

# The Socialist Calculation Debate moving forward: What happened after 'The Use of Knowledge in Society'?

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## Abstract

This paper ventures briefly into the famous Socialist Calculation Debate during the 1920s and 1930s between what become known as the Austrian School of Economics and various proponents of market socialism. It describes the standard account of how the debate unfolded, and the Austrian re-interpretation of this that led to its revival during the 1980s and 1990s, in order to examine the socialist responses and engagement with the problems of central planning originally raised by Mises. Five distinct socialist positions are investigated and put to the test of whether they actually engaged with the Misesian challenge. Two positions are concluded to have done so, but both are ultimately dismissed as not sufficient to dethrone the Austrian criticism of central planning.

**Keywords:** Socialist Calculation Debate, central planning, labour theory of value, money prices, Subjectivism, Austrian School

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The socialist calculation debate is a fascinating chapter in the history of economic thought. It is one of those debates over which economists forcefully and repeatedly challenged each other's positions, and in the process re-established and re-appreciated their own. There is a clear progress in the debate, where the main front lines shifted from the initial claim of calculation, to the market socialists' reintroduction of competition and further on the process of discovering dispersed and tacit knowledge through competitive rivalry. The debate is lively and does not suffer from the rigidity in closely-related disputes such as capitalism vs. socialism, which that rarely progress from previously stated arguments. The calculation dispute is an interesting debate, not only in itself, but also because it highlights the unique functions of price systems and market processes, elements crucial to the Austrian School. More importantly for the Austrians, however, it marks the critical divorce from the neoclassical school, and as such a close knowledge of the debate becomes essential for all Austrians. Mises saw himself very much as belonging to the mainstream, a comprehension that was to be profoundly changed over the course of the debate:

Within modern subjectivist economics it has become customary to distinguish several schools [...] These three schools of thought differ only in their mode of expressing the same fundamental idea and that they are divided more by their terminology and by peculiarities of presentation than by the substance of their teachings (Mises, 1933: 214).

Kirzner clearly illustrates Mises's view of his opponents not to be "the followers of Walras or of Marshall, but [those] who rejected marginal utility theory" (Kirzner, 1988: 9-10)

While the early stages of the debate are fruitful endeavours for anyone seeking to understand the history of economic thought or the development of the Austrian School, I am mainly interested here in another aspect and stage of the debate. Socialist scholars are not known to give up in the face of criticism or even defeat, and I want to examine the responses produced in the period *after* the two heaviest blows from the Austrians were delivered: Hayek's *Use of Knowledge in Society* in 1945 and Mises's *Human Action*, published in English in 1949. The reason for my interest is similar to that which the great scholar of the calculation debate, Don Lavoie, posed in examining the debate:

The reason for the debate's incomplete influence may be rooted in an inadequate understanding, by the participants as well as by later historians of thought, of the original arguments [...]. The debate, as well as its implications for comparative economic systems have been, I believe, almost completely misunderstood (Lavoie, 1985: 2).

In his 1983 examination of the debate, Professor Murrell asks if the market socialists actually answered Mises's original challenge. They had an explicit intent of doing so, and afterwards an appreciation of having proved Mises wrong. Murrell, however, notes that the market socialists answered a different question, sidestepped the debate and failed to address the Misesian challenge (Murrell, 1983: 92, 100). This conclusion is strengthened by Lavoie, explaining how the market socialists' neoclassical schooling made them confuse the Austrians' writing with static or equilibrium conditions, which neither Mises nor Hayek was referring to (Lavoie, 1985: 3, 64-65, 114-115, 177-178). I want to extend Murrell's question into what later socialist writers have produced, and put them through the same trial; do post 1950-socialist scholars answer the challenge set out by Ludwig von Mises (and to a certain Hayek)?

Section I repeats the crucial stages and progression of the original debate and describes the standard account. Section II illustrates the Austrian re-interpretation and highlights severe misunderstandings by the market socialists during the debate. Section III outlines a sample of five socialist contributors to the revival of the calculation debate, corresponding to five diverging positions taken by socialists. Section IV then discusses the shortcomings of these positions, and puts them through Murrell's test to see if they actually address the original Misesian challenge rather

than fall into the same traps the market socialists did during the 1930s.

