

# LÉON WALRAS'S THEORY OF PUBLIC INTEREST GOODS: TOWARD AN ORGANIC VIEW OF THE STATE

BY

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**Abstract:** The purpose of this essay is to analyze Walras's theory of public interest goods. For him, "services and products of public interest are theoretically those that interest men as members of the community or of the State emanating from the authority to establish social conditions, that is, from the satisfaction of needs that are the same and equal to all" (1897a [1875], EEPA, p. 187). In Walras's mind, this definition meant that public interest goods could not be factored into the utility function, in sharp contrast with the standard approach in public goods theory. Walras did not imply that public interest goods were not useful, but he maintained instead that their utility was only felt by the community as a whole and not by the individual. Walras developed an anti-individualistic view of the State in which the collective interest was not reducible to the sum of private interests.

## I. INTRODUCTION

Once described as "the greatest of all economists" by Schumpeter (1954, p. 827), Léon Walras (1834–1910) is one of the most famous authors in the economic discipline. Walras is primarily associated with the emergence of marginalism and the development of general equilibrium theory. Studies on various aspects of his scholarship abound,<sup>1</sup> but his work on public economics has been underanalyzed. For instance, in the *Hesitant Hand* Steven Medema (2009) retraces the origin and development of the theory of market failure. However, the study does not include the contribution of Walras. In particular, his analysis of public goods has been overlooked.<sup>2</sup> For example, retracing the history of public economics in France, Serge-Christophe Kolm (2010, p. 700) erroneously opines that Walras "never had the idea of a public good or joint consumption structure." Moreover, Walras's work is often interpreted incorrectly. In discussing the quality of

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<sup>1</sup> See for instance Jaffé (1984), Van Daal and Jolink (1993), Dockès (1996), Jolink (1996), Walker (1996, 2006), Potier (1998, 1999, 2006), Rebeyrol (1999), Dockès and Potier (2001, 2005), Donzelli (2007, 2008), and Bridel (2011).

<sup>2</sup> Among notable earlier expositors who fail to notice Walras's work on public goods, one can mention Richard Musgrave (1937, 1959) and Mancur Olson (1965).

Walras's contribution, John Hicks (1934, pp. 347–348) praises “its rigorous ‘methodological individualism’” adding that Walras “realized that the only economic explanation of a phenomenon is its reference back to individual acts of choice” in complete disregard of his views on the collective consumption of public goods. For his part, Milton Friedman (1955, p. 904) argues that Walras was concerned with “displaying an idealized picture of the economic system, not [with] constructing an engine for analyzing concrete problems”, thus overlooking his applied and social economics in which Walras applied economic theory to money, taxation, intellectual property, and land ownership, among other topics. In fact, as we demonstrate in this article, Walras rejected methodological individualism and did analyze concrete economic problems including public goods. Due to the general prevalence of this misunderstanding of Walras's worldview, and the neglect of his public goods theory, the English-language literature on Walras's scholarship remains by and large inadequate.

Throughout the 19<sup>th</sup> century, numerous authors tackled the question of how and in what situations the government should intervene in the marketplace. For his part, Walras sought to develop a normative conception of the role of government based on a more rigorous analytical framework than those of his predecessors. His starting point was the study of the properties of market equilibrium. Under what conditions is it possible to demonstrate—and not only assert—that an equilibrium is an optimum? For him, “one should demonstrate that free competition maximizes utility” (Walras 1898, EEPA, p. 419).<sup>3</sup> Walras concluded that, in certain circumstances, free competition and the pursuit of private interest would not lead to an efficient use of society's resources; these cases, Walras argued, called for government intervention.

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<sup>3</sup> Walras's writings are cited according to the initial publication date followed by the book in which they were reprinted. EEPA denotes *Études d'économie politique appliquée*, and EES denotes *Études d'économie sociale*. References to *Cours d'économie politique appliquée* are based on the date where the lecture was integrated for the first time in Walras's teaching. Translations of Walras's writings are ours unless otherwise noted.

Walras's approach can therefore be considered foundational for public economics.<sup>4</sup> Nonetheless, modern economists rarely mention Walras's work, referring instead to the writings of Mazzola or Pigou.

According to Walras, two situations resulted in market failures and thereby constituted conditions for government intervention. In the first scenario, no new competitor could enter the market while price was greater than production cost; output was therefore sub-optimal. Walras believed that the government should intervene in this case either by directly producing the good or by regulating the provision of the good by a private agent. Walras referred to firms in this situation as *economic monopolies*. Walras was not alone in believing that type of market failure justified government intervention. John Stuart Mill and Jules Dupuit had previously articulated similar ideas.<sup>5</sup> Walras's second scenario, however, was more unconventional. Walras noticed that there were some products and services whose utility could not be appreciated by individuals (Walras 1898, EEPA, p. 427). In other words, besides private goods, there were public interest goods<sup>6</sup> only consumed by the government. Firms would not supply them because unless they could be sold to the State,<sup>7</sup> no one would purchase them. Consequently, government itself should be the sole provider; Walras referred to such market configurations as *moral monopolies*, the focus of this study.

The purpose of this essay is to analyze Walras's theory of "public interest goods." For him, "services and products of public interest are theoretically those that interest men as members of

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<sup>4</sup> Guesnerie (2011, p. 134) rightly points out that "the modern program of public economics, with its emphasis on public goods and externalities, may be called neo-Walrasian".

<sup>5</sup> Walras's presentation was different, though. On certain aspects such as price differentiation, he opposed the views of his predecessors (see section III).

<sup>6</sup> Note that Walras's notion of public interest goods is distinct from that of public goods though the two notions present some similarities.

