

Economic calculation: private property or several control?

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Abstract

As the centenary of the Russian revolution of 1917 approaches, it is worth reviewing the past 100 years' discussion amongst economists on the possibility – or otherwise – of economic planning under socialism. The socialist calculation debate is of fundamental importance, not merely as a specialist application of economic ideas, but as an investigation of the foundations of all economic activity. Every economic action whatsoever is premised upon calculation, every choice depends upon an assessment of the costs and benefits of each alternative between which the agent is to choose. The view taken of that choice and its attendant calculation, in market and non-market contexts, is constitutive of the schools of thought – Marxian, neoclassical and Austrian alike – which have contributed to the debate. An understanding of the calculation debate is therefore required in order to understand how these paradigms stand in relation to each other. This paper addresses one particular detail of that debate – the claim by Austrian economists that socialism is impossible because the absence of private property in the means of production precludes economic calculation. The paper suggests that several control rather than private property is required for economic calculation, and that the latter is consistent with public ownership of the means of production. The Austrian argument on this point, therefore, is without force.

1 Introduction

This is the first in a projected series of papers examining the socialist calculation debate in the run-up to the centenary of the Russian Revolution of 1917. As this milestone approaches, it is worth reviewing the past century's discussion amongst economists on the possibility – or otherwise – of economic planning under socialism. The socialist calculation debate is of fundamental importance, not merely as a specialist application of economic ideas, but as an investigation of the foundations of all economic activity. Every economic action whatsoever is premised upon calculation, every choice depends upon an assessment of the costs and benefits of each alternative between which the agent is to choose. The view taken of that choice and its attendant calculation, in market and non-market contexts, is constitutive of the schools of thought – Marxian, neoclassical and Austrian alike – which have contributed to the debate. An understanding of the calculation debate is therefore required in order to understand how these paradigms stand in relation to each other.

This paper addresses one particular detail of that debate – the claim by Austrian economists that socialism is impossible because the absence of private property in the means of production precludes economic calculation. The paper suggests that the Austrian writers make a fundamental error when they make economic calculation depend upon private ownership. Instead of centring their argument on private property they should have considered (a) **several** rather than **private** property, and (b) **control** rather than ownership or **property**. Once one makes this replacement, the claim that socialism is impossible evaporates. This is not to say that socialism necessarily therefore **is** possible, merely that this particular case for its impossibility fails.

The next section looks at what the socialist calculation debate was about, and addresses the meaning of 'impossibility'. Section 3 looks at the Austrian case for claiming that rational economic calculation depends upon the existence of private property, finding that key Austrian contributors to the debate fail to provide an argument to support this claim. Section 4 argues that a wider version notion of property, namely several property, is a more appropriate notion, and that it is control, not property which is key. Several control is not inconsistent with socialism. Section 5 addresses and rejects a potential objection to the kind of market socialism that has been describe, namely that its socialist content has been dilute to the point of disappearing. The final section sets out the findings of the paper.

2 The Socialist Calculation Debate

The socialist calculation debate refers to a controversy amongst academic economists, mainly in the inter-war period, as to the possibility of socialist planning. It may be seen as an attempt by scholars to address both the coming to power of the communist party in Russia, and the apparently inexorable rise of socialist ideas – with planning at their heart – expressed by the European social democratic parties, particularly in Germany. For economists of the Austrian school this was not merely an opportunity, but a fundamental duty: defence of the *laissez-faire* system constituted the very *raison d'être* of economics. The opening shot was the publication in 1920 of "Die Wirtschaftsrechnung im sozialistischen Gemeinwesen" (Economic calculation in the socialist community) by Ludwig von Mises, in Max Weber's German-language journal, *Archiv für Sozialwissenschaften*. In this paper (Mises, 1935) Mises took up and, I may say, comprehensively defeated, the calculation-in-kind ideas of the non-Marxian socialist, and leading logical positivist,

Otto Neurath, as well as those of writers such as Bukharin, who thought that war communism was the first step on a road to a better society.