## SECTION I

When, in the aftermath of the Russian Revolution, Lenin attempted to establish the “state of affairs” Marx and Engels (1942: 26) explicitly said was not to be established artificially, through abolishing private property and introducing a moneyless economy, he was quickly faced with the calculation problem Mises so famously elaborated on a couple of years later. Industrial output falling 80% and unimaginable shortages of food are but some of the effects. But Mises’s provocation also came from propositions closer to his Viennese home, especially those by Otto Neurath in the attempt of establishing economic policies for the brief Bavarian Soviet Republic (White, 2012: 33-35). Mises’s challenge lay in the absence of exchanges in the means of production. By having all means of production state-owned, no market for them could be established. Without a market transaction, there would be no way to know their value, or the value of their potential use elsewhere; “calculation in terms of money will here be impossible” he says (1920: 92). The reason this is so important for Mises rests on how capitalist producers find out *how* rather than *what* to produce:

It is not a question of whether there shall be produced cannons or clothes, dwelling houses or churches, luxuries or subsistence. [...] Once this decision has been made, there still remains the problem of ascertaining how the existing means of production can be used most effectively to produce these goods in question. In order to solve this problem it is necessary that there should be economic calculation. And economic calculation can only take place by means of money prices established in the market for production goods in a society resting on private property in the means of production. That is to say, there must exist money prices of land, raw materials, semimanufactures (Mises, 1922: 142).

If there are no money prices for means of production, Mises says, all “capitalistic production would be gropings in the dark” (1920: 101). Since no such markets exist under socialism, and hence no prices could be established for capital goods, the fundamental economic problem facing socialism would be how to rationally, economically calculate without such prices. This led Mises to conclude that in a socialist state, “economic calculation is impossible” and that “socialism is the abolition of rational economy” (1920: 105, 110). This is where different narratives of the debate diverge. The “standard account” is first laid out, followed by a discussion of what is erroneous about it in Section II (Lavoie, 1985: 10-19).

Mises’s extreme challenge that socialism is theoretically impossible is in neoclassical terms here already rebutted. Neoclassical price theory, traced back to the works of Barone and Pareto involves the finding of an equilibrium set of prices through solving Walrasian equations. What firms in competitive markets do to find equilibrium prices is a decentralized trial-and-error way of solving such systems of simultaneous equations. Since central planning boards can equally well engage in such equation-solving activities and thus theoretically find an equilibrium set of prices, Mises’ original claim was rebutted from the start. The early market socialists, especially Taylor and Dickinson, hence proposed various schemes for a central planning board to formulate and solve such equation in practice, as an actual method of central planning (Lavoie, 1985: 80-86, 114-115). Hayek summarizes their position:

On the assumption of a complete knowledge of all relevant data, the values and the quantities of the different commodities to be produced might be determined by the application of the apparatus by which theoretical economics explains the formation of prices and the direction of production in a competitive system (Hayek, 1935: 207).

From here, the debate moved onto practical matters, where Hayek and Robbins challenged the feasibility of such schemes in the face of “hundreds of thousands” (Hayek, 1935: 212) or “millions of equations on the basis of millions of statistical data” (Robbins, 1934: 151) to be simultaneously solved. They are held (Lavoie, 1985: 14) to have retreated from Mises’s original claim:

Professor Hayek and Professor Robbins have given up the essential point of Professor Mises’ position and retreated to a second line of defense. In principle, they admit, the problem is soluble, but it is to be doubted whether in a socialist community it can be solved by a simple method of *trial and error*, as it is solved in the capitalist economy (Lange, 1936: 63).

Here, Lange introduces his version of competitive market socialism in practice, moving beyond the obviously impractical examples of Taylor and Dickinson where the central planners would solve an inhumanly large amount of simultaneous equations. Instead, Lange’s model relies on certain conditions being set by the Central Planning Board and respected as such by the managers; the Central Planning Board has to fix prices; managers have to act as price takers, i.e., accept the prices given to them by the Central Planning Board, choose the combination of factors of production to minimize Average Cost, and produce an output where Marginal Cost equals Price. Precisely what neoclassical price theory prescribes is how markets reach equilibrium. Since there is only one general equilibrium price, Lange argues, the planners would observe surpluses or shortages in stock if any other combination of prices were chosen than the equilibrium set of prices. As such, the planners could easily adjust the prices, since they “have quite the same objective character as the market prices in a regime of competition” (Lange, 1936: 75-77, 80-82):

The only “equations” which would have to be “solved” would be those of the consumers and the managers of production. These are exactly the same “equations which are “solved” in the present economy system and the person who do the “solving” are the same also (Lange, 1936: 88).

