The Cambridge Economic Tradition and the Distribution of the Social Surplus

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Abstract

Various research projects in economics developed at Cambridge share common philosophical presuppositions, within what can be termed as the Cambridge economic tradition. I argue here that the Cambridge economic tradition can be distinguished from other traditions in terms of its underlying ontology, methodology and ethics, and also in terms of the way in which those philosophical presuppositions are expressed in competing theoretical approaches to the distribution of the social surplus. I also distinguish between an economic tradition and a school of economics, and note that various schools have existed within the Cambridge economic tradition. The various Cambridge schools can themselves be identified in terms of the specific analytical frameworks they adopted when addressing the distribution of the social surplus.

Keywords: Cambridge, Ontology, Distribution, Surplus, Welfare, Social Philosophy.

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1. Introduction

Tony Lawson (2003, 2015) argues that several heterodox economic traditions share similar ontological presuppositions, and distinguishes competing heterodox economic traditions in terms of a concern with a particular domain of reality. Thus, Marxian economics is characterised in terms of a concern with the nature and dynamics of capitalism, original institutionalism is identified as a tradition concerned with the causes of stability (often found in institutions) and the causes of change (often associated with technology), and post Keynesianism is distinguished from other traditions in terms of a concern with fundamental uncertainty (Lawson 2003).

Lawson (2003, 2015) also defines modern mainstream economics in terms of an insistence on the use of mathematico-deductivist models, that are employed regardless of their adequacy for the analysis of social reality. That is, rather than being concerned with a specific domain of reality, as the heterodox economic traditions identified above (Lawson 2003), mainstream economics is characterised by an attempt to apply the same mathematico-deductivist methods to all domains of reality.

Lawson's description of heterodox economics and mainstream economics presupposes three different criteria for identifying an economic tradition. One criterion is the conception of reality presupposed at an ontological level. Another criterion is the specific domain of reality (if any) with which the economic tradition is concerned. And another criterion is the methodology employed. Here I adopt Lawson's (2003, 2015) criteria for distinguishing competing economic traditions, and argue that the Cambridge economic tradition can be identified in terms of its ontological presuppositions, and of a concern with the distribution of the social surplus and its impact on the expansion of human capabilities.

However, I also take into account the methodology employed in each tradition, as Lawson also does when defining mainstream economics in terms of method. I argue that the approach to the distribution of the social surplus employed within the Cambridge economic tradition can be distinguished from other approaches to the distribution of the social surplus to the extent that it engages in debate with (often in form of critique of) the analytical framework of modern mainstream economics. That is, while a concern with the distribution of the social surplus is also found in other economic traditions – such as Marxian political economy, for example – in the latter traditions the topic is not addressed through an engagement with the analytical framework of mainstream economics, as in the Cambridge economic tradition.

While an economic tradition can be defined in terms of a concern with a given aspect of reality, addressed through particular methods with shared philosophical presuppositions, a school of economics is defined here in terms of adherence to a specific theoretical framework. To the extent that the various projects associated with Cambridge adopt different analytical frameworks at the level of economic theory, they can be said to constitute different schools of economics. But as long as we acknowledge that those various schools of economics share similar philosophical underpinnings at an ontological, methodological and ethical level, and are driven by a concern with the distribution of the social surplus, they are part of the Cambridge economic tradition, which can then be systematised more concisely in terms of the three following characteristics:

- An (often implicit) *ontological* conception of reality where a totality is more than the sum of the components that constitute it, for it also depends on how those components are organised and interconnected.

- A *methodology* that adopts a plurality of languages when describing an interconnected reality, where causal mechanisms are explained using ordinary discourse, and mathematics is used in a way that allows for engaging in debate with mainstream economics, but does not shape the description of causal mechanisms provided;
- An *ethical* concern with the distribution of the social surplus and its implications for the expansion of human capabilities, which is also expressed in the specific theoretical frameworks developed within different schools of economics appearing in Cambridge.

I start by explaining these three ontological, methodological and ethical characteristics, which constitute the philosophical basis for a Cambridge economic tradition. I then move towards the various theoretical approaches to the distribution of the social surplus developed at Cambridge that are underpinned by this philosophical basis.

2. The ontological basis for a Cambridge tradition in economics

Geoffrey Harcourt (2003) suggests that the Cambridge economic tradition starts when Alfred Marshall founded the Faculty of Economics and Politics at the University of Cambridge in 1903. Of course, John Maynard Keynes (1973) famously argued that Thomas Robert Malthus was the first of the Cambridge economists. And as Anthony Waterman (1996) notes, one could go further back than Malthus as, Waterman argues, Keynes eventually did, if we take into account chapter XI of William Paley's 1785 book *Principles of Moral and Political Philosophy*. But while the role of precursors is surely important – especially precursors like Henry Sidgwick, who had a decisive influence on Marshall – only with Marshall's foundation of the Faculty of Economics and Politics we have the institutional context for the sustained development of a Cambridge tradition in economics.