Mises's paper was re-published by Friedrich Hayek in another highlight of the debate, his 1935 collection, *Collectivist Economic Planning. Critical Studies on the Possibilities of Socialism* (Hayek, 1935), which also included essays by Hayek, N.G. Pierson, Georg Halm, and Enrico Barone. Much ink has been spilt in the interpretive battle between those who believe that Hayek was following in Mises's footsteps and developing his ideas, and those who felt on the contrary that he was abandoning Mises and making undue concessions to the socialists. The most significant contribution to the debate in the 1930s was contained in two articles and then a book chapter by Oskar Lange (Lange, 1936; 1937; 1938) setting out what has come to be known as the market-socialism model of planning. The debate and its results were notably summarised in "Socialist Economics" by Abram Bergson (1948). The socialists were widely regarded as having seen off their Austrian antagonists — and few thought that the 'impossibility thesis' retained much credibility. By 1948, according to Bergson, "it seems generally agreed that the argument on these questions advanced by Mises himself, at least according to one interpretation, is without much force" (Bergson, 1966: 193-194). Lavoie agrees: "there is a remarkably wide consensus that he [sc Mises] was wrong" (Lavoie, 1981: 43). Since then, several waves of Austrian writers have reverted to the issue to try to argue that the Austrian contribution to the debate was in fact the more profound, and that the impossibility thesis had been proven. The demise of the Soviet Union and the Eastern European socialist countries at the beginning of the 1990s gave impetus to further claims that the Austrians had been right all along. Particularly worthy of mention amongst later Austrian contributions are those of Lavoie (1981), just mentioned, and Boettke (2001), who we shall draw on in the sequel.

For the purposes of this paper, we will ignore aspects of the debate not relevant to the key point I wish to focus on, the question as to whether private property or several control is a prerequisite for rational economic calculation. These aspects include the discussion of planning in kind and the application of the labour theory of value to post-capitalist societies. Ignoring them is not innocuous: it embodies a claim, or at least a concession, namely that arguments for rational economic calculation can be constructed on neither of these bases.

A preliminary issue which has to be dealt with before the discussion proper concerns what it is that the Austrians have done, just assuming for the moment that their argument is valid. Is it to demonstrate an impossibility argument — socialism is, quite simply, impossible, in the same sense that it is impossible for a formal system to be both complete and consistent? Or have they rather drawn attention to a practical difficulty of such magnitude that it is wholly unlikely that a workable socialism could ever exist. The former is an absolute, the latter a relative, argument. Something either is or is not impossible, but difficulty is a matter of degree, albeit extreme difficulty might be tantamount to impossibility. This is not a trivial by-issue. If socialism is impossible then it's pointless to discuss how it might be implemented. If it is very difficult then a sober and extensive analysis of those difficulties is in order.

Barrow & Tipler (1986: 100, 188) take the view that Hayek has discovered an impossibility principle. They cite Hayek to argue that it is impossible to "deliberately arrang[e] all the activities that go on in a complex society" because to do so "would no longer make use of many minds, but would be altogether dependent on one mind" (Hayek, 1973: 49). That 'one mind' would face the

insurmountable problem that “a sufficiently accurate model” of the society “would be too complex to be coded in any mind or computer in the society” (Barrow & Tipler, 1986: 188-189). Indeed, “one of Hayek’s arguments was actually a formal mathematical proof that a finite state machine could not predict its future evolution” because of “the impossibility of complete self-reference” (Barrow & Tipler, 1986: 189). Barrow & Tipler (1986: 215, n276) suggest that Hayek in this way anticipated Turing since, although *The Sensory Order* (Hayek, 1952), which is said to contain this argument, was published in the 1950s, it was actually drafted in the 1920s. No further explanation is given as to how anything in *The Sensory Order* constitutes the anticipation of Turing that Barrow and Tipler claim, and inspection of the volume itself did not reveal anything bearing on this matter to this writer.

