture products. In the service market, landowners, workers, and capitalists are sellers, and entrepreneurs are buyers of various productive services. In the product market, entrepreneurs are sellers, and landowners, workers, and capitalists are buyers of the products. Thus, workers and capitalists are considered counterparts of entrepreneurs in the product and service markets.

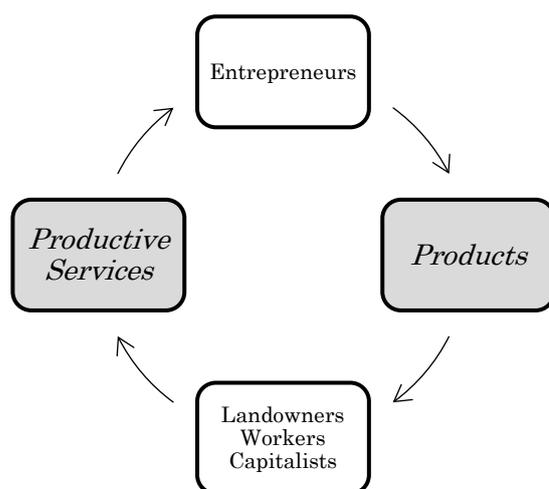


Figure 2. The service and the product markets in pure economics

The actions of the landowners, workers, and capitalists in offering productive services and demanding products are based on their desire to obtain maximum satisfaction, which is achieved in the state of equilibrium. On the other hand, the main reason for entrepreneurs' actions is the desire to avoid losses and earn profits. Under free competition, if there is profit (the selling price of the product exceeds the cost of the productive services required to manufacture the product), more entrepreneurs will move toward this branch of production or expand output, so that supply of the product will increase, its price will fall, and the difference between its price and cost will be reduced. The reverse is also true. Following this process, when equilibrium is reached, the product's selling price and cost will be equal, and therefore, the entrepreneurs' profits will be reduced to zero.

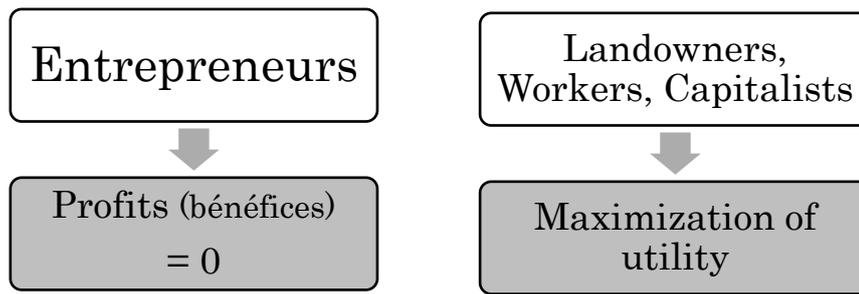


Figure 3. The result of actions in the state of equilibrium

Interestingly, Walras insists that not only profits, but also entrepreneurs themselves, could disappear when a state of equilibrium is reached¹⁰. If we consider this abstraction, we may say that in Walras' pure economics, the entrepreneur is not a real class but rather a function¹¹. In fact, Walras allowed for the possibility of entrepreneurs who make a living as landowners, workers, or capitalists in a real economy¹².

The question that emerges is why Walras, who explained that workers and capitalists could assume the role of entrepreneurs in a real society, emphasized the necessity of a scientific distinction between their roles. He insisted that the entrepreneur receives neither wage nor interest by himself, and that his idea was clearly different from British economists who identified the entrepreneur as capitalist, and French economists who considered the entrepreneur as a special worker in charge of directing the enterprise¹³.

It is obvious that in referring to the French economist, Walras implicitly criticized Jean-Baptiste Say's concept of the entrepreneur¹⁴. As Walras and Say both supposed that one man could take charge of the roles of the entrepreneur and worker, one might think that their ideas are not very dissimilar. Why then, was Walras so harsh with Say on the definition of the entrepreneur? This question will be key to solving the implication of Walras' own idea of the worker-entrepreneur. This will be discussed in a separate paper¹⁵.