Lavoie neatly summarizes the standard account:

The standard view of the debate [...] contends that Mises (in 1920) denied the “theoretical possibility” of socialism even under static assumptions; this was a position that Barone (in 1908) and, some argue, Wieser (in 1889 or 1914) had already refuted and that the early market socialists such as Taylor (1929) and Dickinson (in 1933) merely reiterated by showing the formal similarity of socialism to capitalism; whereupon Robbins in (1934) and Hayek (in 1935) retreated from Mises’s “theoretical” argument to a mere denial of the practicability of socialism (which was itself said to have been answered by Lange in 1936). (Lavoie, 1985: 79).

## SECTION II

This section deals with four areas of major inattention on behalf of the market socialists, all of which were important components Austrians used to dismiss the market socialist solutions, ultimately leading them to conclude that Mises's challenge had gone unanswered (Murrell, 1983: 100), (Lavoie, 1985: 183), (Shapiro, 1989: 159). First, the most fundamental problem with the above reading of the debate is the confusion of static equilibrium or even conditions of perfect competition rather than disequilibrium and dynamic conditions. Second the idea of tacit knowledge and knowledge dispersal is considered. Third a group of managerial issues and inconsistencies within competitive market socialism are elaborated on, and lastly the lack of futurity is briefly noted.

One thing should be noted before we move onto the misconceptions in market socialism. As has been showed above, Mises did not see his contributions as diverging from the Neo-Classical school. As we will see, neither did his opponents, in interpreting his notions within a neoclassical framework (Lange, 1936: 65-76). Kirzner convincingly points out that Mises gradually gained an understanding of how the ideas of the Austrian School differed significantly from the neoclassicals, held by Kirzner to be one of the lessons and outcomes of the debate itself (Kirzner, 1988: 1-3, 9-10), (Lavoie, 1985: 181, 183). Mises's challenge has to do with economic dynamics, of ever-changing economic conditions rather than what he refers to as "stationary conditions" (1922: 139, 196-208). Under stationary conditions it is assumed that all means of production are used in the most efficient way in satisfying the demands by consumers, and since there is no change, economic calculation by way of money prices have no role to play; "the essential function of economic calculation has *by hypothesis* already been performed. There is no need for an apparatus of calculation" (1922: 139). His critique and challenge thus applies in the real world of constantly changing conditions, effects, demands or events (1920: 109). The most striking aspect of the market socialists' responses is their failure to engage and deal with this Misesian idea of non-equilibrium or "an economy which is perpetually subject to change" and constantly "confronted with new problems which have to be solved". Since Mises in *Socialism* is explicit about his challenge dealing with "economic dynamics", not with "economic statics" (1922: 139), it is remarkable that the market socialist do precisely that. Murrell (1983: 98-100), Shapiro (1989: 146-148) and Keizer (1989: 74-75) all raise this critique in their examinations, but Lavoie (pp. 85-91, 100, 115) is most thorough in his investigation:

The market socialists offered a response to the wrong argument [...]

But this response does not at all answer the Misesian challenge. The calculation problem, as we have seen, is not merely the static computational difficulty of solving Walrasian equations to obtain the equilibrium values of the prices; it involves the deeper problem of the rivalrous dissemination of knowledge, including, but not limited to, the knowledge of prices (Lavoie, 1985: 144).

Lange's, Taylor's and Lerner's neoclassical interpretation of Mises's arguments consistently led them to misunderstand vital concepts, and interpret them in a neoclassical framework where their meaning was different than in the Austrian sense (Lavoie, 1985: 3). Since Mises to a large extent was either unconscious or negligent of the vast differences between himself and the neoclassical school, or because the ways in which his arguments were presented were inadequately put forward to show this distinction, Lange is not to carry all the blame (Kirzner, 1988: 5-7), (Lavoie, 1985: 90-92). This misunderstanding is arguably also why major neoclassical scholars such as Samuelson (1976: 642), Schumpeter and Knight tended to support Lange's position over Mises's, despite their otherwise critical positions against socialism. Knight's conclusion that "Socialism is a political problem" and "economic theory has relatively little to say about it" is remarkably similar to Lange's comparison of socialist and capitalist price theory (Knight, 1938: 267-268). Schumpeter goes ever further than that in discussing the feasibility of socialism:

A glance at our solution of the theoretical problem will satisfy the reader that [Socialism] is eminently operational; that is to say, it not only establishes a logical possibility but in doing

so also shows the steps by which this possibility can be realized in practice. [...] Solution of the problems confronting the socialist management would be not only just as possible as is the practical solution of the problems confronting commercial managements; it would be easier (Schumpeter, 1943: 185-186).