Mises seems clear on the matter, asserting in numerous places and without caveat that “rational economic activity is impossible in a socialist commonwealth” (Mises, 1935: 130). Hayek himself took the second position, that socialist planning was not in principle impossible, but so very difficult that it is wholly improbable that humans could ever devise such a system. Discussing the mathematical solution to economic calculation under socialism of Taylor, Roper and Dickinson, Hayek says that “it must be admitted that this is not an impossibility in the sense that it is logically contradictory”, rather “It is only necessary to attempt to visualize what the application of this method would imply in practice in order to rule it out as humanly impracticable and impossible” (Hayek, 1935: 207-208). Moreover this second, less extreme version, is the meaning of ‘impossibility’ which he ascribes to Mises. Mises, he says,

emphasized in particular ... that the wastes due to the impossibility of rational calculation in a completely socialized system might be serious enough to make it impossible to maintain alive the present populations of the more densely inhabited countries. (Hayek, 1935: 34)

This is clearly a matter of degree. The system can be imagined, and such a system might or might not, probably not in Hayek’s and Mises’s view, find it possible to sustain its existing human population. Despite Mises’s more extreme statements this appears to be the most sensible reading of his contribution. We will therefore exclusively address the impossibility argument in this sense.

3 The Austrian case: private property as precondition for economic calculation

So we turn to the Austrian case for the essential rôle of private property for economic calculation. Boettke sets this out very clearly:

In Mises’ writings there are four basic warnings against socialism – the most decisive, of course, was the problem of the impossibility of rational economic calculation ... In a fundamental sense, all of these arguments are derivative of an argument for private property. Without private property, there can be no advanced economic process. (Boettke, 2001: 33)

Mises’s argument about private property is, according to Boettke, embedded within the following sequence of propositions:

- 1 Without private property in the means of production, there will be no market for the means of production.

- 2 Without a market for a means of production, there will be no monetary prices established for the means of production.
- 3 Without monetary prices, reflecting the relative scarcity of capital goods, economic decision-makers will be unable to rationally calculate the alternative use of capital goods. (Boettke, 2001: 31)

We can certainly agree with Boettke that we cannot have economic calculation without monetary prices, which communicate to agents the relative scarcity of capital goods. We can also agree that without markets it will be difficult to establish reliable monetary prices, though there is more to be said on that which we cannot follow up here. But is it the case that without private property the means of production there can be no markets for those capital goods? Let's try to summarise the argument.

When an individual makes a transaction they receive information impounded in the price they face, and transmit information which is used in updating the price. The potential purchaser compares the utility he believes he will obtain from consuming the good with the utility he might gain in the next best alternative use of the fraction of his wealth represented by the price. We may infer that, if the individual behaves rationally, he will purchase additional units of the good until the marginal benefits he obtains equals the marginal opportunity cost to himself of doing so, and then stop. The price has acted as a medium in which is expressed the value to the consumer of the utility that he might gain from consuming this or other alternative goods. It allows comparability between qualitatively incommensurable use-values. But it has done more than this. The purchaser has communicated to the market the value to himself of the marginal unit of the good, in terms of the opportunity cost he is prepared to incur in order to obtain it, denominated in money units. The same story applies on the supply side. Calculation, that is the comparison of the estimated cost and the forecast benefit of marginal units, ensures that each agent gains an optimal bundle of goods, and that an optimal bundle of goods is produced for society as a whole. The story is a familiar one to economists. Without the discipline of monetary prices, we would have no guide to the appropriate allocations of effort and resources. The Austrian standpoint is not to say that this optimal position is normally or even ever attained, but that the existence of prices underpins a continual error correction mechanism, such that agents are learning from their past experiences where they should expand and contract activities, continually adjusting prices and quantities in the direction of increasing efficiency.

What has been said so far applies to any economic agent, but a special place is accorded to the entrepreneur in the Austrian vision. The entrepreneur carries out the functions mentioned above, but in relation not to 'first order' or consumption goods, but to those of a 'higher order' or production goods, capital goods. This has a number of consequences. In estimating the benefits of an investment, the entrepreneur compares, not the satisfactions expected from the consumption of this and the next best alternative good, but the profit available from producing this and the next best alternative good. So he is considering not his own satisfactions, but the satisfactions he expects others to obtain from the consumption of the good which his investment will make possible. The consumer's purchases are speculative, since he does not know what utility he will derive until he consumes it, when it's too late to change his mind. The entrepreneur's decisions are doubly speculative since he is speculating on what the consumer will speculate on. To appraise the benefits of the investment he has to impute or ascribe benefits to the future, hoped-for consumers.

