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Economic Calculation: Private Property or Several Control?

ANDY DENIS
City University London, London, UK

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ABSTRACT *As the centenary of the 1917 Russian revolution 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 economic activity. Every economic action is premised upon calculation, every choice depends upon an assessment of the costs and benefits of each alternative between which the agent must choose. The view of that choice and its attendant calculation is constitutive of the schools of thought—Marxian, neoclassical and Austrian—which have contributed to the debate. An understanding of the calculation debate is therefore required to understand how these paradigms stand in relation to each other. This article addresses one aspect 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 article suggests that several control rather than private property is required for economic calculation, and that several control is consistent with public ownership of the means of production. The Austrian argument on this point, therefore, is without force.*

Keywords: Austrian economics; economic calculation; ownership and control; private property; several property; socialist calculation debate

JEL Codes: B13; B14; B41; B53

1. Introduction

As the centenary of the Russian Revolution of 1917 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

Correspondence Address: Andy Denis, Department of Economics, City University London, Northampton Square, London EC1V 0HB, UK, E-mail: a.m.p.denis@city.ac.uk

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 article addresses one particular aspect 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 article suggests that the Austrian writers make a fundamental error when they interpret their own theory to imply that economic calculation depends 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 sees that Austrian theory really implies several control, rather than private property, the private property argument for the impossibility of socialism evaporates. This is not to say that socialism is necessarily therefore possible, merely that this particular argument for its impossibility fails.

The next section looks briefly at what the socialist calculation debate was about, and addresses the meaning of 'impossibility'. Section Three 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 strict interpretation. Section Four argues that a wider notion of property, namely several property, is a more appropriate notion, and, further, that it is control, not property, which is key. Several control flows naturally from Austrian analysis. But several control is not inconsistent with socialism. Section Five examines the response of von Mises and Hayek to the suggestion that an economy can be conceived of based in publicly-owned firms run by managers under a system of several control. Section Six addresses and rejects a potential objection to the kind of market socialism that has been described, namely that its socialist content has been diluted to the point of disappearing. A final section sets out the findings of the article.

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, von Mises (1935) took up and, I may say, comprehensively defeated, the calculation-in-kind ideas of the socialist and leading logical positivist, Otto Neurath, as well as those of writers such as Nikolai Bukharin, who thought that war communism was the first step on a road to a better society.

Von Mises' paper was re-published by Hayek (1935) in another highlight of the debate, his 1935 collection, *Collectivist Economic Planning. Critical Studies on the Possibilities of Socialism*, which also included essays by Hayek himself, N.G. Pierson, Georg Halm and Enrico Barone. Much ink has been spilt in the interpretative battle between those who believe that Hayek was following in von Mises' footsteps and developing his ideas, and those who felt on the contrary that he was abandoning von Mises and making undue concessions to the socialists. An issue in this debate concerned the question as to whether Hayek retreated from the position that socialism was logically impossible—a stance that von Mises seemed to endorse—to merely claiming that it was practically impossible. This question is addressed briefly below.

Another significant contribution to the debate in the 1930s was contained in two articles, which were then republished as 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 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 (1966, pp. 193–194), 'it seems generally agreed that the argument on these questions advanced by von Mises himself, at least according to one interpretation, is without much force'. Lavoie (1981, p. 43) agrees that 'there is a remarkably wide consensus that he [von Mises] was wrong'. Since then, several waves of Austrian writers have reverted to the issue 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), which we shall draw on in the following.

For the purposes of this article, 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 issue. If socialism is impossible then it's pointless discussing how it might be implemented. If it is very difficult then a sober and extensive analysis of those difficulties is in order.

Barrow and Tipler (1986, pp. 99–100, 188) take the view that Hayek had 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] 1982, p. 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 and Tipler 1986, pp. 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 and Tipler 1986, p. 189). Barrow and Tipler (1986, p. 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 does not reveal anything bearing on this matter to this author.

Von Mises (1935, p. 130) seems clear on the matter, asserting in numerous places and without caveat that 'rational economic activity is impossible in a socialist commonwealth'). 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 (1935, pp. 207–208) 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.

Moreover, this second, less extreme version, is the meaning of 'impossibility' which he ascribes to von Mises. Von 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, p. 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 von Mises' view, find it possible to sustain its existing human population. Despite von Mises' 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 a Precondition for Economic Calculation

So we turn to the Austrian case for the essential role of private property for economic calculation. Boettke (2001, p. 33) sets out this centrality 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..