Because of these misunderstandings, most objections to Mises miss their mark. They focus on computational capacity rather than the more fundamental issue of calculation, assessing and establishing the adequate knowledge required (Mises, 1920: 101-104), (Lavoie, 1985: 119-120).

This leads us to the second area, the closely-related issue of knowledge and knowledge dispersal. Since prices in the Austrian sense do several things (one of them is to convey information of tacit knowledge that by no means is available for others to use (Kirzner, 1988: 4-9), (Hayek, 1935: 210-211), (Hayek, 1945: 524-528)), to simply neglect or assume perfect knowledge as the market socialists do and to assert that central planners hold the relevant knowledge is to “profoundly miss the point” (Lavoie, 1985: 115). This is a crucial mistake simply disregarded in the market socialist models.

The third problem with the standard narrative contains various managerial issues and contradictions in the models of the market socialists (Shapiro, 1989: 148), (Murrell, 1983: 98-99). This was illustrated first in Hayek’s 1940 article, where the Langean instructions to managers (discussed above: priced fixed by Central Planning Board; minimize Average Cost; produce at output where Marginal Cost = Price) are shown to be inconsistent with one another and the overall objective of achieving competition. Since the managers cannot affect the prices (being fixed by the Central Planning Board), there is no way for them to induce either costumers or suppliers to change purchases or deliveries. If, as by change, the manager would come up with a technique that lowers his production costs, he is ordered by the rules to use it. Consequently, the level of output that equalises marginal cost with price would be higher, but he can neither obtain more input from his suppliers nor can he provide his costumers with more goods, because of the price-fixing policy implemented by the Central Planning Board. As such, he is forced to take substandard substitutes into production or to “stop production where under true competition he would have lowered his prices” (Hayek, 1940: 129-131). Ultimately, the “fixed prices also limit product competition among managers” (Shapiro, 1989: 148). By stalling competition in these ways, the models are counteracting the very problem competitive socialism attempted to solve. Furthermore, if Lange would overcome these communicative problems (which he is to hint at in 1967) Shapiro shows how even such a scheme would undermine the idea of central planning, since effectively the prices would be set by managers rather than planners, and be subject to constant adjustment, similar to capitalist processes (Shapiro, 1989: 146). Fourth, the crucial, but less palpable, Misesian elements of futurity, expectations of the future, future-oriented markets and the information they provide about actors’ anticipation is sadly overlooked in all responses (Mises: 1922:205), (Murrell, 1983: 98-100).

There are numerous issues with the market socialists’ proposed solutions, and the misunderstandings of concepts central to the debate exacerbated their problems. As noted, the market socialists answered a different question than the one posed by Mises, and failed to engage with the non-static, disequilibrium state of constant change he was referring to. Despite this reinterpretation by Austrians in the 1980s and 1990s, the conviction that Lange successfully rebutted both Mises and Hayek seems to endure in the minds of many scholars (Shleifer & Vishny, 1994: 166).

## SECTION III

One of the effects that the calculation debate has had, both for Austrians and for Socialists is forcing them to re-evaluate their own positions (Kirzner, 1988: 1-3, 15-16), (Lavoie, 1985: 180-183), (Arnold, 1994: 39, 46-47). For Austrians, an increased emphasis on the entrepreneurial actions under changing disequilibrium conditions and an improved understanding of the role price systems play has greatly enhanced the viability of the school (Kirzner, 1988: 4-5). Equally, socialists have been forced to re-evaluate the implicit assumption that central planning constituted an integral part of socialism, and have since attempted countless of ways in which market mechanisms or alternative forms of planning can be adopted (Arnold, 1994: 39, 46). As a result, there is an abundance of socialist scholars envisioning economies that attempts to overcome the Austrian challenge. Below follows a range of such approaches. They are deliberately chosen to reflect the broad spectra of reactions to the Socialist Calculation Debate, some of them intellectually rigorous, others less so.