The lure of profits and the threat of losses thus drives entrepreneurs to exert themselves to invest in capital goods that will best serve the consumers at the point where the new goods, produced with the aid of these capital goods, come onto the market. The accumulation of losses will drive out of the market those who are relatively weak at this and accumulated profits will reward and encourage those who are good at it. The market for capital goods is thus of critical importance as it allows the level and composition of investment to approach what consumers want, given their rate of time preference and the difficulty of producing output.

So far so good. But the Austrians now argue, or rather in general *assert*, that under socialism, since there will be no private property in the means of production, there will be no capital market, and hence no monetary prices for capital goods. The title of Boettke's book, *Calculation and Coordination*,

is also meant to convey the connection between these two key concepts – advanced complex coordination requires that economic actors are able to utilize the tools of economic calculation provided by private property, market prices and profit and loss accounting. (Boettke, 2001: 4)

Acting people must mentally process the alternatives placed before them, and to do so they must have some “aid to the human mind” for comparing inputs and output. Mises' great contribution to economic science was to establish that this decision-making ability is dependent on the institutional context of private property ... In short, without private property in the means of production, rational economic calculation is not possible. (Boettke, 2001: 31)

The key issue for Hayek, as it was for Mises, is that absent private property in the means of production rational economic calculation will be impossible. (Boettke, 2001: 36)

There is a footnote to Boettke's reference to Mises (Boettke, 2001: 289 n4), but it seems to refer us only to an assertion by Mises that this is the case, not an argument. Another footnote (290 n6) refers us to Mises (1922: 99) for three advantages of private property. I was unable to find any account of the alleged three-fold advantages of private property on p 99 or elsewhere in this work. I have searched through Mises's works “Economic calculation in the socialist commonwealth” and *Socialism. An Economic and Sociological Analysis* (Mises, 1935; 1951) without finding an *argument* for the critical rôle of *private* property in the overall case against socialism.

Boettke sets out his own understanding of the case as follows:

The most important component of their [sc Mises's and Hayek's] argument was the functional significance they placed on the institution of private property and the rule of law. Property rights protected by the rule of law provide:

- 1 legal certainty, which encourages investment;
- 2 a motivation for responsible decision-making on behalf of owners;
- 3 the background for social experimentation, which spurs progress; and
- 4 the basis for economic calculation by expanding the context within which price, and profit and loss, signals can reasonably guide resource use. (Boettke, 2001: 197-198)

Firstly, we may note that this entirely about private property – private property is by definition a property right protected by the rule of law. So how do the properties of private property, according to Boettke, constitute the essential underpinning for economic calculation. Point 1: it is of course true that legal certainty is required for calculation and investment. So property rights are essential. But must those rights constitute *private* property? There is nothing here to say that public property will not do the job. Point 2: again, it is certainly the case that rational economic calculation requires responsible decision-making both on the part of, and on behalf of, owners. But where is the argument that *public* property will lead to irresponsible decision-making on the part of or on behalf of the population. We entrust the latter to choose their government, after all, and, for all its faults, democracy remains ‘the worst form of government, except for all the others’. Point 3: again, if the assertion is that public property cannot provide a background for experimentation, then the case needs to be made. Point 4: the implicit claim seems to be that public property is incapable of providing a context for signals to guide resource use. But that is to say that economic calculation is impossible without private property, which is to beg the question: that’s what we are trying to establish.

4 Private versus several property, and ownership versus control

Having looked for an argument for the necessity of private property for economic calculation in these core documents of the socialist calculation debate, and failed to find one, we turn to an alternative, and indeed one endorsed by Hayek: *several* property, or ‘separate ownership’. Hayek’s last book, *The Fatal Conceit*, systematically uses the term *several property* instead of *private property*:

an order serving a multiplicity of private purposes could in fact have been formed only on the basis of what I prefer to call *several property*, which is H. S. Maine's more precise term for what is usually described as private property. (Hayek, 1988: 29-30)