<sup>7</sup> In this essay, we use "State" and "government" interchangeably. The word "State" is capitalized to distinguish it from constituent states within a federal system of government like that of the United States.

the community or of the State emanating from the authority to establish social conditions, that is, from the satisfaction of needs that are the same and equal to all” (1897a [1875], EEPA, p. 187). In Walras’s mind, this definition meant that public interest goods could not be factored into an individual’s utility function in sharp contrast with the standard approach in public goods theory. Walras did not imply that public interest goods were not useful, but he maintained instead that their utility was only felt by the community as a whole and not by the individual. Walras thus developed what many jurists and economists describe as an organic view of the State (Bluntschli (1877 [1875–76], p. 14; Carré de Malberg 1920, p. 9; Rosen and Gayer 2014, p. 3). For him, the collective interest was not reducible to the sum of private interests.

This conception of the State was rooted in Walras’s political and philosophical beliefs,<sup>8</sup> in his criticism of individualism and of the free market doctrine, and in his analysis of society. For him (1867–68, EES, p. 136), the State was not merely the sum of individuals that composed it. It existed on its own. By enacting laws, the State acted by virtue of a right that derived from its very nature. For Walras, the natural right of the State was at least as important as the natural right of the individual (Walras 1867–68, EES, p. 150; Rebeyrol 1999, p. 31). Thus, public goods were useful not because they met the needs of individuals, but because they allowed government to play its crucial role in society. This conception of the State illustrates the tension between idealism and realism in Walras’s writings (Jaffé 1977, 1980; Walker 1988, 1996; Dockès 2011). Indeed, the overarching ambition of the Walrasian project was to reconcile the “world of ideas and the ideal” and the “world of facts and reality” (Walras 1896, *Cours*, pp. 165–167).

The present essay contributes to the history of public economics and particularly the history of public goods theory. The results of the study are of interest on three counts. Firstly, our essay

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<sup>8</sup> A comprehensive analysis of Walras’s political and philosophical views is beyond the scope of this essay. For further details, see Jérôme Lallement (2014).

adds to the literature on the emergence and the development of the theory of market failure. On this topic, our ambition is modest in scope. The takeaway is that Walras's views on the economic role of government should be considered foundational for public economics. Secondly, the present text contributes to a more accurate assessment of Walras's work, showing that he developed favorable views of public intervention in opposition to self-interested behavior. Lastly, the essay underscores the ethical, political, and legal considerations pertaining to the provision and consumption of public goods in Walras's analysis. We proceed as follows. Section II discusses the views of Walras's predecessors on the logical foundations of free market and the role of government. Section III examines Walras's discussions about the nature, definition, and characteristics of public goods in comparison with those of previous and later authors. Section IV shows that Walras clearly rejected the individualist view of the State. In that sense, the collective interest was not reduced to the sum of private interests. Section V concludes the study.

## **II. WALRAS'S PREDECESSORS**

In this section, we review the arguments advanced by authors that Walras mentioned in his analysis of public interest goods in order to better capture the filiations with and the specificities of Walras's ideas.

### *The Logical Foundations of Free Markets*

First, we shall mention that throughout the 18<sup>th</sup> and the 19<sup>th</sup> century, numerous authors discussed the foundations of free market. They believed, like A. R. Jacques Turgot (1770, p. 315), that free trade "procures the largest amount of output, riches, wealth, and power to society as a whole". According to Adam Smith, in order for freedom to lead to an efficient allocation of resources,

everyone must contribute to the benefit of society while defending his own interest (Smith 1776, p. 454). However, free market economists acknowledged that some exceptions could invalidate that proposition, and thereby called for government involvement. Thus, Smith (1776, p. 687) explained that the State should supersede failing private initiative.

In *Cours d'économie politique appliquée* (henceforth *Cours*),<sup>9</sup> Walras extensively referred to Charles Coquelin's entry "Competition" that appeared in *Dictionnaire de l'économie politique*. Coquelin claimed to have provided a demonstration of the principle of *laissez faire* that "with a few additions, will be perfect" according to Walras (1881, *Cours*, p. 468). Coquelin relied upon two arguments to explain how competition allowed production adjustments that met the needs of individuals. Firstly, competition was incentivizing. The only way for an entrepreneur to outperform his rivals was "to make better predictions, to meet more promptly, more appropriately, and more completely the needs that arise around him" (Coquelin 1852, p. 454). Secondly, competition was informative in that it showed in what activities individuals would use the resources at their disposal to the best of their interest. This argument echoed Smith's gravitation metaphor. When too much labor is used in a particular industry, profits tend to fall "and workers are aware that they should move to another industry. Conversely, when there is too little, profits go up, and this is a warning to those who operate elsewhere that they have to converge to that particular industry in greater number" (Coquelin 1852, p. 454). Coquelin's input was interesting, but it fell short of a convincing demonstration of the pertinence of *laissez faire*.

### *The Role of the State*

In *Cours* (1881, pp. 495–498) and in the article "the State and the railroads" (1897a [1875]),

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<sup>9</sup> According to the editors of *Cours*, the writing of the manuscript took place between 1871 and 1881.

Walras cited Smith, Jean-Baptiste Say, Jules Dupuit,<sup>10</sup> and John Stuart Mill.<sup>11</sup> He accepted some of their ideas, but rejected others. It is worth analyzing Mill's and Say's views considering that they both discussed the role of the State in the provision of public goods, a major theme in Walras's writings.