¹⁰ Walras, L. 1988, p.284.

¹¹ On this subject, see also Misaki (2018).

¹² Walras, L. 1988, p.284.

¹³ Walras, L. 1988, pp.280–281.

¹⁴ Concerning the comparison and the influence of Say on Walras' concepts of the entrepreneur, by way of his father Auguste, see Potier (2019), pp.37–43.

¹⁵ Walras' perspective of the worker-entrepreneur is totally different from that of Jean -

2. Walras on the state-entrepreneur and his criticism of Marx

In addition to the scientific distinction between the entrepreneur and the worker, Walras further emphasized their distinction from the capitalist in his pure economics, which was a concept he shared with Jean-Baptiste Say¹⁶. To clarify Walras' intentions, we must pay attention to his concept of the state-entrepreneur in his study of applied and social economics. Theoretically therefore, he allotted the role of the entrepreneur to the state, but not that of the capitalist. This led Walras to criticize Marx's definition of the capitalist as a "capitalist-entrepreneur" and contributed to emphasizing the differences between their systems of collectivism.

(1) Walras' idea of monopoly and of the state-entrepreneur in his applied economics

In his applied economics¹⁷, Walras described two types of monopoly, "moral" and "economic". In both cases, the state is supposed to act as the only entrepreneur. Moral monopoly means that the state takes it upon itself to produce public goods and services¹⁸; taking railway services as an example¹⁹ which, Walras believed, are needed, and demanded not by private interests, but by public interest or the nation or community. If production were left to market mechanisms, which function on private interest, no private party would take it up. Therefore, Walras believed that production must be performed by a state-entrepreneur.

On the other hand, economic monopoly is concerned with the production of goods and services for private interest. Despite the demonstration of the efficiency of absolute free

Baptiste Say's entrepreneur although both suppose the man in charge has two roles, that of a worker and an entrepreneur, all at once. This paper does not deal with Say's possible influence on Walras in the formation of his ideas on the association plans. It will be an objective for future research.

¹⁶ For the distinction between capitalists and entrepreneurs by Jean-Baptiste Say, based on his concept of industry, see James (1977). In this paper, James compared Say's idea to that of Pierre-Louis Roederer (1754-1835). The comparison between Walras' theory of the entrepreneur and the latter is a subject for future analysis.

¹⁷ Walras introduced this idea in the chapter 'L'état et les Chemins de fer' in his *Etudes d'économie politique appliquée (EEPA)*, whose first edition was published in 1898. Walras wrote this chapter in 1875, at nearly the same time that the first edition of *Elements* was published in 1874-1877.

¹⁸ On Walras' theory of public goods, see Béraud & Numa (2019).

¹⁹ When this chapter was written, the purchase of the Swiss railway by the state was a controversy. Walras intended to refute Michel Chevalier, who supported railway construction and management by private companies.

competition in his pure economics, Walras anticipated that in a real economy, monopolies would tend to be organized to achieve efficiency with the development of circulation and technology. The problem was to prevent the entrepreneur from amassing monopoly profits. Walras believed that, even in the case of economic monopoly, the equilibrating mechanism of entrepreneurial behavior would not be prevented if the entrepreneur always produced a level of output where production cost equaled its selling price. To achieve this outcome, the role of the entrepreneur should be assumed, not by an individual, but rather by the state, to prevent an individual obtaining extra profit by the arbitrary control of output²⁰.

(2) Walras' criticism of Marx on profit as an origin of injustice in his social economics²¹

The next question under consideration is, "How did Walras criticize Marx by using this idea of the state-entrepreneur?" Walras' definitive comments on Marx can be found in chapter 5, "The Theory of Property" in his *Etudes d'économie sociale* (EES), the first edition of which was published in 1896²².