[W]e have tried to disentangle some of the confusions caused by the ambiguity of terms ... and as the reader will have noticed, I generally prefer the less usual but more precise term ‘several property’ to the more common expression ‘private property’. (Hayek, 1988: 110)

Hayek is tantalising here: despite using the term *several* on dozens of occasions, and indeed pointing out that that is what he is doing, he says nothing about why the term is preferable, how it can be considered ‘more precise’. Barnett comments that

several property – a term favoured by Friedrich Hayek – may be more apt [than *private property*]. The term “several property” makes it clearer that jurisdiction to use resources is dispersed among the “several” – meaning “diverse, many, numerous, distinct, particular, or separate” persons and associations that comprise a society. (Barnett, 2014: 65, quoting the *Oxford English Dictionary*.)

The right of several property suggests that the control of resources should reflect the dispersal of personal and local knowledge. (Barnett, 2014: 68)

Interestingly, in an Afterword to the second edition of his book, Barnett reveals that he has changed his mind about this: “Were I writing this book today, however, I might change one term. I might use the term ‘private property’ rather than the term ‘several property’ that I borrowed from Hayek”

(Barnett, 2014: 330). So, essentially, several property is divided property, as opposed to the unitary property of an all-encompassing central authority – but, and this is why Barnett ultimately decides against its use – there is no particular requirement for it to be private, or non-governmental, rather than public, divided property. And this is the point. For if we can have such a thing as several property which is also in some sense public or social property, then all the arguments about the practicality of economic calculation go through, and the private property argument for the impossibility of socialism fails.

The question is thus, can we envisage a form of several property which is not private property? To help us here we need to draw on the distinction between property or ownership, on the one hand, and control, on the other. Barnett indeed points in this direction when he points out that several property suggests dispersed control. Who actually makes the decisions on behalf of the large corporations, government departments, and non-profit institutions characteristic of capitalistic economies today? It is the directors, managers and administrators of those bodies, and not the owners, whether they be shareholders or voters or some other group. Boettke alludes to this separation of ownership and control when he claims that

In economics, ownership rights refer to the locus of effective decision-making about the use of resources (i.e. *de facto* ownership), and may or may not be consistent with legal boundaries of property (*de jure* ownership). This insight is today a standard convention among economists. (Boettke, 2001: 177)

But this is not quite right. It is perfectly possible to conceive of a separation such as he describes, between *de facto* and *de jure* ownership, and no doubt it was as endemic in the Soviet Union, as he claims. But this is not the same as the ownership-control dichotomy, which is indeed about the locus of effective decision-making about the use of resources. Boettke here conflates two close but distinct polarities. The difference is this: in a system with an ownership-control division, the managers make the decisions and there is a principal-agent problem: those decisions are not optimal for the owners, but give undue weight to the managers. When the latter have driven this to the point that they have *de facto* ownership, then the *de jure* owners have been or are in process of being expropriated, and it only remains to re-write the property rights to match the new reality: the servant has become the master. But this by no means implies that those who employ servants will necessarily end up enslaved by them. Strangely, for an Austrian writer, Boettke conflates an end state with the process which might under certain circumstances lead to it. He is not alone. Lavoie (1981: 42) ascribes putative misunderstanding of the socialist calculation debate by “neoclassical historians of economic thought” to their failure to realise that “ownership” really means “*de facto* control, over resources”.

Let’s see how Mises and Hayek address this issue. Mises’s discussion, in *Socialism. An Economic and Sociological Analysis*, occurs in the context of a discussion of “artificial” markets as a solution to the problem of economic calculation:

The advocates of the artificial market, however, are of the opinion that an artificial market can be created by instructing the controllers of the different industrial units to act *as if* they were entrepreneurs in a capitalistic state. They argue that even under Capitalism the managers of joint stock companies work not for themselves but for the companies, that is to say, for the shareholders. Under Socialism, therefore, it would be possible for them to act in

exactly the same way as before, with the same circumspection and devotion to duty. (Mises, 1922: 138).