A key philosophical presupposition of the Cambridge economic tradition, since Marshall at least, is that a totality is more than the sum of the components that constitute it (Martins 2013), since it also depends on the way in which those components are organised (Lawson 2019). Thus, Marshall (1890) notes that organisation should also be included as a factor of production, together with land, capital and labour. Marshall (1923[1919], p. 677) also focuses on how "several causes act together and mutually affect one another", and takes the interconnected nature of social reality as a central ontological presupposition.

This raises the problem, however, of identifying the separate effect of each cause, in a context where several causes mutually affect one another. In *Industry and Trade*, Marshall (1923[1919], pp. 677-678) argues that the solution to the problem can be found using the differential calculus of Isaac Newton and Gottfried Leibniz. According to the perspective of Newton and Leibniz, if a given magnitude A has an infinitesimally small direct effect on B, and B has an infinitesimally small direct effect on C, the indirect effect of A on C through B is negligible. Thus, we can focus on the direct effect of A on C in the short period while neglecting, for a time, in the pound of *ceteris paribus*, the indirect effects occurring through B. The method employed by Marshall leads to his partial (or particular) equilibrium approach, which focuses only on direct effects, assuming everything else remains constant. Piero Sraffa's unpublished manuscripts show that he took careful note of this method employed by Marshall, and found the intelligent use of the method of Newton and Leibniz to be Marshall's "one great contribution" (quoted in Martins 2013, p. 41).

When studying Marshall's use of differential calculus to justify his partial equilibrium approach, it is important to note that mathematics can be used in various forms in economics. Mathematics can be used to produce models that structure a given

story or narrative (Morgan 2001), where the narrative is determined by the possibilities outlined in the model. But mathematics can also be used in order to support (or ground) a theory of a given causal mechanism at play (Lee 2018), without determining the possible theories or narratives that can be constructed in order to describe causal mechanisms.

Marshall privileged a narrative approach, and used mathematics only to illustrate particular points, without constraining the narrative or theory presented. Marshall left mathematics to an appendix in his *Principles of Economics* (1920[1890]), and ceased to use it altogether in later works. In modern mainstream economics, in contrast, the mathematical models employed shape the structure of the theories and narratives about the economy that can be produced using those models. This follows from the fact that modern mainstream economics is characterised by an insistence on use of mathematico-deductivist methods, where any theory is seen as scientifically valid only if formulated in terms of a mathematico-deductivist model, regardless of its adequacy for the domain of reality being studied (Lawson 2003).

It is thus no surprise that the predominant definition of economics adopted in modern mainstream economics, namely Lionel Robbins's (1932) definition, encourages the application of the same method to various aspects of reality. Robbins's definition stands in contrast to Marshall's (1890) definition of economics, in which economics is defined not in terms of method, but as a substantive study of human activities that influence the material conditions of human well-being. Of course, in Marshall's days, his partial equilibrium method was actually dominant in England, so the term "mainstream economics" is used here to designate the approach that became subsequently the dominant approach, not the one that was dominant in Marshall's days.

The origins of modern mainstream economics can be found in the first uses of mathematico-deductivist models in economics. The first influential uses of differential calculus, through the contributions of Stanley Jevons and Léon Walras, constitute the beginnings of a mathematising project that became well-established in the mid-twentieth century (Lawson 2003; Martins 2013). And the way in which Vilfredo Pareto developed Walras' general equilibrium theory provided the key theoretical framework of the mathematising project that emerged in the twentieth century, at least in its beginnings. The Walrasian-Paretian general equilibrium framework constitutes one of the first infuential examples of a case where the mathematical model shapes the structure of the theories and narratives about the economy that can be produced using those models.

3. The methodological basis for a Cambridge tradition in economics

Albeit Marshall privileges a narrative approach which is not necessarily determined by mathematical models, Marshall's partial equilibrium theory is still sufficiently similar to the models employed in mainstream economics so as to allow for dialogue with mainstream economics. In fact, a key characteristic of the Cambridge economic tradition is an engagement in debate with modern mainstream economics, often using mathematical tools sufficiently similar to those employed in modern mainstream economics, but without shaping the analysis in terms of those mathematical tools.

Given the centrality of the University of Cambridge in the academic world, it is natural that the Cambridge authors tried to engage in dialogue with modern mainstream economics. And since the Cambridge economic tradition is characterised by a philosophy of where a totality is more than the sum of its components, it is also natural

that this dialogue took place by drawing the implications of an interconnected reality for the methods and theories used in modern mainstream economics.

This debate starts already with Marshall. Marshall famously argued that economics should follow the methods of evolutionary biology, and saw his own partial equilibrium analysis as a mere preliminary to an historically informed approach to economics, in which the historical narrative to be constructed is not determined by mathematical methods (Pratten 1998). But Marshall used extensively supply and demand diagrams as a pedagogical device, which allowed for dialogue with the marginalist perspective to which he was himself a contributor.

Marshall would often spend much space explaining particular cases where a partial equilibrium framework would apply. But this is not because those were the more relevant cases. Rather, it is because those cases allow for a pedagogical explanation of basic theoretical aspects using the more established language and methods, hopefully as a mere preliminary to moving into the more relevant and complex cases through an historically informed narrative, within a realistic evolutionary analysis (Pratten 1998).