**Oskar Lange**, seemingly unbothered by the Austrian objections provided by Hayek and Mises in the 1940s, re-joined the debate in 1967 even more certain of his victory. In his article *The Computer and the Market* he is delighted over the introduction of computers which to him “simulates the working of the market” (Lange, 1967: 159). His famous introductory lines are quotes below:

Were I to rewrite my essay today my task would be much simpler. My answer to Hayek and Robbins would be: so what’s the trouble? Let us put the simultaneous equations on an electronic computer and we shall obtain the solution in less than a second. [...] [The market process] may be considered as a computing device of the pre-electronic era (Lange, 1967: 158).

His most remarkable addition is however the consideration of dynamics, but not the dynamic state of ever-changing economic data Mises was concerned with but with changes due to economic growth. He holds it to have been previously lacking in his model, and gratefully accepts the services of the mathematical programming to amend the models (Lange, 1967: 159-161).

### **Maurice Dobb:**

If Lange, by conceding Mises’s first challenge and engaging in a search for competitive mechanisms to make a socialist economy viable, is held as a softer sort of socialist, Maurice Dobb is clearly a hardliner. His writings on the calculation debate are contemporary as well as published post-1950, but his position is representative of a certain strand of ideas and is consequently included in this survey. He disputes the Misesian challenge by pointing to the workings of the Soviet Union, however imperfect such a comparison might be; since there is no chaos and destruction, Mises must indeed be mistaken. He explains this by disputing the universality of economic laws and stresses that the inherent difference between capitalism and socialism renders Mises’s critique feeble (Dobb, 1937: 275-276). Even more so, the benefit of a planned economy over capitalism arises from a reduction of uncertainty, since actions are coordinated and decisions are made beforehand, rather than through the pesky price changes in which decisions are “taken in blindness to other decisions” (Dobb, 1937: 278). For Dobb, efficiency is achieved as easily in planned economies simply by equalising marginal cost to price. In later contributions, Dobb is to stress the inclusion of other elements in his understanding of efficiency, predominantly income distribution, which made the Austrian critique even less relevant (Dobb, 1937: 275-278, 308):

Even if a planned economy were to fall long way short of attaining the ‘optimum conditions for efficiency’ that economists sought to emphasise, it by no means necessarily followed that planning was inferior to a market system (Dobb, 1976: 127).

In several articles during the 1990s, **Devine & Adaman** advanced their attempt to incorporate the above insights from Dobb about uncertainty in non-planned economies with the Austrian argument of tacit knowledge into what they call “Participatory Democratic Planning”. Their merger would include a respect for, and inclusion of, everyone affected by major decisions into the decision-making process, and as such would acquire the tacit knowledge of non-entrepreneurs as well as entrepreneurs, an element they saw as missing in the Austrian approach. In that way, the advantages of two worlds would be combined (Devine & Adaman, 1996: 531-532).

**Alec Nove**, in his two books on feasible socialism, significantly changed the stance most socialists came to hold towards central planning and market socialism (Arnold, 1994: 35). He gives an impressive outline of possible alternatives, *feasible* socialism, achievable within a generation. He discusses at length the problems facing socialists, market socialism, Soviet Union and stresses the necessary role played by a pricing mechanism under dynamics of change. In outlining this feasible socialism, he attempts to minimize the evils of unemployment and worker alienation, maximise participation and the sense of belonging; vital industries are to be state-owned, but cooperative, social and state ownership is to coexist with small-scale private enterprise subject to corrective state intervention if material inequality or other undesirable traits were to arise. Micromanagement and central planning is to be confined to sectors where “informational, technological and organisational economies of scale and the presence of major externalities” make them indispensable (Nove, 1991: 98-103, 191-203).

**Cottrell & Cockshott** provide the most sophisticated and complex of modern responses to the re-interpretation of the calculation debate. They realize that the market socialists have put themselves in the awkward position where the only way not to concede the case against central planning is to introduce further undesirable elements of capitalist competition and rivalry. To salvage the socialist case, Cottrell & Cockshott identify an alleged weakness in the Misesian works, and revive the since-long discarded calculation via labour content and labour time (Cottrell & Cockshott, 1993: 80-84). In such, they shift the core of the dispute towards one of subjectivist against labour theory of value. If successful, it “opens up further possibilities [...] to calculate” and is precisely what they “need to produce a coherent, balanced plan” (Cottrell & Cockshott, 1993: 101-102). It relies primarily on their ability to overcome Mises’s rejection of using labour time as an “objectively recognizable unit of value” (Mises, 1920: 116). In order to appreciate their defence, a brief outline of the reasons for why Mises discarded labour theory of value is required.