Hayek agrees with Mises's presentation of the question:

The question, then, is not whether all problems of production and distribution can be rationally decided by one central authority but whether decisions and responsibility can be successfully left to competing individuals who are not owners or are otherwise directly interested in the means of production under their charge. Is there any decisive reason why the responsibility for the use made of any part of the existing productive equipment should always be coupled with a personal interest in the profits or losses realized on them, or would it really be only a question whether the individual managers, who deputize for the community in the exercise of its property rights under the scheme in question, served the common ends loyally and to the best of their capacity? (Hayek, 1935: 219-220)

So what answer do they give to this question? Mises's answer seems to start with an argument that there is a difference between state-appointed and stock-holder appointed managers (Mises, 1922: 138). The shareholders are risking their own property. This will sometimes work and be profitable, and sometimes not. The line of thought seems to be that the market will select for enrichment those shareholders who make good choices and vice versa for the rest. But we don't know, because the argument immediately peters and switches to a discussion of static and dynamic conceptions (Mises, 1922: 139). The connection of this with the topic supposedly under discussion remains opaque: presumably it is preparatory for the next topic, about the necessity of a capital market to ensure a rational allocation of resources to the production of capital goods. However, we are left in the dark as to the essential difference that the hiring problem introduces between public and private enterprises.

Mises's discussion of static and dynamic approaches leads into a rather fragmentary discussion of capital markets. This revolves around a notion of "speculative capitalists" – those who decide whether capital should be withdrawn from one sphere of production and transferred to another. "This is not a matter for the managers of joint stock companies," Mises claims, "it is essentially a matter for the capitalists ... who buy and sell stocks and shares, who make loans and recover them, who make deposits in the banks and draw them out of the banks again, who speculate in all kinds of commodities" (Mises, 1922: 139). Now, despite Mises's claim, these functions are generally carried out by the staff of banks and large financial corporations. So, again, the question is, whether they can be employed by state institutions as they are now by private-sector ones. Again, the argument that this cannot work peters out inconclusively.

Mises justifies his assumption that capital markets cannot be run on a socialist basis thus:

It is scarcely to be assumed that socialists of whatever persuasion would seriously propose that this function should be made over to some group of people who would 'simply' have the business of doing what capitalists and speculators do under capitalistic conditions, the only difference being that the product of their foresight should not belong to them but to the community. Proposals of this sort may well be made concerning the managers of joint stock companies. They can never be extended to capitalists and speculators, for no socialist would dispute that the function which capitalists and speculators perform under Capitalism,

namely directing the use of capital goods into that direction in which they best serve the demands of the consumer, is only performed because they are under the incentive to preserve their property and to make profits which increase it or at least allow them to live without diminishing their capital. (Mises, 1922: 141)

A number of comments are in order here. Firstly, it is not for Mises to decide on socialists' behalf what the latter may or may not 'seriously propose' or dispute. Either these activities are indeed functions, and then they must be fulfilled under socialism as much as under capitalism, or they are not, and the functionless, parasitic excrescences of financial capital can be allowed to wither away. The second point is that, of course, the owners of the capital in question, the population as a whole, acting through their democratic political processes, will be face exactly the incentive that Mises mentions, to preserve and augment their property, and to balance that goal with living well. And so they will have every incentive to select and invigilate administrators who will serve these interests – just as today the owners of capital do.

The conclusion to be drawn from a consideration of Mises's discussion of this point, therefore, is that although, of course, one can think of very serious principal-agent problems which socialist firms and socialist banks would face in employing and managing its managers and administrators, Mises has not made any case that these problems would be worse than those faced by capitalist firms and banks, let alone so much worse as to render socialism impossible.

Turning to Hayek, again, tantalisingly, he slips away from the topic under discussion to talk about something else – in this case the appropriate treatment of monopolies (Hayek, 1935: 220). Though the management of monopolies is an important question both for capitalist and socialist economics, what this has to do with the topic – namely the possibility of a socialist system hiring managers for the various industrial, financial and commercial undertakings to carry out rational economic calculation – is undisclosed.

Eventually Hayek does return to the question: "At first sight", he concedes, "it is not evident why such a socialist system with competition within industries as well as between them should not work as well or as badly as competitive capitalism" (Hayek, 1935: 232). "The crucial questions in this case are, What is to be the independent business unit? Who is to be the manager? What resources are to be entrusted to him and how his [sic] success or failure is to be tested?"