Von Mises' argument about private property, according to Boettke (2001, p. 31), is impounded within the following sequence of propositions:

- Without private property in the means of production, there will be no market for the means of production.
- Without a market for a means of production, there will be no monetary prices established for the means of production.
- 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.

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, although there is more to be said on that which we cannot follow up here. But is it the case that without private property in 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 they transmit information which is used in updating the price. The potential purchaser compares the utility she believes she will obtain from consuming the good with the utility she might gain in the next best alternative use of the fraction of her wealth represented by the price. We may infer that, if the individual behaves rationally, she will purchase additional units of the good until the marginal benefits she obtains equals the marginal opportunity cost to herself 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 she 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 herself of the marginal unit of the good, in terms of the opportunity cost she 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 to not 'first order' or consumption goods, but 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 she is considering not her own satisfactions, but the satisfactions she expects others to obtain from the consumption of the good which her investment will make possible.

The consumer's purchases are speculative, since she does not know what utility she will derive until she consumes it, when it's too late to change her mind. The entrepreneur's decisions are doubly speculative since she is speculating on what the consumer will speculate on. To appraise the benefits of the investment she 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.

The previous four paragraphs represent my understanding of the Austrian position on the nature of calculation, a position I share. This account places markets at its core, and for markets to function there must most certainly be property. But does this mean that that property must necessarily be private? This constitutes a jump, and moreover an unwarranted one. Starting from a profound understanding of the need for markets and consequently for property, Austrians make the unexamined interpretative leap to the assertion that that property must be private. They go on to state 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 (2001, p. 4) 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.
>
> 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, p. 31).

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

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

Boettke (2001, pp. 197–198) sets out his own understanding of the case as follows:

> The most important component of their [von Mises' 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.

First, we may note that this is 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 one: 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 two: 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 three: again, if the assertion is that public property cannot provide a background for experimentation, then the case needs to be made. Point four: 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'. Discussion of this point by correspondents and referees has shown some confusion so I will take pains to spell this out more clearly than was the case in previous versions.

4.1. Private Property and Several Property

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, pp. 29–30).

> decentralised control over resources, control through several property, leads to the generation and use of more information than is possible under central direction. (Hayek 1988, p. 86)

> We 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, p. 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, or how it can be considered 'more precise'. Hayek refers us to Maine's (1875) *Lectures on the Early History of Institutions*. Several property is not a major theme of that book, and Maine only uses the term on a very small number of occasions. Where he does so, it is clear that he uses it as a synonym for 'property in severalty'. In his discussion of the evolution of several property, or property in severalty, from common tribal lands in Ireland, he indicates that several property is the result of 'the severance of land from the common territory', and that this is 'most complete in the case of the Chiefs, many of whom have large private estates (Maine 1875, p. 95). Maine is thus using the term in its common legal meaning. In law several means applying to individual parties independently: someone under a several liability may be pursued independently for satisfaction of the liability, regardless of whether anyone else is also liable; a party holding a property in severalty owns that property independently of any other party, as opposed to common or joint ownership. The party holding a property in severalty need not be a single biological person—they could well be a legal person such as a corporation.

So how does Hayek's and Maine's concept of several property differ from private property? Barnett [1998] 2014 is very clear:

> *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 [1998] 2014, p. 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 [1998] 2014, p. 68).

So, essentially, several property is divided property with a single legal owner, property which is no longer held in common or jointly, with plural owners, as tribal property was, but has been severed. (The conversion from one to the other is still today called severance.) Several property is thus opposed to the common property of a community, but—and this is key—there is no particular requirement for it to be private, or non-governmental divided property, rather than public divided property.

This may sound paradoxical, so permit me to illustrate. Enclosure is the process by which vast swathes of common land have been severed in modern times to become several property which is also private property. Common land is held in common by the community. Enclosed land is private property held in severalty. Nationalisation and subsequent privatisation is a process in the post-war period whereby many United Kingdom (UK) private-sector companies have been taken into the public sector and then sold back into private ownership. The Steel Company of Wales was a private sector steel producer owned by its shareholders. Those shareholders had private property in their shares, and this is indeed an instance of several property, since they can each dispose of their shares without requiring permission from anyone else. As it happens, the company was nationalised and privatised several times. Upon nationalisation, and wholly owned by the British Steel Corporation (BSC), it constituted several but not private property. This is still an instance of several ownership as the property is owned by a single legal person, namely BSC, which can do whatever it wants to with its equity in the company. If it were not several property then, by definition, it would be common property, which would imply that anyone could walk into the Margam works in Port Talbot and do whatever they wanted to with the machinery, the raw materials, and the finished products they found there. It would however be perverse to describe this as private property, and it would be inconsistent with the usage of Austrian economists, since the company was now owned by the state on behalf of the populace.