First, Mises identified the valuation issue of non-reproducible resources, which by their scarcity and potency have value, but involve no labour time in producing them. Second, Mises stressed the heterogeneity of labour because “varying degrees of capacity and dexterity” cause “labour to have varying qualities” and thus cannot be suitably aggregated (Mises, 1920: 112-116). Cottrell & Cockshott attempts to solve the first issue by having the planning authority “invests in research into the production of substitutes” whenever non-reproducible resources are consumed, funded by an appropriate change on the consuming industry. Additionally, they identify an over-usage of limited resources also under capitalism and lastly they admit that goals of efficiency can be subjugated to democratic processes rather than efficient usage. On the second issue, Cottrell & Cockshott suggests categorised kinds of skilled labour, indexed and estimated by time required to acquire certain skills and by pay gradation in accordance with different tasks. In this way, the value of different kinds of labour could be put in a common denominator (1993: 82-84).

In response to crucial arguments made by Austrians at various stages of the debate, they provide a number of responses. For example, they suggest Innovation Councils through which experimentation finds new processes to be introduced in production in order to mimic the creation and revealing of tacit knowledge so stressed by Hayek (1935: 210-211 (1940: 129-139) (1945: 529-530), Kirzner (1988: 6-10) and Lavoie (1985: 103-106, 123-124). To combat Mises’s emphasis on the capitalist’s speculative function where capital “should be withdrawn from particular lines of production” and “applied in other[s]” (Mises, 1922: 139-141), Cottrell & Cockshott introduces Expert Councils which, like scholars in academia, are guided by prestige and admiration rather than profit or avoidance of monetary loss, in deciding on the expansion and closures of particular enterprises (1993: 89-91).

## SECTION IV

This section corresponds directly with the preceding section in that it evaluates the crucial elements of each of the five positions discussed above.

**Oskar Lange** says explicitly that the debate concerned itself only with “static equilibrium” (Lange, 1967: 158). As has been shown above, this is one of the fundamental misunderstandings in the debate, and as Lavoie and Kirzner emphasizes, it is an acceptable mistake since Mises and Hayek might have been too imprecise (Kirzner, 1988: 6-7), (Lavoie, 1985: 90-92). When Lange is writing in 1967, however, such an excuse is no longer permissible. In the face of Mises’s and Hayek’s many contributions and gradual improvements during the 1940s, it is quite clear that the debate is not concerned with economic statics, but with dynamic changes, *even if* Lange perceived it differently in 1936. In 1967 he nevertheless ignores it, and rejoices over computerized programmes coming to his aid. He wants to introduce dynamic effects of growth, seemingly without recognizing that such growth might alter or impede the possibility of his computer to solve his simultaneous equations. He concludes that “mathematical programming [...] fulfils a function which the market never was able to perform”, since it can aid planners in solving dynamic problems occurring as of economic growth. This is clearly unsatisfactory, since the Austrian challenge was primarily about *formulate* such equations rather than the secondary point about having the computational capacity of solving them (Keizer, 1989: 75). This critique effectively deals with planometricians’ attempt to use computer as a panacea for central planning (Lavoie, 1985: 98-99). Rothbard later ridicules such overemphasis on computer capacity by referring to its strict dependency on inputs: “garbage in, garbage out” (1991: 72).

In all fairness, **Maurice Dobb**’s reaction to hold his ground, disputing and ignoring the content of the Austrian challenge is not an unreasonable position. Mises originally wrote:

“Whoever is prepared himself to enter upon socialism on ethical grounds on the supposition that the provision of goods of a lower order for human beings under a system of common ownership of the means of production is diminished, [...] will not allow himself to be influenced in his endeavours by what we have said” (Mises, 1920: 130).