Mill (1965 [1848], p. 142) opted for a public service for water and gas in the city of London. If government was not able to serve as direct provider, water and gas services could be contracted out to a private firm or association. It was more efficient to have a single firm serving all of the market instead of several ones competing with each other, which was the actual situation at the time. In particular, Mill ruled out the notion that competition would lead to a fall in prices. Mill concluded that when the number of competitors was limited, private firms inevitably ended up colluding or merging instead of competing with each other, a conclusion that Walras also adopted. Furthermore, Mill (1965 [1848], pp. 946–947) intimated that government should not interfere with individuals' decisions in the production sphere. Mill saw things differently as far as consumption was concerned, however:

But if the workman is generally the best selector of means, can it be affirmed with the same universality, that the consumer, or person served, is the most competent judge of the end? Is the buyer always qualified to judge of the commodity? If not, the presumption in favour of the competition of the market does not apply to the case; and if the commodity be one, in the quality of which society has much at stake, the balance of advantages may be in favour of some mode and degree of intervention, by the authorized representatives of the collective

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<sup>10</sup> Dupuit (1853, pp. 340) maintained that some industries experienced barriers to entry of new competitors, an argument that Walras approved. But Dupuit also indicated that “every transport means that is a monopoly must be operated by the state; every transport means that is accessible to competition must be operated by private industry” (1853, 854), a statement that prompted Walras to conclude that Dupuit contradicted himself. Indeed, for Walras (1897b, EEPA, p. 248), “the State must undertake the production ... of services or products of private interest which could not be subjected to indefinite competition”. In other words, for Walras it was not enough that competition was possible for private production to be efficient, it also required competition to be *indefinite* in the sense of Cournot (*perfect* competition in modern terms). For a comprehensive analysis of Dupuit's and Walras's views on monopoly and competition, see Béraud (2004) and Numa (2012, 2013).

<sup>11</sup> On Mill on monopoly, see Numa (2010).

interest of the state (1965 [1848], pp. 946–947).

Mill's central argument was that some individual needs could be satisfied only by the intervention of public authorities.

When he studied public consumption, Walras capitalized on a definition given by Say. In the second edition of *Traité d'économie politique*, Say differentiated private wants from collective wants. There was no mention of the fact that the State would provide public goods, though:

Besides the wants emanating from individuals and families, whose satisfaction leads to private consumption, the sum of individuals also has, as a society, its own wants, which lead to public consumption; it buys and consumes the service of the administrator ... the military ... the judge (Say 2006 [1814], p. 921).

There were two types of wants, those expressed by individuals and those emanating from society, which had its own wants. As explained in the next section, this distinction constituted an important aspect of Walras's reasoning. In *Cours complet d'économie politique pratique*, Say now intimated that collective wants ("wants in common") could only be satisfied by means of public intervention:

Aside from the wants expressed by individuals and families ... individuals in society share wants in common ... that can only be satisfied through the cooperation of individuals and even sometimes of all individuals who are part of it. Yet, this cooperation can only come from an institution respected by everyone, within the limits allowed by the form of government (Say 2010 [1828], p. 960).

It should be noted that excludability and rivalry were also among the topics discussed by some of the authors cited in Walras's writings. Thus, Mill (1965 [1848], p. 968) and Charles Dupont-White (1857, p. 257) indicated that it was not possible to exclude someone from benefiting from the service of a lighthouse (Béraud 2012). For his part, Say (2006 [1803], p. 728), drawing upon the example of basic scientific research, suggested that the consumption of certain types of goods



would not reduce the quantity available for other consumers. This was probably one of the very first formulations of the concept of non-rivalry, which later formed a cornerstone of Musgrave's and Paul Anthony Samuelson's respective contributions. Hence the reason why, Say concluded, informed nations understood that compensating scientists was necessary because they could not fully profit from their discoveries. Walras never discussed these early formulations of non-excludability and non-rivalry, however. The cornerstone of public interest goods was the fact that the State constituted a distinct entity from the individual.

### **III. WALRAS ON PUBLIC GOODS: PRIVATE INTEREST VS. PUBLIC INTEREST**

Walras's approach is discussed in the article "the State and the railroads" (1897a [1875]), in the lectures given in 1874–75, 1877, and 1879 on "the exceptions to the principle of free competition" published in *Cours*, and in the lecture on the "public services" first given in 1880–81 that also appeared in *Cours*. In these three instances, based upon the principle that the State had its own legitimacy, Walras asserted that public interest goods were types of goods that satisfied the wants of the State, which were different from those of the individuals.

#### *The Three Formulations*

The title of the lecture given in 1874–75 and subsequently published in *Cours*—"the exceptions to the principle of free competition"—indicated that Walras espoused the thesis of Mill (1848, p. 944) suggesting that the general rule was *laissez faire* while government intervention was the exception.<sup>12</sup> The government should intervene in situations where there was no incentive for

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<sup>12</sup> Indeed, Mill (1965 [1848], pp. 936, 947, 970) used similar expressions. Chapter XI of the *Principles* is entitled "Of the Grounds and Limits of the Laissez-faire or Non-interference Principle". In particular, see § 8 "large exceptions to laissez-faire" and § 16 "Government intervention may be necessary in default of private agency, in

individuals to provide goods and services that society yet needed. For example, “it is in the public interest and not in the private interest that there exists an intermediary of exchange instituted in rational conditions and with which one could legally use to pay” (Walras 1879, EEPA, pp. 334–335). Walras intimated that “in this case individual utilities will derive from the propagation of the general utility” (Walras 1874–75, *Cours*, p. 515). His reasoning suggests that one could conceive an individual’s utility for, say, national defense, but what made a public interest good like national defense so unique was the fact that the utility felt by an individual derived from the utility felt by the community.