Walras explained that in a Marxist regime, the state is supposed to take-on the entrepreneurship role in all sectors of the economy to prevent exploitation by private capitalist-entrepreneurs. Walras pointed out two defects of Marxist thought from a practical perspective. One is the impossibility of measuring the scarcity of land services. The second is the inability of the state-entrepreneur to know beforehand which products to produce and which to eliminate. Walras insisted that this problem does not exist in the market system of price determination. In the Marxist system, where prices are invariable, if demand is less than supply, the excess must be discarded. Walras explained that Marx's system thus sacrifices economic advantages to prioritize justice, or, to prevent the exploitation of workers by capitalist-entrepreneurs.

Walras supported the private ownership of capital and the market determination of the price of capital service (interest). However, he made exceptions and insisted that capital services should be owned by individuals only when they are created by means of their wages, and that they should be owned collectively when they are created by the state by means of rent²³. Walras emphasized that the true cause of injustice is the rent

²⁰ Walras, L. 1992, p.189.

²¹ On this point, see Misaki (2018).

²² This book contains many writings from before the publication of *Elements*, but the theory of property was newly written for EES.

²³ Walras, L. 1990, p.204.

earned by private landowners; which, in a progressive society, increases in proportion to the scarcity of land services, rather than interest on capital, which generally accumulates from the savings of workers²⁴. He insisted that land and the rent paid for using it, should belong to the state and that rent should then be used to provide free public services. In fact, the nationalization of land and the abolition of the tax system were not only the main subjects of Walras' social economics writings, but also his main beliefs since the beginning of his career in the 1860s.

In "The Theory of Property," Walras concluded his critique of Marx by referring to a rational society without landownership and monopolies, which he believes, are the real causes of injustice:

In a rational society, without land ownership and monopolies, the capital of individuals generally results from individual savings only, that is to say, from an excess of wages relative to consumption; it does not result from exploitation by entrepreneurs of product buyers or owners of productive services, since the likelihood of profits and the risk of loss for these entrepreneurs are correlative, and, apart from inventions and improvements, are balanced at the end.

(Emphasis is the author's. Walras, [1896] 1990, p.205)²⁵

Thus, Walras explains that profits (bénéfices) earned by the entrepreneur cannot be the result of exploitation, because profit is the reciprocal of the risk of losses. We may say that, in his pure economics, Walras shows that this risk of loss and the likelihood of profit can occur in disequilibrium, by using the idea of the zero-profit entrepreneur. It is noteworthy that Walras admits that profit is also earned by "inventions and improvements" which would not disappear, and therefore were not dealt with in his pure economics. We will examine these two categories of profits in the following sections in greater detail.

3. Walras' criticism of Charles Gide on the abolition of profits

To show the relevance of Walras' two concepts of profit, to his idea of the worker-

²⁴ See Lesson 36 (The definitive edition) "The marginal productivity theorem expanding output. The law of general price movements in a progressive economy."

²⁵ In this paper, all the English translations from the French text were made by the author.

entrepreneur, I begin by reviewing Walras' critique of Charles Gide²⁶ on the abolition of profits in his unpublished note, entitled *Notes d'humeur*.

In this note, Walras mentioned Gide's inaccurate interpretation of his concept of the entrepreneur in *Principe's d'économie politique* (6th edition, 1898). Like Walras, Gide too distinguished profit from interest and wages. What Walras denied is that entrepreneurs gain profits solely from monopolies and therefore, that profit should thus be abolished²⁷.

Gide on me...p.537, I consider the entrepreneur as being vested with a monopoly! (Walras, L. 2000, p.539)

Walras explains that Gide's profits (in French) correspond to his "bénéfice" and speaks of its indispensable role in the equilibrating process in his pure economics, referring to production not only for an individual, but also for a cooperative association.²⁸

Mr. Gide's profit... is no other thing, under a free competition regime, than the "excess of the selling price over the production cost" or profit, which is correlative to the excess of the production cost over the selling price, or loss, of the entrepreneur. Profit and loss are two necessary unpredictable elements from the moment production takes place before the sale, and both occur for an association (cooperative or other) as well as for an individual. Moreover, they are the indispensable spring of equilibrium since profit attracts the productive services of enterprises in loss and loss diverts these productive services towards other...in profit. By suppressing the profit and without dealing with the loss, Mr. Gide breaks the spring of the whole economic mechanism. (6 April 06).