Sraffa thought, however, that Marshall, albeit knowledgeable of the problems posed by the interconnected nature of mutual causes to the use of differential calculus, failed to acknowledge the deeper implications of those problems for his partial equilibrium method. The partial equilibrium method is relevant only when analysing rare cases of industries with very peculiar conditions, as Sraffa (1925, 1926) shows. In his unpublished writings, Sraffa also criticised Marshall's method more generally, noting that in economics we are not concerned with infinitesimally small changes, such as the ones presupposed in Marshall's application of Newton's and Leibniz's use of differential calculus (Martins 2013, pp. 41-43).

As an alternative, Sraffa developed a system of equations that captures the economy as a totality, that is, taking into account all the relations between observable quantities. This system of equations ultimately led to Sraffa's (1960) book *Production of Commodities by Means of Commodities*. This book is presented as a prelude to a critique of economic theory, while engaging in an internal critique of the foundations of marginalist theory. Here again we find the tendency, common across the Cambridge economists, for engaging in debate with mainstream economics, often drawing on the accepted theories and methods of analysis as a first step for an internal critique. Given the centrality of mathematics to modern mainstream economics, a critique of the latter would have to be pursued, Sraffa believed, through an internal critique of its presuppositions while engaging in mathematical analysis too.

Keynes also tried to study the economy as a totality, while engaging in dialogue with the dominant marginalist approach, employing such notions as *marginal* efficiency of capital, or *marginal* propensity to consume. The use of concepts inspired in marginalism helped Keynes persuading mainstream economists to accept his theories and policies. But despite Keynes's reference to concepts inspired in marginalism, Keynes believed, like Sraffa, that the use of differential calculus is problematic, since it leads to the neglect of the relations between entities.

Thus, Keynes (1936, pp. 297-298) suggests the use of *ordinary discourse* rather than differential calculus, noting that "in ordinary discourse, where we are not blindly manipulating but know all the time what we are doing and what the words mean, we can keep "at the back of our heads" the necessary reserves and qualifications and the adjustments which we shall have to make later on, in a way in which we cannot keep complicated partial differentials "at the back" of several pages of algebra which assume that they all vanish". Ordinary discourse allows constructing a narrative without being

constrained by what Keynes (1936, p. 297) saw as a pedantic "symbolic pseudo-mathematical methods".

The role of ordinary discourse when describing reality was present also in the Cambridge philosophical environment. G. E. Moore and Ludwig Wittgenstein, for example, also emphasised the role of ordinary language and common sense. Wittgenstein credited Sraffa for his own approach to language developed in Wittgenstein's (1963[1953]) book *Philosophical Investigations*, which also emphasises the role of context in ordinary language (Davis 2012; Sen 2003). A study of Sraffa's letters to Wittgenstein (McGuiness 2008) also shows that Sraffa engaged in an important analysis of ordinary discourse.

In short, the interactions between Moore, Keynes, Sraffa and Wittgenstein produced a philosophical context that favoured the use of ordinary discourse when describing reality, a method which can also be found in Marshall. The contributions of Keynes and his circle do not point so much towards a rejection of Marshall's overall philosophy, but rather of the specific theories advanced by Marshall. And in any case, fundamental aspects of the theories developed by Keynes and his circle were still influenced by the key tenets of the Cambridge economic tradition founded by Marshall, as I shall now argue.

4. The ethical basis for a Cambridge economic tradition

Another distinguishing feature of the Cambridge tradition is a concern with the distribution of the social surplus. This defining characteristic of the Cambridge economic tradition goes back to Marshall's own attempt to provide a definition of the social surplus, drawing on concepts also used in mainstream economics, such as supply and demand curves, while addressing the implications of the distribution of the social

surplus. But a concern with the distribution of the social surplus is also present in projects that depart more radically from Marshall's theoretical framework, such as those associated with contributors who aligned themselves around Keynes in one way or another.

Within the contributors associated with Keynes, some (for example, those inspired by Sraffa) are more concerned with finding a rigorous definition of the social surplus (different from Marshall's own definition). Other projects (such as those associated with Michal Kalecki, Joan Robinson or Nicholas Kaldor, for example) are more concerned with the impact of the distribution of the social surplus on the economy. Of course, other economic traditions, such as Marxian political economy, also share a conception where reality is interconnected, and a concern with a distribution of the social surplus. This is no mere coincidence, since Marx's contribution, albeit explicitly rejected by central Cantabrigian authors like Marshall and Keynes, was still immensely influential in Cambridge. But this raises the important question of how to distinguish the Cambridge economic tradition from Marxian political economy (Aslanbeigui and Oakes 2018).

It is here that the engagement with debate with the analytical framework of mainstream economics plays an important role as a differentiating criterion. An important difference between the Cambridge tradition and the Marxian tradition is that while Marxian political economy typically adopts its own analytical categories even when engaging with modern mainstream economics, the Cambridge tradition uses the language and methods of modern mainstream economics when engaging in debate with mainstream economics.