Walras only mentioned a few examples of public goods: transportation, education, police, the military, and justice. Distinguishing private from public interest goods, Walras acknowledged, could be challenging. For example, in his mind, elementary education was of public interest because “voter citizens learn in [primary school] notions without which exerting [their] political rights would be impossible” (Walras 1874–75, *Cours*, p. 516). Conversely, vocational education was of private interest because individuals acquired the necessary skills for the career they chose. Walras stressed that elementary schools trained informed citizens and thereby satisfied not a private but a social need. Walras’s reasoning brings Mill’s analysis to mind. To define public goods, both relied on the ways in which individuals gauged their interest in consuming certain goods and services. In fact, for Mill individuals wrongly assessed the utility of public goods, whereas Walras posited that individuals did not consume public goods. For instance, Mill intimated that parents may not always perceive the benefits of education for their children. Walras contended that it was the State’s responsibility to make sure that children received the

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cases where private agency would be more suitable”. Mill (1965 [1848], p. 970) wrote: “At some times and places, there will be no roads, docks, harbours, canals, works of irrigation, hospitals, schools, colleges, printing-presses, unless the government establishes them.”

type of education that would allow them to be citizens. Elementary education, he concluded, should be free and mandatory whereas individuals should be responsible for vocational education that he considered a private good. If the State intervened, it was not because parents were neglecting, but rather because elementary education was a service of public interest.

Walras viewed public interest goods as natural candidates for State monopolies, which he called moral monopolies because their *raison d'être* had a lot to do with ethics.<sup>13</sup> To understand this point, one must keep in mind that for Walras the criteria of justice and interest were equally important. But if interest comes into conflict with justice, the latter should prevail. Thus, he called for government intervention in the railroads, for competition would undermine two essential conditions of justice: the equality of final price and cost of production, and the uniformity of price. The latter was particularly problematic for Walras. Price differentiation *à la Dupuit* (1844, 1849), he believed, was unfair because it implied asking two different prices to two different individuals for the same service. Government intervention in the railroads was therefore also a matter of justice.

In 1880, Walras reorganized *Cours d'économie politique appliquée* and devoted an entire section to “the exceptions to the principle of free competition” (Walras 1880, *Cours*, pp. 481–513). He reiterated *laissez faire* as a general rule and government intervention as the exception. The first lecture dealt with “public services” defined as “the products or services that satisfy not an individual utility, but a collective one” (Walras 1880, *Cours*, p. 483). Walras refined his previous stance and focused now on the perception of needs. He added:

The products or services of private interest are those for which it is possible for the individual to conceive a decreasing want curve based on the consumed or obtained quantity; the products or services of public interest

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<sup>13</sup> In a sense, it can be argued that moral monopolies provide goods that enhance the public morals instead of merely satisfying private desires.

are those for which such phenomenon is not possible for the individual. They are therefore those that, when left to private companies, would neither be demanded nor provided to the State, at least in adequate quantity (Walras 1880–81, *Cours*, p. 485).

This passage calls for two important remarks. First, according to Walras some public goods were not subject to a specific individual demand.<sup>14</sup> Second, Walras argued that the consumer was perfectly aware of his interest in the good, but he maintained that the consumer dealt with a public interest not an individual one. To illustrate this point, Walras compared a surgical procedure with a court decision. A visit to the surgeon was motivated by a particular need distinct from other needs. “None of that happens in the case of a court decision because all members of society benefit from the decision at the same time as the individual in trial” (Walras 1880–81, *Cours*, p. 484). Collective consumption was thus the main feature of public interest goods.

The third formulation of Walras’s public goods theory appeared in the essay entitled “the State and the railroads” written in 1875 and later published in *La revue du droit public et de la science politique* in 1897.<sup>15</sup> The analytical underpinnings of his reasoning were clearly reiterated, which was to demonstrate that free competition maximized utility. After demonstrating the optimality of a perfectly competitive equilibrium, the role of “applied economics is to carefully investigate the cases where it is possible to trust competition, and those where it is not in order to resort to other alternatives” (1897a [1875], EEPA, p. 186). In general, competition was possible for the provision of private goods; things were different for public interest goods and services,

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<sup>14</sup> Enrico Barone (1912, p. 165) would later develop a similar idea when he argued that some public goods, whose supply was indivisible, were not subject to a specific individual demand. Note that Barone knew of Walras’s work and even corresponded with him (Jaffé 1964).

<sup>15</sup> The essay, initially written in 1875, was rejected by *Journal des économistes* in 1876 (Potier 2006, p. 1815).

however. Government itself should provide them for free,<sup>16</sup> and could even do so under monopoly (Walras 1896, EES, pp. 400–401). Funding public goods would logically require taxation as each citizen would equally contribute to the cost of providing those goods and services (see section IV).<sup>17</sup> For Walras, this solution was only temporary, however. For him, government expenditures required specific resources, which consisted of land. Having possession of the land (by virtue of nationalization), the State would rent it out by auction. The increasing yearly rent to be paid to the State would generate a surplus and thereby allow to cover public spending.<sup>18</sup> Thus, in Walras’s mind an equitable system required that, once taxation was abolished and the State owned the land, public goods would be free. Another important point is that Walras ruled out the idea of a tradeoff between private and public wants. Each type of wants was specific to a type of agent—the individuals on the one hand, the State on the other; to satisfy those wants, each type of agent was endowed with resources provided by natural law. Private and social wants were heterogeneous with one another, and therefore could not be amalgamated in an individual’s utility function.<sup>19</sup> All in all, Walras’s reasoning contrasted with that of

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<sup>16</sup> The fact that public interest goods were free of charge for the public did not mean that they were not costly to produce. For example, individuals would not pay for their elementary education; this implied that the State would cover the expenditure.

<sup>17</sup> This reasoning differed from Smith (1776, p. 825)’s statement to the effect that the rich profited more from public goods and therefore had to pay higher taxes.

<sup>18</sup> In Walras’s plan, the State funded the repurchase of land through massive borrowing (by issuing interest-bearing bonds). An important question was to determine whether land rents would allow to reimburse the principal and cover the interests when land was purchased at market price. Walras thought that that was the case when the rate of increase of rent itself rose. Walras (1880, EES, p. 304) thus concluded: “In principle, it could be possible for the State to repurchase all the land without incurring any cost”.