(Walras, L. 2000, p. 540. Emphasis is the author's.)

In his criticism of Gide, Walras referred to the second category of profits, which are not correlated with losses, as he did in his criticism of Marx. Walras insisted that this kind of profit is caused by the entrepreneur's skillfulness.

Gide. Elimination of enterprise profit.

²⁶ Charles Gide was Walras' good friend, who understood not only the significance of Walras' pure economics, but also his social economics, the merits of which were largely neglected at that time.

²⁷ Gide 1898, pp. 537-538.

²⁸ Charles Gide was not only an economist, but also a cooperative socialist.

Two kinds of profit: 1 per circumstance leading to an increase in the selling price above the production cost: the correlative of loss. Inevitable. Useful to society; 2 by the entrepreneur's skill: deserved and legitimate. It is then thanks to it that the entrepreneur becomes little by little a capitalist, that the simple worker who has saved to become an entrepreneur finally finds himself an important civil, political, figure, etc....

(Walras, L. 2000, p.539. Emphasis is the author's.)

Here, Walras referred to the second category of profit as a means for the worker-entrepreneur to become a capitalist. In other words, he posited the case of a worker becoming an entrepreneur and then becoming a capitalist by earning profits. If these profits are abolished, as Gide insists they should, workers will be unable to become capitalists through saving. This led us to examine Walras' idea of encouraging workers to become capitalists by saving, which he proposed when he engaged in association movements in his pre-Lausanne years, and continued until the end of his career.

4. Profits and workers in Walras' plan of the cooperative association

In this section, I begin by examining how Walras' idea of the worker-entrepreneur is rooted in his plan, while involved in the foundation and administration of the cooperative association during 1865–1868²⁹. According to the lectures³⁰ he delivered to the workers at that time, Walras' first aim was to encourage workers in the association to own capital through saving.³¹ In these lectures, Walras already evokes the same distinctions³² between rent, wage, interest, and profits, as he would show in *Elements* in the 1870s.

Walras supposed three associations, of consumption, production, and credit. In every association, the members (workers) were supposed to gradually save money, through regular deductions from their wages. It would create capital and encourage the workers to form the habit to save money regularly. We will now look at how savings are supposed or expected to occur in these associations.

²⁹ In January 1865, when La caisse d'escompte de association populaire was founded with Léon Say as president, Walras was elected as one of the directors.

³⁰ « Les associations populaires de consommation, de production et de crédit »(1865)

³¹ Walras, L. 1990, p.22.

³² This paper does not deal with the different definitions of profit in his first work on economics, *L'économie politique et la justice* (1860), which Walras established under the strong influence of his father Auguste.

In the association of consumption, capital is supposed to go to the funds for the stores kept by the members individually. Owing to a decrease in the purchase price due to large-scale buying, workers can buy everyday commodities at a lower cost and save more money. In the association of production, capital goes to the foundation of the ateliers managed by the members as a group and their purchase of raw materials. Here, Walras explains that profits come from the decrease in cost due to large scale production and from the improvement of labor productivity, which encourages higher savings by workers whose wages are thus increased.

In the association of credit, capital goes to the loan of money for industries managed by the members individually. The interest paid by debtors is supposed to be divided among members according to their holdings. In the credit market, interest rates sometimes increase significantly and cannot be paid from wages, thus shutting workers out of the market. In this case, the association of credit can become their collective guarantor.

Walras explained that the profits (*bénéfice*) of the association come from the lower prices of products, higher wages, and lower rates of interest³³. In this sense, we may say that workers in the association, who receive profits, can be regarded as entrepreneurs. Walras tried to encourage these worker-entrepreneurs in the association to be capitalists through the profits of the association³⁴.