It is not possible to conceive of th[e] central authority simply as a kind of super-bank which lends the available funds to the highest bidder. It would lend to persons who have no property of their own. It would therefore bear all the risk and would have not claim for a definite amount of money as a bank has. (Hayek, 1935: 232-233)

But this is completely wrong. The publicly-owned bank is not lending to the managers of the firm in their personal capacity but in their capacity as representatives of the firm: the contract is with the firm. There must be an expectation of future revenues and a calculation of risk-weighted expectations of profit and loss, and a legal claim on the assets of that firm, if lending is not to become simply gift.

Hayek's next point is to make the perfectly sensible point that with the passage of time, there will be changes in circumstances requiring changes in economic organisation. "On what principles will it [sc central authority] act?" (Hayek, 1935: 233).

The decision to whom to entrust a given amount of resources will have to be made on the basis of individual promises of future return. Or, rather, it will have to be made on the statement that a certain return is to be expected with a certain degree of probability. There will, of course, be no objective test of the magnitude of the risk. But who is to decide whether the risk is worth taking? The central authority will have no other grounds on which to decide but the past performance of the entrepreneur. (Hayek, 1935: 234).

Here Hayek has clearly forgotten what he was supposed to be talking about, namely the "competitive solution" to the calculation problem, that is, the situation where socially owned means of production are run as several property by managers employed as agents of the public sector. In this conception of socialism, it is the managers of the bank and the managers of the firm, acting as representatives of their businesses, who will make these decisions on the basis of price signals, and thereby contribute to the continual renewal of those prices and their adaptation to new circumstances. The decisions that Hayek mentions will be made on the basis of prices. Hayek now passes on to various questions, all of which flow from this mischaracterisation of the case he is supposed to be examining and we cannot follow him into their intricacies.

So, again, we find that there is no Austrian argument for the essential rôle of private property in economic calculation, and hence the impossibility of socialism. It is of course the case that alternative arguments have been sought and proposed. One is the information argument, introduced by Hayek, and summarised thus by Boettke:

The importance of this emphasis on private property should not be underestimated. Without private property the very exchange process which generates the informational inputs into the decision process would not be produced. All the data that are given in many of the models that we will discuss shortly would not exist. In other words, it is not that in the absence of private property in the means of production it is more difficult to access economic knowledge; rather, the knowledge is not available to anyone (centralized, decentralized, or computer planners) because it will not come into existence. (Boettke, 2001: 290 n8)

The problem, again, is that this begs the question. It is *assumed* that "Without private property the ... exchange process ... would not be produced". Well, why not? Why would the exchange process between the severally-controlled but publicly-owned socialist enterprises not generate and communicate the information, the data, that agents require in order to carry out economic calculation? Much has been written by Hayek and his followers on the question of the rôle of information in economics, much of it extremely rich and enlightening. But what it does *not* do is to answer the question as to the necessity of private property for a functioning economy.

5 Is there anything left?

At this point I think it is necessary to anticipate and address an Austrian objection, which will surely be raised, to what I have said. Namely, the system described so emulates the capitalist system that

there is nothing left of socialism in it. Marx famously called the joint-stock company “the abolition of the capitalist mode of production within the capitalist mode of production” (Marx, 1959: 438). It might be claimed that the consistent market socialism outlined above constitutes the abolition of the socialist mode of production within the socialist mode of production. This is false. It is important to underline that what I say here is not to be understood as advocacy. I am not advocating here a socialism such as I describe, but addressing the focus of this paper – the question as to whether socialism of any kind is *possible*. So the contention is, that indeed it *is possible*, for the state to own all the means of production, and the managers to be charged with operating individual enterprises on a profit-maximising basis, under the guidance of prices taken to be parametric (Lange, 1938: 70), and for rational economic calculation to take place.