<sup>19</sup> In a similar fashion, Musgrave (1937, p. 335) initially claimed that individual and collective wants were heterogeneous with one another. However, government could reduce both types of wants to a common denominator based on their social importance, thus rendering the aggregate body of wants homogeneous (Musgrave 1937, p. 336). Musgrave (1959, p. 133) later followed in Samuelson’s footsteps and maintained “that public wants ... are an inherent part of the preference patterns of the individual members of the community. In this respect they do not differ from private wants ... individual demand schedules for services supplied in the satisfaction of public wants may be derived from the indifference pattern of individual preferences—as demand schedules for services supplied in the satisfaction of private wants are derived”. Put simply, both private and public goods were included in the utility function of the agent. For further details, see Desmarais-Tremblay (2015). On Musgrave, see also Sturn (2010).

Samuelson (1954, p. 387) who proceeded to include the utility of public goods into the utility function.<sup>20</sup>

Walras defined public interest goods as “theoretically those that interest men as members of the community or of the State emanating from the authority to establish social conditions, that is, from the satisfaction of needs that are the same and equal to all” (1897a [1875], EEPa, p. 187). One should keep in mind that Walras defined the “general social conditions” as the “social environment of individual activity”, that is, an entity that was distinct from the men who composed it (Walras 1867–68, EES, p. 134). The State, not the individual, established the social conditions (Walras 1896, EES, p. 171). “The role of the State is to shape the environment that allows to fulfill individual destinies, to ensure external and homeland security, to pass, implement and enforce the law, to build means of transportation, to promote the progress of sciences and arts, and thus to organize the conditions of existence of society” (Walras 1867–68, EES, p. 140). Walras’s views on the relationship between the individual and the State influenced his views on public goods (section IV).

### *Assessment and Legacy*

In the various formulations of Walras’s public goods theory, the central idea was that, although individuals understood the importance of public interest goods for society, they were only interested in goods of private interest. In other words, only private goods counted as inputs into the utility function of individuals. For Walras, it made no sense to consider public goods as

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<sup>20</sup> In his seminal paper, Samuelson (1954, p. 387) wrote: “I assume no mystical collective mind that enjoys collective consumption [public] goods; instead I assume each individual has a consistent set of ordinal preferences with respect to his consumption of all goods (collective as well as private) which can be summarized by a regularly smooth and convex utility index  $u^i = u^i(X_1^i, \dots, X_{n+m}^i)$ ” where  $(X_1, \dots, X_n)$  and  $(X_{n+1}, \dots, X_{n+m})$  respectively denote private and collective goods. Samuelson (1969, 108) later reiterated: “a public good is one that enters two or more persons’ utility”.

consumed by the individual and thus it made no sense to ask, “what is the use of the Museum of the Louvre to a farmer in the Low Alps who never sets foot in it?” (Walras 1896, EES, p. 399). The individual felt and assessed the needs for goods and services of private interest, whereas the State felt and assessed the needs for products and services of public interest.

Later generations of economists overlooked Walras’s contribution and advanced different propositions. In order to assess the originality of Walras’s views, we can compare them with two standard approaches in the modern literature on public goods: the Italian *la scienza delle finanze* tradition starting from the 1880s and 1890s, and the seminal work of Samuelson in the 1950s. They both differed with Walras in that they subscribed to individualism and used the tools of marginal analysis—which Walras (1874) ironically helped create in his pure economics—in their analysis of public goods. However, in both the Walrasian and the Italian frameworks the State had a role to play, whereas Samuelson’s analysis was totally devoid of any mention of the State.

The most notable Italian contributions came from Maffeo Pantaleoni (1883), Antonio de Viti de Marco (1888, 1936 [1928]), and Ugo Mazzola (1890a).<sup>21</sup> It is important to note that the Italian tradition was concerned with and remained dependent on the idea of State (Fossati 2010). However, it essentially differed from Walras’s framework on two critical points. First, the Italians believed that public goods were complementary to private goods.<sup>22</sup> Thus, Mazzola

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<sup>21</sup> See, for instance, Kayaalp (1988), Medema (2009), Fausto (2010), and Fossati (2010). The bulk, but not all, of Walras’s social and applied economics predated the main contributions of the Italians. Though Walras’s EES and EEPA were published in 1896 and 1898, respectively, most of the texts contained in those books were much older. Thus, the article “Théorie générale de la société” that appeared in EES was initially published in 1867–68. The article “The State and the railroads” published in 1897 and subsequently added to EEPA was in fact written in 1875 (see note 15). Further, as indicated in section III, Walras’s views on public goods were discussed in his lectures dating back to 1874–75, 1877, 1879, and 1880–81. It should be noted that the Italians made no reference to Walras’s works on social and applied economics in their above-mentioned writings. Pantaleoni (1904, p. 69n1) later quoted EES in the reprint of his 1883 article with the following concession: “I did not quote Walras in 1883 because I had not understood the scope of his doctrine.” Apparently, in 1883 his knowledge of Walras’s work was limited to his pure economics and to the theorem of maximum satisfaction.