Here, it is significant to note the distribution of profits. Walras supposed that all the profits, and losses, should be divided among the members according to their holdings of capital by emphasizing their differing roles as capitalists and workers in the association.

Finally, it is a practical consequence of this doctrine that, in any cooperative society, the two roles of worker and capitalist remain perfectly distinct in each member at the same time as they are cumulated by each member, that is to say, that all the members, as workers, receive a fixed wage from the society at the exact rate determined in the labor market, and that these same members, as capitalists, share either in the profits - or in the losses - of the society in the strict proportion of their share of social capital. This conclusion can be formulated more briefly by saying that, in any cooperative society, since wages of labor are included in the general expenses, the profits or losses belong to or are the responsibility of the capital, and must be distributed or shared out in proportion to the capital.

³³ Walras, L. 1990, p.77.

³⁴ Workers become capitalists immediately after they save, which coincides with his definition of the capitalist in *Eléments*.

(Walras, L. 1990, p.172. Emphasis in the original.)

From this explanation by Walras, three questions arise.

First, from Walras' definition in pure economics, one might think that it is the interest and not the profit that should be divided among the capitalists according to the share of capital contribution. Was Walras confused about the distinction between interest and profits at that time? Our answer to the question is negative. For, as we have already seen, Walras mentioned the distribution of interest among members according to their holdings in the association of credit. Walras clearly distinguished between the distribution of profits and the distribution of interest.

Walras held the same view until the end of his career. In his autobiography, he says:

Our goal was... as for the difference between the selling price and the production cost, to distribute it in proportion to the capital to which only the profits belong because only it can bear the losses. (Walras, L. 2001, p.14)

It shows that Walras insisted that profits should be distributed according to capital because he thought that it was only capital that could compensate the losses. We may say that he proposed this idea from a practical perspective by supposing that the worker cumulates not only the role of the entrepreneur but also the role of capitalist.

The second question concerns the nature of the profits earned by the association. Do the profits that Walras refers to in the association plan, belong to the first category of profits that are correlated to the losses, or the second category that is based on the entrepreneur's invention, improvement, and skillfulness, which will not disappear? Indeed, Walras referred to losses, but he supposed not only the profits that are correlative of losses, but also the profits that will not disappear, for it could encourage the worker-entrepreneur to be a capitalist. How then, would each worker's invention, improvement, and skillfulness increase these profits?

As pointed out previously, Walras referred to higher wages accruing from the improvement in labor productivity as the profits of the association. However, Walras' argument on the labor productivity of each worker is too fragmented to discuss how innovative the worker-entrepreneur could be. In his association plan, the role of the entrepreneur is given to the association, rather than to each member of the association.

However, the existence of the second category of the profit earned by the worker-entrepreneur would be an important part of his work until the end of his career. In *Notes d'humeur*, Walras says the following as a criticism of Marx's system:

Not to abolish capital and capitalism, but to make everyone capitalist.
(Walras, L. 2000, p.575) ³⁵

Concluding remarks

Walras admits that profits earned through the individual worker-entrepreneur's invention, improvement, and skillfulness will not disappear. The existence of this category of profit gives worker-entrepreneurs in the association an opportunity to become capitalists. This was a point that Walras insisted upon in his criticism of other economists such as Marx and Gide on their claims of profits being the origin of injustice. On this point we must go further to examine how Walras analyzed the worker's invention, improvement, and skillfulness as the origin of profits generated by the individual worker-entrepreneur, in writings other than his association movements³⁶.

Another important question is to investigate how Walras considered the relationship of this type of profit to uncertainty³⁷ and how he abstracted it from his pure economics. On this point, Rebeyrol (1999) points out the issue of uncertainty in Walras' association plan in terms of the assurance given to the workers. We should also consider this problem in relation to each worker's invention, which is a subject for future research.

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³⁵ Walras, L. 2000, p.575.

³⁶ Concerning the productivity of workers, we should also examine the influence of Smith's theory of division of labor on Walras. On this point, see also Misaki 2020.

³⁷ Rebeyrol 1999, pp. 27-28.

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