So unlike private property, several property does not preclude public ownership. 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 Austrian arguments about the practicality of economic calculation can be sustained without the necessity for private property, and the private property argument for the impossibility of socialism fails.

4.2 Several Property and Several Control

The question is thus, can we envisage a form of several property which is not private property but which is consistent with Austrian insistence on the requirement of a dynamic, rivalrous market process? To help us here we need to draw on a second major distinction, that between property or ownership, on the one hand, and control, on the other. Hayek and Barnett indeed point in this direction: Hayek (1988, p. 86) refers to the requirement for 'decentralised control over resources, control through several property', while Barnett ([1998] 2014, p. 65) 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 (2001, p. 177), too, 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.

But this is not quite right. Boettke seems to believe that economics is exclusively concerned with legal ownership—'the locus of effective decision-making ... (i.e. de facto ownership)'. But beneficial ownership—'legal boundaries of property (de jure ownership)'—cannot be ignored. To avoid confusion it is worth spelling out legal and beneficial ownership by means of an example. I am my mother's attorney. This means that I can draw down her funds and make purchases and enter into legally enforceable contracts: I am the legal owner of those funds. But the person to whose benefit the results of those transactions must be applied is my mother: she is the beneficial owner (or equitable owner). Similarly, the management of a joint-stock company is the legal owner, and the shareholders constitute the beneficial owners (or equitable owners: they own equity in the firm).

The principal-agent problem says that an agent—the manager, the legal owner—may be tempted to distort those decisions which she is called on to make on behalf of a principal—the shareholder, the beneficial or equitable owner—by considering her own interests instead of those of the principal. This is a matter of degree. We can imagine instances when the weight placed by the agent on her own interest is zero, and those at the other extreme where it approaches unity, completely excluding the interest of the principal. And, in the general case the severity of the principal-agent problem has an intermediate value. Keynes gives an example of the process running to a point where the principal's interest is hardly considered at all; speaking of the Bank of England, prior to its nationalisation, he says

> there is no class of persons in the kingdom of whom the Governor of the Bank of England thinks less when he decides on his policy than of his shareholders. Their rights, in excess of their conventional dividend have already sunk to the neighbourhood of zero (Keynes [1931] 1972, p. 290).

In a system with a separation between ownership and control, the managers make the decisions and there is a principal-agent problem: those decisions are to some extent sub-optimal for the owners, giving undue weight to the managers' interests. If, as Keynes and Boettke appear to believe, this is a process which inevitably leads to the expropriation of the beneficial owners, the 'de jure owners', then it only remains to re-write the property rights to match the new reality: the servant has become the master. But this describes the consequence of a principal-agent problem so severe that ultimately the agent becomes the new principal. It cannot be the general case. 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, p. 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'.

Nevertheless, and despite these deficiencies of expression, it is clear that Austrian writers recognise that the key point is not property rights per se, or beneficial ownership, but de facto control over resources, that is, legal ownership. And, the Austrian requirement is that that control be several with the control of resources reflecting the dispersal of personal and local knowledge.

This section has introduced the idea of several control, and argued that:

(a) all the Austrian arguments regarding the necessity for private property to underpin economic calculation go through with several property, the term which Hayek and Barnett preferred; and
(b) the standard Austrian approach to property, focusing not on property per se, but on control—'the locus of effective decision-making about the use of resources (that is, de facto ownership)'—leads us naturally to a notion of several control.

But several control is consistent with public ownership. What would this look like? Well, if nothing else changed, it would look exactly like present-day capitalism, except that the means of production would be collectively owned. Just as today, under several control with private property, the managers run joint-stock firms on behalf of the stock-holders, under several control with public ownership the managers would run such firms on behalf of the society as a whole. Everything which today is organised by markets would be organised by markets under such a scheme. While it is tempting to go into greater detail, it is important not to. The argument is a general argument and that generality is to be preserved: experience suggests that with greater detail, discussants get distracted into arguing about the detail instead of the principles involved. Finally, it should be noted that nothing here is advocacy: not only is this not the place for it, but if I were to advocate anything, it would not be this.

5. Hayek and von Mises on Several Control

Let's see how von Mises and Hayek address this issue. It quickly becomes clear that, although the expression several control was unknown to them, both were perfectly aware of the challenge it posed to their anti-socialist standpoint. Von Mises' (1951, p. 138) 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 indus-

> trial 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.