A tradition is shaped also by the debates it engages with, including not only debates with other traditions, but also internal debates. In fact, important debates took

place not only between the Cambridge economic tradition and mainstream economics, but also within the Cambridge economic tradition. Those debates led to the emergence of different schools of economics within the Cambridge tradition. In this context, it is important to distinguish what is understood here by an economic *tradition*, and by a *school* of economics. An economic tradition can be defined in terms of shared philosophical and methodological presuppositions and a common concern with a specific object of analysis (Lawson 2003). A school of economic thought, in contrast, can be defined in terms of the specific analytical framework it adopts at the level of economic theory, for example when analysing prices and quantities.

While Marshall, Keynes and Sraffa are part of the same tradition (Harcourt 1981, 2003) – sharing similar philosophical presuppositions and a concern with the distribution of the social surplus – they are not part of the same school, since they adopt different frameworks at the level of economic theory. The existence of different schools, stemming from the different theoretical frameworks adopted, emerged from several disputes within the Cambridge economic tradition.

Sraffa's (1925, 1926) critique of Marshallian theory, for example, led to a debate with Marshallian authors like Dennis Robertson or Gerald Shove (Robertson, Sraffa and Shove 1930), a debate that shows the theoretical inconsistency between the Marshallian position and the one advanced by Sraffa. Another central dispute is that opposing Keynes to Arthur Cecil Pigou. Pigou was Marshall's successor at Cambridge, and became the overt target of Keynes's (1936) attacks in the *General Theory*. The critique of Marshall's theory, started by Sraffa and Keynes, led to the existence of two schools in Cambridge: the Marshallian school (or Marshallian-Pigovian school); and the Keynesian school – or Keynesian-Sraffian school, if we take into account the various attempts of reconciling Keynes's theory with Sraffa's theory that took place at

Cambridge (Harcourt 1981; Garegnani 1978, 1979a, 1979b; Pasinetti 2005, 2007; Robinson 1985).

Still, a similar ethical concern with the distribution of the surplus is present in the theories formulated by authors working in different schools within the Cambridge economic tradition, including Pigou's and Keynes's. More than that, key ideas of the alternative economic theories developed in the Keynesian school when addressing distribution were often explained drawing on ideas that had already been advanced by Sidgwick, Marshall and Pigou. Those ideas can be found systematised in part I, chapter 8, paragraph 3, of Pigou's (1920) *Economics of Welfare*:

"the economic welfare enjoyed by anybody in any period depends on the income that he consumes rather than on the income that he receives; and … the richer a man is, the smaller proportion of his total income he is likely to consume, so that, if his total income is, say, twenty times as large as that of a poorer man, his consumed income may be only, say, five times as large. Nevertheless, it is evident that any transference of income from a relatively rich man to a relatively poor man of similar temperament, since it enables more intense wants, to be satisfied at the expense of less intense wants, must increase the aggregate sum of satisfaction. The old "law of diminishing utility" thus leads securely to the proposition: Any cause which increases the absolute share of real income in the hands of the poor, provided that it does not lead to a contraction in the size of the national dividend from any point of view, will, in general, increase economic welfare." (Pigou 1932[1920], pp. 80-81).

There are two very important, and symmetrical, ideas in this passage, which became constitutive of the specific theoretical frameworks adopted in the Cambridge economic

tradition. One of them, which is the second idea expressed in this passage, is a cornerstone of the Marshallian-Pigovian theoretical framework to the distribution of the social surplus. This is the idea that redistributing the social surplus from those with more income (and thus a lower marginal utility) to those with less income (and thus a higher marginal utility) increases overall utility.

As Hans Despain (2017, p. 630) notes, even Maurice Dobb (1925) drew upon this idea in his 1925 book *Capitalist Enterprise and Social Progress* (following an article on the topic in the previous year) noting that those with higher (lower) income have a lower (higher) marginal utility for their income, and are thus in a more (less) advantageous position for taking risks in entrepreneurial activities, becoming more (less) easily entrepreneurs. For Dobb, this means that there is a tendency for an increase of inequality in the distribution of the social surplus, as those with more income are those who are more willing to take the risks involved in capitalist activities, while reaping the benefits.

The other key idea expressed by Pigou above, in the first part of the passage, became a central element of the Keynesian theoretical approach. It is the idea that when people receive more income, they consume a smaller fraction of their total income. Keynes (1936) expressed this idea through what he called the marginal propensity to consume, and the marginal propensity to save, noting that people with a lower income have a higher marginal propensity to consume and a lower marginal propensity to save.

This leads, according to Keynes, to a social philosophy in which the social surplus should be redistributed, in general (that is, when there is no full employment) from those with more income to those with less income so as to increase aggregate demand and reduce unemployment, as Keynes (1936, pp. 372-384) writes in the

concluding notes of his *General Theory*, which describe "the social philosophy towards which the General Theory might lead" (Keynes 1936, p. 372).