<sup>22</sup> This idea is elegantly articulated in Luigi Einaudi’s introduction to de Viti de Marco’s *First Principles*: “There exist, in the first place, the aims of the individual. To attain these, however, it is necessary to accomplish other aims,

explained that the individual did not consume public goods and services such as security or police, but s/he needed them to fully enjoy the benefits that derived from consuming private goods. Public goods were “indivisible”, which also meant that they were non-excludable and non-rivalrous.<sup>23</sup> Second, the Italian literature underscored that the basic unit of analysis was the individual. The collective was nothing but the sum of the parts—the individuals—that make up the social fabric.<sup>24</sup> In other words, collective wants derived from individual preferences.<sup>25</sup> On these two points, the views of the Italians and those held by Walras were irreconcilable. While Mazzola’s distinction between public and private goods was objective—what mattered was the material properties of goods, whether they were indivisible or not—Walras’s approach was subjective, in that his concern was whether individuals were able to feel the collective needs and determine their value. Thus, in Walras’s writings some public goods and services such as elementary education or museums were considered private by Mazzola because the goods could be excluded from private consumption if the agent failed to pay for them. Both Walras and

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which represent the *necessary condition* for the accomplishment of the final aim, and which cannot be obtained otherwise than by *collective co-operation*. Man does not set as his ultimate or direct aim such things as national defense or general security. He wants to accomplish his material aims of life, or his spiritual aims in the field of moral or intellectual improvement. He cannot arrive at these ends, however, unless he is able to live in such a way that he feels secure against his foreign and internal enemies and is prepared to co-operate with other men for the achievement of aims denied to men who live in a state of isolation. Therefore the 'public' aims are distinguished as being 'conditional' to the attainment of the ultimate aims of man and as being attainable only through political co-operation. The voluntary association of private individuals would not serve the purpose; what is needed is rather a political co-operation which is really a form of compulsion” (1936 [1928], p. 23).

<sup>23</sup> Mazzola wrote: “the utility of most public goods is complementary and indivisible. The services of law and order, public health ... are contributory causes to private satisfactions. But although their consumption produces individual satisfaction, the quantities consumed by each individual cannot be divided up and measured. What is known is simply that public goods enter into individual satisfaction in certain proportions. The indivisibility of consumption constitutes the technical reason preventing the formation of a single market price in the public economy. In the case of a private good, anyone who cannot pay the price is excluded from consumption. But if a public good had a price exceeding its marginal utility for some classes of consumers, their inability to pay the price would not effectively exclude them from consuming the good. To achieve this, the public good must be withdrawn from the market altogether—even from the use of those who are willing to pay the price-for, otherwise, those who wish not to pay would still enjoy the public good” (Mazzola 1890b, p. 42).

<sup>24</sup> For example, see de Viti de Marco (1936 [1928], pp. 34, 36).

<sup>25</sup> For de Viti de Marco, collective needs “are born in a group from the very fact of social life,” but they are “*felt* by the individual ... the wants of the group as a whole do not differ from individual wants since both have their origin in the individual” (1936 [1928], p. 38) cit. by Medema (2009, pp. 81–82). See also Mazzola (1890b, p. 41).



Mazzola maintained that public goods had to be free, but their explanations differed. For Mazzola, public goods were free because they were non-excludable, whereas Walras suggested that providing public goods free of charge was a duty of the State. Public expenditures should be covered by taxation or using government's own resources such as land (Walras's preference). Mazzola (1890b, p. 44) believed that "it is the valuation of the complementary utility of public goods which determines the share of private resources which economic units devote to the acquisition of public goods ... the price of public goods corresponds to the degree of final utility which they have for the consumer, so that each pays for these goods according to his own valuation." Mazzola's principle was very similar to Dupuit's price differentiation scheme. Besides the fact that this pricing rule violated Walras's ideals of justice as explained above, it just did not make any sense given his framework; Walras denied individuals the ability to evaluate the utility of public goods. As the single provider of public goods and services, the State *de facto* created social conditions that were equal for all (Walras 1896, EES, p. 401).

In Samuelson's theory of public goods, individuals increase their satisfaction by consuming public goods just as much as they increase their satisfaction by consuming private goods. The difference between the two types of goods lies in their characteristics.<sup>26</sup> Thus, Samuelson (1955, p. 350) shows that for a private good, like bread, the total quantity can be parceled out among two or more agents, with one having a loaf less if another gets a loaf more. For a public good like national defense, which is provided for each person to enjoy or not, each individual enjoys the total quantity of the good. In Samuelson's model, there is no State; there are only consumers who enjoy any type of goods, private or public. On the contrary, in the article published in 1896 in *Revue Socialiste*, Walras (1896, EES, p. 399) believed that one should "rise above that narrow

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<sup>26</sup> For a revisit of Samuelson's work on public goods, how it came to be, and its legacy, see Pickhardt (2006).

and wrong point of view that persists in considering the public services of security, of justice, and of other matters, as consumed by the individual.” One should instead consider that goods and services of public interest are “those whose need is felt and measured by the State” (Walras 1896, EES, p. 400). In other words, individuals consumed private goods, whereas the State consumed public goods. Moreover, we saw above that Walras’s reasoning contrasted with that of Samuelson (1954) who applied marginal utility analysis by incorporating the total quantity of the public good into the consumer’s utility function.<sup>27</sup> In his 1896 article, Walras explained how his individual choice theory could apply to decisions made by public authorities. It was not the individual who decided the quantity of public goods that should be produced. Decisions were made by public officials elected by the citizens:

Let us try to imagine, in an assembly resulting from universal suffrage ... a statesman of independent position and character ... who would be in favor of the discussion of his budget by the national parliament.<sup>28</sup> Would it then be impossible to imagine that the State, so personified, first knows exactly how many regiments, warships, courts of justice, universities, and museums it necessarily must have; that it then compares exactly not only the utility it enjoys from the first unit of each service with that of the second unit ... but also the utility of the first, of the second, of the third unit of each service with the utility of the first, second, third unit of any other service; that, costs being given, how [the State] eventually perceives exactly how to allocate its income in order to obtain the greatest amount of utility for the country? (Walras 1896, EES, pp. 399–400)

Walras (1896, EES, p. 400n1) added in footnote that “the concept of want curves or utility curves for products or services of public interest would be indispensable for completing the mathematical theory of economic equilibrium”, which implied that his choice theory should

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<sup>27</sup> Samuelson in fact extended the work of Lindahl (1919) and Bowen (1943) among others with respect to the application of marginal utility theory to public expenditure. It is worth noting that Walras’s stance, though pioneering among neoclassical writers, was not unique. Among later critics of the marginal utility and of the individualistic approach to public economics, one can mention Barone (1912), Emil Sax (1924) and Gerhard Colm (1936, 1956, 1965). They made no reference to Walras’s views, though.