The rôle of government here is to plan, that is, to decide what are the correct prices. All the problems of capitalism can be reduced to the proposition that where individual agents are behaving in a manner which is sub-optimal from the perspective of society, this will be not because they are nasty, but because they are receiving incorrect signals and facing the wrong incentives, in the form of spontaneously emerging market prices. (Almost) nobody thinks that the prices we face are right, that is, are what we require in order to align individual and social interests. Nobody in a capitalist system has the task of adjusting the constellation of prices that we face, only of implementing their own interest, taking that constellation as given: the prices which emerge are an unintended consequence of that self-seeking activity, and there is no reason to believe that unintended consequences are necessarily benign. Prices and the price system are external effects, that is, effects imposed on all and not themselves mediated by prices: nobody has bought or sold the prices at which we must trade; we cannot choose to select the prices we want by casting our dollar votes. Under a socialist system the selection of appropriate prices would presumably be a core public function.

It is *possible* that the desired prices in every market would be achieved by the general imposition of a system of Pigovian taxes and subsidies. What are the big issues? Damage to the environment? Tax those activities that damage the environment to the extent of our best guess as to the present value of the damage done. Poverty? Deliver the poor a subsidy in the form of a basic income which does not damage the incentive to work. Inequality? Impose a steeply progressive income tax. And so on. Since the means of production are public property, all profits will flow into the public domain, where the population as a whole may decide how much to distribute as a social dividend or basic income, how much to retain for other desirable public projects, and how much to invest to augment the capital stock. So far as I can see there is no Austrian argument for the impossibility of such a system. Spontaneous prices aggregate all the continually changing information of time and place accessible to the market participants, and the central adjustment to those prices aggregates that information which is not accessible to the market participants as such, but accessible to the polity via the democratic process. It might occur to you that what has been described would be difficult in the extreme to implement. Of course. Such a system would, I imagine, be characterised by bickering and snafus on a massive scale. Just as capitalism is. But that is not the same as saying that it is impossible. Socialism, just supposing it were ever tried, may indeed turn out to be the worst possible mode of production ... except for all the others.

This, I think, dispels the potential counter-argument that the system of public ownership of the means of production, coupled with the individual enterprise of a profession of managers and

administrators, would lack any socialist content. To repeat: nothing here is advocacy, merely exploration of possibilities, in order to put the Austrian claim of impossibility to the test. Readers will be tempted to think of a million and one objections to what I have said, and no doubt many of those objections will have much force. But those readers should focus on the key point addressed here: is a capitalist system based on private property *essential* for rational economic calculation, or is such calculation at least *possible* in a socialist system based on collective ownership and several control.

6 Conclusion

This paper has looked at a small sample of the literature on the socialist calculation debate and even there has focused exclusively on one question: the Austrian case for claiming that private property is a prerequisite for rational economic calculation, and that socialism is therefore impossible. The paper has drawn the conclusion that the Austrians would be right, if they had said instead that rational economic calculation depended on several control. Not private but several, and not property but control and management. However, several control, it was argued, is compatible with socialism. Hence the private-property argument for the impossibility of socialism fails.

Depressingly, there is not much here which is new. Although the details differ, similar points were made in the socialist contributions to the debate in the 1930s. Although Lange postulates a slightly clumsier, clunkier system, with a smaller degree of subsidiarity than that outlined above, there is much in common. Dealing with the contention of Hayek and Robbins that planners would have to solve vastly many equations – that is, excess demand equations in a Walrasian general equilibrium setting – Lange says

Exactly the same kind and number of ‘equations’, no less and no more, have to be ‘solved’ in a socialist as in a capitalist economy, and exactly the same persons, the consumers and managers of production plants, have to ‘solve’ them ... there is not the slightest reason why a trial and error procedure, similar to that in a competitive market, could not work in a socialist economy to determine the accounting prices of capital goods and of the productive resources in public ownership. (Lange, 1938: 88-89)

The point, annoyingly, is that Hayek is making the mistake he so rightly condemns in others: the conflation implicit with explicit knowledge, of knowing how with knowing that. We economists can understand an agent as carrying out economic calculation of the most intricate kind when he chooses to invest, or not, in industrial plant, but the agent himself is ignorant that he is doing anything of the kind. That the effect of what the socialist manager does is to solve many equations, just as in the case of a snooker player, this is not explicit knowledge which he would ever know how to articulate.

Further papers will examine other aspects of the socialist calculation debate.

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