Keynes construes much of his argument drawing on the idea that capital should cease to be scarce, leading to a lower interest rate (Keynes 1936, pp. 374-377). But Keynes's reasoning on need to eliminate the scarcity of capital is premised on the idea that "up to the point where full employment prevails, the growth of capital depends not at all on a low propensity to consume but it is, on the contrary held back by it" (Keynes 1936, pp. 372-373), reaching the conclusion that "an increase in the habitual propensity to consume will in general (i.e. except in conditions of full employment) serve to increase at the same time the inducement to invest" (Keynes 1936, p. 373), thus contributing to make capital less scarce.

That is, Keynes is drawing on the relation between income and consumption highlighted by Pigou, but thought that his novel contribution enables the elaboration of this social philosophy unfettered by old modes of thought (i.e., the Marshallian-Pigovian framework) that prevented its full development. Keynes found the need of a new theoretical framework, a *general theory* in order to explain the relation between income and consumption highlighted by Pigou, while describing the Marshallian-Pigovian theory as relevant only for particular cases.

In short, key ideas on capitalist entrepreneurship developed by Marxian authors like Dobb, and basic ingredients of Keynes's analysis, were already present in the early contributions of Sidgwick and Marshall, and are systematised very synthetically by Pigou in the passage above. Those ideas are the expression of an ethical concern with the distribution of the social surplus that appears throughout the various contributions emerging within the Cambridge tradition. But this social philosophy became expressed with different tonalities in the economic theories underpinned by it, and in the different

schools of economics that adopted such a social philosophy, such as the Marshallian school, and the Keynesian school.

5. From Pigovian welfare economics to new welfare economics

The Cambridge schools, centred around the contributions of Marshall and Keynes, respectively, became quite prominent within economics. But the ontological, methodological and ethical presuppositions of the Cambridge tradition were neglected within mainstream economics. This can be seen, for example, in the way in which Pigou's development of Marshall's contribution – which led to the emergence of the field of welfare economics – was subsequently displaced by mainstream welfare economics.

The contributions of Pigou (1920), together with those of Hugh Dalton (1925), led to the idea of increasing social utility through Pigou-Dalton transfers, that is, income transfers from individuals with more income, and thus a lower marginal utility, to individuals with less income, and thus a higher marginal utility. This approach, which is expressed in Pigou's quote above, is line with Marshall's (1920[1890]) distinction between more urgent needs and less urgent desires, and is also connected to Sidgwick's utilitarian ethics.

An influential criticism of the Marshallian-Pigovian approach to welfare economics was made by Lionel Robbins (1932, 1938) in his critique of the possibility of interpersonal comparisons of utility. Robbins saw utility as an irreducibly subjective phenomenon. In so doing, Robbins was in line with other colleagues at the London School of Economics (LSE), such as Friedrich Hayek, and was also influenced by Philip Wicksteed and the Austrian approach. But if utility is an irreducibly subjective phenomenon, personal levels of utility of different individuals cannot be compared. And

if personal levels of utility cannot be compared, there are no grounds for advocating Pigou-Dalton transfers as a means for increasing social utility.

Nicholas Kaldor (1939) and John Hicks (1939a) – two authors who subsequently rejected their early views on these matters – developed an approach that is compatible with Robbins's view, drawing on Vilfredo Pareto's version of Walras's general equilibrium theory. This led to the reformulation of the field of welfare economics, into what was then called "New Welfare Economics" (Sen, 1982). In "New Welfare Economics", the central concept is the Pareto optimum, which is a case where we cannot increase the welfare of any individual without decreasing the welfare of another individual. And the reason why we cannot change distribution when in a Pareto optimum is because we cannot compare individual utility levels, as Robbins (1932, 1938) argues. So we have no criterion to guide us when changing the distribution of income, that is, when addressing the distribution of the social surplus.

After Robbins's (1932, 1928) critique, various contributors from the LSE challenged the Marshallian-Pigovian approach to partial equilibrium that prevailed in Cambridge. Hicks's (1939b) *Value and Capital* became a central contribution to the new approach that emerged, which is significantly different from Walras's own, but shaped the way for a new type of intertemporal equilibrium that influenced the subsequent development of general equilibrium theory. Hicks was part of a generation of economists who were more influenced by Pareto's 1907 *Manuale di Economia Politica* than by Marshall's (1920[1890]) *Principles of Economics*.

The Paretian change towards an ordinal approach to utility, rather than a cardinal one, also enabled the development of a formalist approach regardless of more substantive aspects concerning human well-being, in contrast with the writings of Sidgwick, Marshall and Pigou. It must be noted, however, that Hicks (1975, p. 365)

subsequently rejected the approach developed in *Value and Capital*, and wrote: "Let it be understood that *Value and Capital* (1939) was the work of J.R. Hicks, a 'neoclassical' economist now deceased; while *Capital and Time* (1973) and *A Theory of Economic History* (1969) are the work of John Hicks, a non-neoclassic who is quite disrespectful towards his 'uncle'."