<sup>28</sup> It is clear that Walras did not think that, in general, governments effectively acted that way. He thus examined an extreme case where government officials would be competent and honest.

apply to services and products of public interest. It appears, however, that the utility function implicit to Walras's reasoning did not result from the aggregation of individual utility functions, but it was that of the public officials democratically selected by the voters.

The backbone of Walras's theory of public goods rested on the idea that economic theory should take into account the political dimension of decisions made by governing leaders (Béraud 2011). This idea transpired in his analysis of the railroad industry or on education. Thus, Walras considered the railroads a public service that reinforced the relationships between various provinces within a country and thereby strengthened national unity. Similarly, we saw that the rationale for government intervention in elementary education was based on the idea of educating citizens (rather than training workers). Only educated individuals, he argued, could effectively play their role in society. Walras sought to develop a normative conception of the role of the State. His approach included a detailed description of the relationship between the individual and the State.

#### **IV. THE INDIVIDUAL–STATE RELATIONSHIP**

Walras did not think of the State as a simple agency that would provide individuals with private goods that, without its intervention, would not be produced. In his mind, the State was first and foremost a political institution responsible for the unity and solidarity of the Nation. In that sense, the collective interest was not reduced to the sum of private interests. Walras explicitly rejected the individualist conception of the State (Dockès 1994, 1996; Rebeyrol 1999; Potier 2011). Instead, his approach could be described as an organic view of the State.

### *Two Equal Social Types*

Many analysts erroneously described Walras as a proponent of individualism in complete disregard for his social and applied economics (Arena 2006, p. 1657). A careful look at Walras's philosophical and political views leaves little doubt that they affected his public economics.<sup>29</sup> Walras opposed the social contract theory championed by Jean-Jacques Rousseau (1762) on the basis that it led to absolute individualism in which the individual emerged as the unique foundation of societies. For Walras, society was not a conventional fact, but certainly "a natural and necessary one". In his view, society was a crucial entity in that the individual only existed in society and was only supported by society (Walras 1867–68, EES, p. 132; Potier 2011, p. 33). He compared society to a military expedition:

The individual in society, like the soldier in the military, is nothing by himself and he derives half of his value from the collectivity in which he is only an element. There could no more be a society without individuals than there could be any military without soldiers; but the individual would not be able to accomplish his destiny without and outside of society nor would the soldier be able to fight a battle on his own" (Walras 1867–68, EES, p. 136).<sup>30</sup>

Thus, "the State is not purely and simply a collection of individuals ... and the interest and the right of the State are not purely and simply the interest and the right of all the individuals in contrast with the interest and the rights of each individual" (Walras 1867–68, EES, pp. 136–137).<sup>31</sup> In Walras's framework, there are two types of agents: the individual, who maximizes his utility under constraint of income generated by his personal faculties, and the State, who pursues

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<sup>29</sup> According to Dockès and Potier (2001, p. 23), Walras's views on "the good old natural law" (1896, EES, p. 5) came from his father the economist Auguste Walras.

<sup>30</sup> Dupont-White (1857, pp. 169–170) articulated similar views: "society is distinct from individuals ... it is a whole greater than its parts ... society is not the collection of individuals ... society provides the necessary environment to man, the atmosphere without which there is no man. Try to think and represent an individual outside society ... a man is not viable in these conditions ... one can no more conceive him outside society than one can conceive society without him."

<sup>31</sup> The State is defined as "the totality of all moral persons considered as achieving destinies in solidarity with one another" (Walras 1896, EES, p. 187).

its own objectives, and endowed with its own resources considering that, by the law of nature, it owns the land. In sum,

“the role of the individual is to freely achieve his destiny, to feel, think, act, work, either alone or in association with other individuals, in agriculture, industry, commerce, or as scholar, artist or civil servant, in order to obtain a position that corresponds to his efforts and merit. The role of the State is to create the environment for the achievement of individual destinies, to ensure exterior and interior security, to enact, execute and enforce laws, to promote the progress of sciences and the arts, and thereby organize the conditions of existence of society. The right of individuals is to act freely and to obtain unequal positions. The right of the State is to act with authority and to establish equal conditions. *Freedom for the individual; authority of the State. Equality of conditions; inequality of positions.* In the end, this is truly the highest law of the organization of society based on order and justice” (Walras 1867–68, EES, p. 140, emphasis in original).

If the State was a simple collection of unequal individuals, it would make sense to allocate the cost of services provided by the State based upon individual personal faculties using, for instance, a flat tax or a progressive tax system. However, Walras maintained that the State formed a collectivity of persons who were all equal. They could be rich or poor, but they were all citizens with equal rights and duties. Consequently, they should contribute equally to State expenditures. This does not mean, however, that the State could levy taxes on individuals as it saw fit and without any restriction. Determining the adequate allocation of resources between the State and the individuals was a matter of justice. Walras’s conclusion was that “men in society certainly contribute to the expenditures of State services on an equal basis, just as they ... benefit equally from the very same State services. This is how I conceive of the principle of equal and mandatory contribution” (Walras 1867–68, EES, p. 143). Society, Walras concluded, was not a picnic wherein individuals provided to each other whatever was demanded, and in which they felt obligated toward one another (Walras 1896, EES, pp. 211–212). The same logic applied to

the relationship between the citizens and the State. One could give something without receiving anything in exchange; but “acceptable concessions such as being polite, when they are voluntary, should be considered a humiliation if they were imposed by law. I do not know why some persist in assuming that the people is willing to take advantage of all favors. As far as I am concerned, when I speak on behalf of [the people], my motto stays what it has always been: all our dues, ‘nothing more, nothing less’” (Walras 1896, EES, p. 184).