It is prejudicial for von Mises to refer to the markets, within which the controllers of the collectively-owned firms interact, as ‘artificial’ and as ‘being created’ in this way: it is a rhetorical trope designed to suggest to the reader, before the argument, that such markets are in some sense deficient. If Cadbury is bought by Kraft we do not say that the market for chocolate has become artificial; neither should we say that the market for steel has become artificial when the (private) Steel Company of Wales is acquired by the (public) British Steel Corporation. Nevertheless, von Mises has indeed identified the key issue here—whether controllers of corporations can fulfil their duties under public ownership as they can under private ownership. Hayek agrees with von 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 ... [of] the means of production under their charge (Hayek 1935, pp. 219–220).

So what answer do they give to this question? Von Mises’ (1951, p. 138) answer seems to start with an argument that there is a difference between state-appointed and stock-holder appointed managers. 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 loses focus and diverts into a discussion of static and dynamic conceptions (von Mises 1951 p. 139). The connection of this with the topic supposedly under discussion remains obscure: 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.

Von Mises’ 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,’ von Mises (1951, p. 139) 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’. Now, despite von 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 is inconclusive and seems to lose its way.

Von Mises (1951, p. 141) 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.

A number of comments are warranted here. First, it is not for von 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 indeed they have to be fulfilled under socialism as much as under capitalism, or they are not, and they 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 face exactly the incentive that von 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 entrepreneurial administrators who will serve these interests—just as the owners of capital do today. The question is, whether there is an agent-principal problem which is so different—in magnitude or qualitatively different—from that facing the owners of capital under capitalism, that this kind of market socialism simply becomes impossible.

The conclusion to be drawn from a consideration of von 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, von Mises has not made any case that these principal-agent 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 (1935, p. 220) again, tantalisingly, he slips away from the topic under discussion to talk about something else—in this case the appropriate treatment of monopolies. Although the management of monopolies is indeed 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, p. 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 no claim for a definite amount of money as a bank has (Hayek 1935, pp. 232–233).

But this is completely wrong. A publicly-owned bank is not lending to the managers of a 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 (1935, p. 233) next makes the very valid point that with the passage of time, there will be changes in circumstances requiring changes in economic organisation. ‘On what principles will it [the central authority] act?’.

> 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, p. 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 the 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 mis-characterisation of the case he is supposed to be examining and we cannot follow him into their intricacies.

So, again, we find that in the key documents of the socialist calculation debate there is no Austrian argument for the essential role of private property, rather than several control, in economic calculation, and hence for 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 (2001, p. 290, n8):

> 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.

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 role 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.

6. 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 (1959, p. 438) famously called the joint-stock company 'the abolition of the capitalist mode of production within the capitalist mode of production'. 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. That would be 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 article—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 managers to be charged with operating individual enterprises on a profit-maximising basis, under the guidance of prices emerging from the market process, and for rational economic calculation to take place.

It might be thought that in the system of public property with several control, the role of government would be 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 or stupid, but because they are receiving incorrect signals and facing the wrong incentives, in the form of spontaneously emerging market prices. Does anyone today believe that the prices we face are right, that is, that they are what we require in order to align individual and social interests? The problem is that nobody in a capitalist system has the task of adjusting the constellation of prices that we face, only that 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, then, 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, either as dividend payments to the sole shareholder, or through capital gains deriving from the reinvestment of undistributed profits, and via tax revenue, as today, so financing such schemes should be possible.

To avoid misunderstanding, it is worth pointing out measures which I have not mentioned. I have not mentioned the possibility of price-setting on the part of the state: the imposition of price floors and ceilings, or the dictation of prices to market participants, would be instances of central control and would violate the several control outlined above. What about state determination of investment? I repeat what was said earlier: every function today carried out by the market would be carried out by the market under a system of public property with several control. Of course, government would be free to manipulate the costs and benefits to firms of further investment via appropriate Pigovian taxes and subsidies. But that is not the same as dictating to firms via non-price interventions.

So far as I can see there simply 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 now. 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 necessarily 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?

7. Conclusion

This article has looked at a sample of the literature on the socialist calculation debate and 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 conclusion has been drawn that the Austrians would have interpreted their own theory correctly, if they had said instead that rational economic calculation depended on several control. Not private but several, and not property but control. However, several control, it has been argued, is compatible with socialism. Hence the private-property argument for the impossibility of socialism fails. This is not to say that socialism is possible and it is not to say that socialism is desirable. It is to say that one specific argument that socialism is impossible is without force.

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