The Walrasian-Paretian approach developed at the LSE after Robbins's (1932, 1939) critique led to a separation between the analysis of efficiency, and the analysis of equality. Efficiency started to be studied in terms of Pareto optimality, and equality started to be studied outside the field of economics, as a subject matter for ethics, not for economics (Putnam 2002; Putnam and Walsh 2012). The theorems of welfare economics developed within Kenneth Arrow's and Gérard Debreu's (1954) general equilibrium theory became also central in the new approach to welfare economics that emerged, which became increasingly concerned with the development of mathematico-deductivist techniques, ignoring the ethical issues addressed within the Marshallian-Pigovian framework.

6. The distribution of the social surplus and the expansion of human capabilities

The Pigovian orientation to welfare economics continued to be developed at Cambridge, however, through the contribution of authors like James Meade (1976) and Anthony Atkinson (1975). Atkinson was significantly influenced by Meade, and developed an index of income inequality that takes into account the degree of aversion to inequality. Atkinson's (1975) index enables us to recover the Marshallian-Pigovian idea that greater income inequality creates a tendency for reducing overall well-being, and can thus be fruitfully interpreted as a development of the Pigovian approach to welfare economics.

Another influential contribution to welfare economics stemming from the Cambridge tradition is provided by Amartya Sen, who argues for a greater interaction between ethics and economics (Sen 1987), challenging the separation between both implied in the Walrasian-Paretian approach to welfare economics (Putnam 2002; Walsh 2003). Sen (2009, p. xxi) highlights, in this order, the influence he received from Cambridge economists and philosophers like Sraffa, C.D. Broad, Dobb and Dennis Robertson. But as Gay Meeks (2017) explains, Sen's influences go beyond Cambridge. Amiya Dasgupta, who was in India, also had a decisive influence on Sen, for example.

On the measurement of inequality, Sen (1982, p. 416) recognises the central influence of Atkinson, and writes: "My greatest debt is to Tony Atkinson, since my thinking on this subject has been largely inspired by his contributions, even though this has led me to a position rather different from his." When Sen wrote the article where the sentence above appears, he had already provided various contributions arguing for the possibility of interpersonal comparisons of utility (Sen 1982), even if partial ones, going against Robbins's claim, and thus allowing for the return of Pigovian elements into welfare economics.

Sen finds the idea of an entirely subjective notion of utility unsatisfactory, and adopts a more objective approach, so as to move beyond a subjectivist mental metric. Atkinson (1975) found in income a more objective space for assessing inequality. But for Sen (1982), what matters is not so much the income available, or the commodities that can be purchased with such an income, but rather the ability to convert commodities into human functionings, where a human functioning consists of the ability to be or to do something, such as being nourished, engaging in social life, and the several activities that human beings have reason to value (Sen 1982, 1999). Sen (1982) defines human capabilities as the set of potential functionings, and argues that human

capabilities provide the more appropriate space for assessing inequality, while arguing that the goal of human development is the expansion of human capabilities.

Vivian Walsh (2003) argues that Sen adopts a "rich description" of human activities, which is influenced by Dobb, an assessment with which Sen (2005) agrees. Dobb's and Sen's "rich description" of socio-economic reality is, of course, entirely in line with the emphasis on the use of ordinary discourse highlighted by Marshall and Keynes, without reducing economics to a mere technical analysis of mathematical results.

In truth, the utilitarian approach of John Stuart Mill, like that of Sidgwick, Marshall and Pigou, was one where we could find a "rich description" of human well-being as well, and where utility is not irreducibly subjective, as in mainstream economics. So Sen's pursuit of a more objective space for assessing inequality is in line with the more objective dimension of the Marshallian framework, concerned with objective activities, rather than with subjective wants as modern mainstream economics.

As Marshall (1920[1890], p. 76) argues, criticising Jevons and others, "much that is of chief interest in the science of wants, is borrowed from the science of efforts and activities", and "if either, more than the other, may claim to be the interpreter of the history of man, whether on the economic side or any other, it is the science of activities and not that of wants." Sen's emphasis on objective human functionings captures well Marshall's concern with the priority of activities over subjective wants when assessing human well-being, within a social philosophy characteristic of the Cambridge tradition that continued to be developed by Meade, Atkinson and Sen.

There is another important idea that was already in Marshall (1920[1890]) and his close collaborators, and was developed more recently, and perhaps more systematically, by Sen (1999), through the notion of human capability. It is the idea that

by increasing human well-being, we also increase human ability to engage in productive activities, thus improving economic performance. Sen's (1999) analysis of the impact of inequality on human capabilities, and indirectly on economic performance, is illustrative of the supply-side channel through which inequality influences economic performance. But there is also a demand-side channel through which inequality influences economic performance, as Keynes (1936) notes.

The demand-side channel is connected to the fact that inequality removes income from those who have a higher marginal propensity to consume, as Kalecki (1971) and Keynes (1936) argue, thus reducing effective demand. Within development economics, the demand-side channel has been elaborated especially by Kalecki and Kaldor, while the supply-side channel connected to the impact of the expansion of human capabilities has been a central concern for Sen.