It is a sensible position for Socialists to take, ignoring the challenge and accepting whatever adverse effects to come from it. de Soto describes such approaches as constituting “a ‘cost’ which must not be taken into account, given that the socialist ideal must be pursued per se, for ethical, ideological and political reasons, regardless of the results” (de Soto, 2010: 296-303). However, unless Dobb’s dictator who establishes the consumer choices of all his subjects lack any preference in doing so, Mises, Hayek and de Soto have shown that he would have no way of knowing a preferred condition over an inferior one, according to his own subjective value scales. This again emphasises the importance of the Austrian challenge (Mises, 1949: 694-704), (Hayek, 1935: 214-217), (de Soto, 2010: 296-303). Ironically, by proposing efficiency to be achieved by equalising marginal cost to price, he falls into the same neoclassical trap that the market socialists do, despite his effort of attacking them (Dobb, 1972: 145-146, 276-279). More remarkably from a scholarly point of view, however, is his incorrect description of the debate, neglecting the early market socialists’ contribution. In his account, Hayek’s and Robbins’ secondary point of the sheer number of simultaneous equations somehow rebut Lange’s competitive market socialism (despite Lange’s method of trial-and-error explicitly attempted to circumvent the impracticality of solving millions of equations, and is written afterwards). It has the academically perverse effect of allowing Hayek’s computational point to stand until rebutted by Lange’s argument of the computer in 1967, which is simply an inaccurate description of the debate.

**Devine & Adaman** constitutes a peculiar mix of brave innovation and spectacular inadequacy. Their suggestion of participatory democratic planning is creative but altogether unsuccessful. The scheme seems overall unviable and vague in its emphasis on “everyone affected”, listing every conceivable group to be represented and somehow Devine & Adaman still believe decision-making can be effective. Most important for our purposes here however, is its

question-begging suggestion of “centrally determined capital charge” and “prices of producer goods used as inputs”. Calculating such values constitute the core of the Calculation Debate, but in their haste of drawing up a “self-governing society of self-activating subjects” (Devine & Adaman, 1996: 532-536), they re-admitted the object of study through the back door, and much like Taylor in 1929 assumed away the problem (Lavoie, 1985: 87-88), (Hayek, 1935: 210-211), (Hayek, 1940: 129-130).

The socialist objections this far have been rather uninspiring in so far as they have neglected the central Misesian challenge, and thus begged the question by focusing on minor issues of the debate, or in the case of Dobb, altogether dismissing the viability of the challenge. Below follows the discussion and evaluation of two positions that do engage with the actual Misesian challenge, and as such positively answers Murrell’s question.

**Alec Nove’s** famous and well-appreciated examination of feasible socialism contains discussions on vital concepts relevant to the calculation debate. He seems to grasp the challenge set out by Mises, the indispensability of pricing mechanisms and how they convey information. He explicitly argues that “no socialist (feasible socialist) society can be realistically envisioned without prices”. His works have the peculiar combination of at times appreciate even Hayekian knowledge dispersals under elements of change, without fully grasping the extent to which mathematical, computational planning is rendered powerless by precisely that. After explaining the issues facing the mathematical solution he concludes that it “in no way precludes the widespread use of computers in most calculations, or to arrive at optimal solutions of partial, limited questions” and wants central planning to occur within sectors of special importance (Nove, 1991: 96-100, 103, 221).

His contributions ultimately amount to yet another retreat by advocates of central planning. The mathematical solutions constituted a retreat from the Marxian position of completely abolished private property, from which Lange and the market Socialist retreated by re-introducing elements of competition. Nove provides a third retreat, re-admitting private property in the means of production, stressing independently-run co-operatives and small scale private enterprise, which takes the debate beyond the realm originally outlined by Mises (Nove, 1991: 191-203). His now interventionist approach leaves him exposed to a whole range of attacks (de Soto, 2010: 294-295), but they all obviously fall outside of the scope of calculation (Mises, 1920: 104-106).

Of the attacks here examined on the Austrian conviction that centralised planning in a socialist economy is impossible, it must be admitted that **Cottrell and Cockshott** provide the most rigorous one. Most of the variously scattered shortcomings in the market socialists’ case identified by Lavoie, Murrell, Shapiro and Keizer are effectively dealt with, and an impressive attack on Mises via the use of labour time calculation is delivered. If they, in fact, were to be successful, a revision of what is left standing of the Austrian critique finds the futurity element stressed by Murrell (1983: 98-100), Mises (1949: 332-335, 707) and Kirzner (Kirzner, 1988: 7, 15-16), (accepted by Cottrell & Cockshott (1993: 93)) and Hayek’s insight of production on order, which seems partly immunized to much of the critique (Hayek, 1940: 123-124). The dispute over calculation in labour time thus seems to be key. de Soto concludes that were calculation in labour time feasible, the problem of dispersed knowledge would still persist, but it is merely asserted and not adequately defended (2010: 150).