If one considers a sovereign function such as national security, Walras’s reasoning could be easily interpreted: the State protected all citizens; but Walras extended the scope of public intervention to areas or sectors for which he believed the State was responsible. Thus, the State would open museums without charging an entrance fee not to satisfy private wants, but because he believed promoting the arts was the State’s prerogative. As indicated above, the logic was valid considering that the State was a distinctive entity with its own objectives and its own resources (Dockès 1996, pp. 226–227).

### *The Authority of the State*

In his time, Walras argued, the equilibrium between the individual and the State was broken. From a political standpoint, one had to liberate the individual; from an economic standpoint, it was urgent to restore the authority of the State. The solution of the social question lied therefore in the reconstitution of the State with respect to both the production and the distribution of wealth (Walras 1868, EES, p. 172). It is important to indicate here that Walras rejected both individualism and communism (Walras 1868, EES, p. 168). Instead, he attempted some sort of synthesis that he called “synthetic method”, “liberal socialism”, “synthetic socialism” or

“synthetism” (Walras 1868, EES, pp. 152, 172; 1896, EES, p. 206).<sup>32</sup> Like his father, Walras aimed to transform classical political economy into a science that could serve as an intellectual basis for the reform of society (Jaffé 1980, p. 532). To do so, he tried to reconcile the ideal of justice and empirical reality. His system can be described as an abstract account of real economic behavior (Walker 1988, pp. 304–305).

According to Walras’s conception of the State, the collective interest was not reducible to the sum of private interests. The true essence of any State was that, in spite of the plurality of its members, it was organized so that the citizens formed a unique and unchangeable subject. The State was the expression of the unified collectivity distinct from those of its particular members. In a nutshell, the State was the representation of the national community. His organic view of the State was far from unconventional in the 19<sup>th</sup> century. Some leading economists and constitutional scholars held similar views. Thus, in his *Cours de droit constitutionnel*, Pellegrino Rossi (1866 [1835–36], p. 3) advanced that “the key idea, the fundamental principle of the State is not the material aggregation of individuals ... the State ... forms ... a real whole, a whole with its own life, will, activity, power.” Dupont-White (1857, p. 345) was even more explicit by saying that “the private interest is not identical to the general interest. Societies have interests, such as the need for public or national security, that transcend individual strength ... It is rigorously exact to say that society is not merely the collection of individuals, and therefore the public interest is not the sum of private interests.” In the same vein, the Swiss jurist and politician Johann Kaspar Bluntschli (1877 [1875–76], p. 14) maintained that “the State is not a lifeless instrument, a dead machine, but a living being, and as a result, an organic one.”<sup>33</sup>

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<sup>32</sup> Dockès (1996, pp. 96–97) speaks of “synthetic holism” to characterize Walras’s views. Lallement (2014, pp. 23–24) contends that his positions were neither holistic nor individualistic.

<sup>33</sup> The French translation of Bluntschli’s book was published in 1877. It is therefore possible that Walras read it, but

Many economists and jurists shared Walras's belief that the concept of State *de facto* entailed a legal approach. In Walras's framework, this came in addition to ethical and political considerations concerning the role of the State in the economy as we saw in sections III and in the current one. From that perspective, it can be argued that Walras developed a favorable view of public intervention that seemed to go beyond the simple market failure rationale.

## V. CONCLUSION

Walras believed that the views of many free market economists on government intervention were too strict. He revisited the notion of collective want and developed an organic view of the State. Competition, he argued, was possible in the production of goods and services of private interest. Each individual could assess the utility of this type of good, and as a result, one could say that the general interest resulted from the sum of individual interests. This was not the case with public interest goods and services, however. Drawing upon the need for security, Walras explained that it represented a need for society as a whole. According to modern standard economic theory, individuals feel the need for public goods just as much as they feel the need for private goods. The distinctive feature of public goods and services lies in the impossibility of private appropriation because of non-excludability and non-rivalry. Walras ruled out such scenario arguing that what distinguished public from private goods was the fact that individuals did not feel the need for public goods; only the State was able to do so. Hence Walras's rationale for government's provision of public goods.

We have learned from Walras's theory of public goods that economic decision-making also involved ethical, political, and legal considerations especially vis-à-vis the role of government;



these considerations were not separate but part of the economic sphere. In that sense, his views on public goods shed greater light on his economic philosophy. Walras's scholarship considered in its totality is in fact a vivid reminder that economics is a social science.

We can advance several explanations as to why Walras's public economics and particularly his public goods theory has been overlooked. The language barrier is an easy culprit particularly for the Anglo-Saxon world, mainly due to the lack of translation of *Études d'économie politique appliquée* and *Études d'économie sociale*, which were only recently translated into English (Walras 2005, 2010). Another reason may be that fellow economists' biases led to erroneous interpretations of Walras's work. Indeed, the success of his pure economics contributed to a reductive and simplistic appraisal of his work. His marginal utility analysis and general equilibrium theory overshadowed his social and applied economics, two significant aspects of his body of work that specifically address his public economics. Finally, Walras certainly did not help his case either. Walras rejected utilitarianism and methodological individualism, two fundamental doctrines in modern economics. Some of his utopian and iconoclastic views combined with the fact that he opposed both free marketers and socialists—for instance, on taxation and land reform—made him an outcast.

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