The two key ideas synthetized by Pigou in the passage quoted earlier, one concerned with the impact of inequality on human well-being, and another concerned with the impact of inequality on consumption, appear clearly in these two channels, with the supply-side channel developed within the Marshallian-Pigovian school, and the demand-side channel studied within the Keynesian school. The analysis of the theories developed to analyse these two channels shows how both schools of the Cambridge economic tradition are influenced by a social philosophy in which a more equal distribution is not only ethically desirable, but also economically more efficient (Martins 2009).

7. The Cambridge social philosophy and the redefinition of the social surplus

However, the complementarity between both schools of the Cambridge economic tradition is not so clear cut since, between those associated with the Cambridge

Keynesian tradition, it was only Keynes, and also Richard Kahn to a large extent (who was closer to Keynes's mode of thinking than anyone else in Keynes's circle) that accepted elements of the Marshallian framework. Kalecki (1971), in contrast, developed his analysis coming from a Marxian background. And Sraffa (1960) brought a fundamental change to the interpretation of the classical notion of a social surplus (Meek 1961), defining it in a radically different way from Marshall's.

Putnam and Walsh (2012) argue that the contributions of Sraffa and Sen are part of a similar project concerned with the revival of classical political economy, with Sraffa focusing on the classical economic theory, and Sen on the classical moral anthropology. One could question whether Sraffa's revival of classical political economy constitutes a theoretical framework irreconcilable with Keynes's rejection of what he called classical economics. However, when Keynes rejected what he called classical economics, he meant the Marshallian-Pigovian theoretical framework, which Keynes saw as a natural development of classical political economy, contrarily to Sraffa who saw it as a distortion of the ideas of the classical political economists (Martins 2013).

Aware of this, Joan Robinson (1985) tried to find ways to reconcile Sraffa's reformulation of the social surplus with the principle of effective demand developed by Kalecki and Keynes, a project that seems viable once we interpret classical political economy without reference to the marginalist elements that both Sraffa and Keynes rejected. Joan Robinson (1985, p. 165) argues that Sraffa's theoretical framework provides the necessary elements for a systematic economic theory, noting that "[t]here does not seem to be much point in making further systematic generalisations", for in Sraffa's theory we have "a broad frame within which detailed studies of actual history can be carried out", and "[t]his is where Sraffa leaves us and hands us over to Keynes."

The Keynesian-Sraffian framework would be a framework built upon Sraffa's theory, and enriched with Keynesian elements.

Joan Robinson's synthesis drew also on the Marshallian approach to time, focusing on Sraffa's view of prices for the Marshallian long period, and Kalecki's view of prices for the Marshallian short period. Within the synthesis aimed at by Joan Robinson, economic analysis should be conducted in historical time (rather than in the logical time of mainstream economic models), drawing on a plurality of languages, as Keynes advocated. But such a project remained in embryonic form, with Sraffa and Kalecki unenthusiastic about it, and for different reasons received no support from key influential figures at Cambridge such as Kahn and Kaldor.

Furthermore, despite Robinson's alliance with Sraffians such as John Eatwell, for example through the production of an introductory economics textbook (Eatwell and Robinson 1974), important Sraffians authors like Pierangelo Garegnani (1979b) had strong divergences with Joan Robinson (1979), while proposing a different way of articulating Sraffa's revival of the classical social surplus approach with the Keynesian principle of effective demand. But in so doing, Garegnani (1978, 1979a) advanced significantly the project of reaching a Keynesian-Sraffian synthesis aimed at addressing the distribution of the social surplus (Martins 2013).

The same can be said of Luigi Pasinetti (2005, 2007), who also provided his own approach for combining Sraffa's classical theory with the Keynesian principle of effective demand. Pasinetti (2007) focuses on production rather than exchange as the basis for the formulation of economic theory. And like Joan Robinson (1985), Pasinetti (2005) also suggests developing a Keynesian-Sraffian framework using Sraffa's economic theory as its basis, enriched with Keynesian elements.

Sraffa's (1960) economic theory, and its reformulation of the concept of social surplus, has an important advantage when used within the social philosophy of the Cambridge economic tradition, even if Sraffa does not address this topic. In Sraffa's (1960) system, the distribution of the social surplus between capital and labour is not determined by the marginal productivities of capital and labour, as in mainstream economics. For it is not even possible to determine the quantity of capital to be used in the production function before knowing the rate of interest, as Joan Robinson (1953-4) pointed out.

Quite the contrary, in Sraffa's system the distribution of the social surplus is an exogenous aspect, for the prices of the various commodities are determined only after knowing either the remuneration of capital, or wages, that is, after knowing distribution, as Sen (2003) notes. The social surplus approach stemming from Sraffa, combined with the Keynesian principle of effective demand, provides thus a new way of addressing an old Marshallian-Pigovian problem, the distribution of the social surplus, while giving more degrees of freedom for addressing the distribution of the social surplus, since distribution is an exogenous aspect from the point of view of economic theory.