Instead Horwitz provides us with a thorough explanation that ultimately means Cottrell & Cockshott’s bold proposals fall short of its mark. He identifies that much of their argument falls in the same trap market socialists did, by focusing on *computational* ability rather than the deeper, epistemological matter of accessing knowledge that by its nature could not be fed into a computer. He extensively shows how such knowledge is drawn out and accessed through the use of money prices that necessarily presupposes private property in the means of production (Horwitz, 1996: 61-68, 73). By embedding the social institution of markets with money prices, economic agents are provided with an adequate yardstick to evaluate, before and after, if endeavours are economically efficient rather than merely technologically feasible (Horwitz, 1996: 72-74, 76). This is the heart of the matter.

Horwitz is however too hasty in drawing extreme conclusions from “only the discovery process of competition” (Horwitz, 1996: 72) can draw out such knowledge and that the “impossibility of economic planning” is an integral part of humanity. These are insufficiently defended, but his discussion altogether is enough to dispose of Cottrell & Cockshott’s suggestion of innovation specialists, since they would lack the measure for assessing whether innovations made economic sense. Private property in the means of production does not necessarily follow from above statements, as Horwitz asserts, whereas the need for competitive institutions do. It is, at least conceptually, feasible to picture non-market institutions reaping the benefits of entrepreneurial rediscovering processes under money prices (Horwitz, 1996: 61, 72), and economic planning can certainly be attempted through schemes of syndicalism or worker’s capitalism.

On the more important dispute over labour theory of value, Cottrell & Cockshott’s suggestion of charging industries for research into substitutes begs the question by assuming the planning agency’s ability to correctly set prices, i.e., the dispute in question. This is similar to Devine & Adaman and even Taylor in simply assuming away the problem (Lavoie, 1985: 87-88). Secondly, by allowing “environmental considerations to override” efficiency, they are conceding the case in very much the same way Dobb did when including other elements into the understanding of efficiency (Cottrell & Cockshott, 1993: 82). Lastly, the proposed solutions for overcoming the heterogeneity of labour lack the precision required by such an important step. To approximate the way in which one kind of labour is recalculated into another, *including some margin of error*, becomes a major issue when the millions of labour hours in the entire economy are aggregated. This means that even small deviations from Cottrell & Cockshott’s correct labour time translations massively distorts the entire economy, and regenerates incorrect values. It becomes a major problem for planners since they, in the absence of an entrepreneurial actor equipped with social institutions (i.e. money prices) have no way to detect and correct such discrepancies. Above that, there is no recognition of time in establishing value, along the lines described by White. Labour simply does not infuse value into products (White, 2012: 43-46). Instead, value consists in “the amount of money that people choose to part with to obtain the subjectively appraised expected utility of what they purchase” (Horwitz, 1996: 67). Subjectivism remains intact, and Cottrell & Cockshott’s bold attempt is ultimately unsuccessful.

## CONCLUSION

Two lines of fruitful future research have been illustrated by the above discussion. Considering the revival of labour time calculation as a serious proposal to counter the Misesian challenge, there is prospect for further examination here, since Mises assigned very little scope to this (Cottrell & Cockshott, 1993: 80-81). Second, there seem to be ample opportunities for furthering the comparison beyond Mises’s original limitation of socialised (i.e., state-owned) means of production, into calculational difficulties facing worker’s cooperatives or other imaginable forms of market socialist systems such as listed by Arnold (1994: 39).

The progression of economic idea is non-linear and historical disputes sometimes resurface, more invigorated and intense than before (Boettke *et al*, 2014: 543). This is a sufficient reason to pay close attention to such historical debates. The socialist calculation debate did not end after 1950. By then, it was not even resolved, but socialists and Austrians alike saw themselves as victorious. As the recurrence of the debate during the 1980s and 1990s show, fierce intellectual battles can be formulated, fought, rested and suddenly revived. This is especially true for the calculation debate, and judging from Cottrell & Cockshott’s attempt to revitalize calculation in labour time, subjectivism might one day be seriously questioned.

As for the extended investigation into Murrell’s question in 1983, both Nove and Cottrell & Cockshott are held to have engaged with the actual Misesian challenge, while the other socialist positions considered are deemed not to. These responses include serious problems as is illustrated in Section IV, and as such the Austrian emphasis on future-oriented entrepreneurial market processes are still viable criticisms against central planning.

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