Sraffa's approach to the distribution of the social surplus also revealed several inconsistencies in the determination of distribution through the marginal productivity of labour and capital, which plays a central role in mainstream economics. This led to a confrontation with the mainstream theory of value and distribution triggered by Joan Robinson (1953-54), the Cambridge controversies in the theory of capital (Harcourt 1972). Despite winning important rounds of this controversy, however, the Cambridge Keynesian-Sraffian approach became marginalised within mainstream economics. More than that, the Cambridge approach itself started to be interpreted in terms of the version of the Walrasian-Paretian approach, which was advanced as a solution to the problems

posed by Sraffa (1960) and Robinson (1953-4) in a later stage of the Cambridge controversies in the theory of capital (Cohen and Harcourt 2003).

Thus, Sraffa's theory was interpreted as a particular case of general equilibrium theory, as we can see by Frank Hahn's (1975, p. 362) assertion that "there is not a single formal proposition in Sraffa's book which is not also true in a General Equilibrium model constructed on his assumptions." And Keynesian macroeconomics was already being interpreted at the time in terms of Hicks's (1937) Investment/Saving-Liquidity preference/Money supply (IS-LM) model, which was also inspired in Walrasian-Paretian theory. As Hicks (1980, pp. 141-142) himself notes, "the idea of the *IS-LM* diagram came to me as a result of the work I had been doing on three-way exchange, conceived in a Walrasian manner."

Thus, it was not only the Marshallian-Pigovian approach to welfare economics that was replaced by a Walrasian-Paretian approach, but also the Keynesian-Sraffian framework that came also to be increasingly interpreted in the same light. The mathematical techniques employed in the new version of Walrasian-Paretian approach, such as fixed-point theorems (Arrow and Debreu 1954), were also employed in other fields such as game theory (Nash 1951), as mainstream economics started to be increasingly characterised in terms of an insistence in mathematico-deductivist techniques (Lawson 2003, 2015).

Mathematico-deductivist techniques presuppose closed systems (Lawson 2003) and fail to capture an interconnected totality, which is best described through ordinary discourse (Keynes 1936). Theoretical concepts elaborated by Marshall and Keynes remained central to modern mainstream economics, but only after expunging the philosophical presuppositions connected to the way they were developed within the Cambridge economic tradition. Thus, as the theoretical contributions originated in

Cambridge started to be interpreted exclusively in terms of mathematico-deductivist techniques, the very essence of the Cambridge tradition started to disappear from the mainstream academic world.

8. Concluding remarks

As mainstream economics became increasingly more mathematical, the critique of the mainstream analytical framework became sharper, and made it necessary to develop more explicitly the ontological implications of the use of mathematico-deductivist techniques. This critique was made in a more systematic way by Tony Lawson (2003), who focuses on the incompatibility between the interconnected ontology that characterises the social realm, and the methods employed in modern mainstream economics.

Lawson's (2003, 2015) critique of modern mainstream economics can be interpreted as yet another contribution stemming from the Cambridge economic tradition, within a project usually designated as *Cambridge Social Ontology* (Faulkner, Pratten and Runde 2017; Lawson 2019; Pratten 2015). This follows not only from Lawson's critique of mainstream economics, which is yet another engagement with the analytical framework of mainstream economics, but also from Lawson's (2003) ethical position, which advocates human flourishing through the expansion of human capabilities.

Furthermore, Lawson's critique is motivated by his ethical position, which is in turn a consequence of his ontological conception, where human communities are a totality that is more than the sum of its individuals, and interconnected individuals must thus flourish as a community (Martins 2017). More importantly for the present purposes, the philosophical contribution provided by Lawson, highlighting the

interconnected nature of social reality, and its implications for human flourishing, also helps interpreting the Cambridge economic tradition.

The central elements of the Marshall's philosophical position were maintained at Cambridge long after Marshall's departure, within a philosophy where a totality is more than the sum of its components, and also through a social philosophy where the central concern is the distribution of the social surplus aimed at the expansion of human capabilities. According to this social philosophy, a more equal distribution of the social surplus improves human well-being and economic performance, both through supply-side channels connected to human capabilities (an approach developed more systematically by Sen, but which goes back to Sidgwick, Marshall and Pigou), and demand-side channels (an idea developed in the Keynesian circle).

However, the specific theories adopted within the Cambridge economic tradition were significantly different, leading to the emergence of at least two different schools: the Marshallian (or Marshallian-Pigovian school), and the Keynesian (or Keynesian-Sraffian school). It is also possible to identify further branches within these schools. Within the Keynesian school (Pasinetti 2005), for example, some contributors were closer to the Marshallian approach, such as Keynes and Kahn, while others were opposed to it, and closer to Marx, such as Sraffa.

These various theoretical frameworks are complementary, however, to the extent that they engage in the analysis of supply-side channels and demand-side channels through which the distribution of the social surplus influences the economy, within an analysis that is sufficiently original in order to be identified as part of a distinctive economic tradition. Continuity must not be understood, however, as the ossification of a static corpus of doctrines, but as an evolving organism with developmental consistency, in the sense that the theories and methods that emerge are a result of the theories and

methods developed before, also in the sense of being a critique of the previous theories and methods.

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