

Hayek vs. the Neoclassicists: Lessons from the Socialist Calculation Debate^{*}

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1 Introduction

An important question for any researcher who wishes to revisit the socialist calculation debate is: Why beat a dead horse? With the collapse of the communism in 1991, other than for historical purposes, there seems to be little value in rehashing the debate over socialism's feasibility. Nevertheless, we believe that there are at least two very good reasons to consider this debate again.

The first reason has to do with the fact that socialism is an intellectually and emotionally powerful idea. This is particularly so as it is articulated by Karl Marx. Socialism is thus worthy of our most serious intellectual effort in analyzing its claims.¹ The classical political economy thought experiment that highlighted self-regulation and harmony of interests was called into direct challenge by Marx who argued that the natural workings of the market economy lead to a clash of interests among classes and to market failure in the cases of monopoly and crises.

In the wake of the collapse of real-existing socialism many intellectuals continue to find comfort in socialism's promise of a better world, even if the particulars of how to achieve that better world are a subject of dispute and puzzlement. It is often contended that the events of 1989-1991 were the outcome of frail humanity that failed to live up to the demands of socialism. It is our contention that by revisiting the debate concerning

¹ Ludwig von Mises, in fact, argued that: "Whatever our view of its utility or its practicality, it must be admitted that the idea of Socialism is at once grandiose and simple. Even its most determined opponents will not be able to deny it a detailed examination. We must say, in fact, that it is one of the most ambitious creations of the human spirit. The attempt to erect society on a new basis while breaking with all traditional forms of social organization, to conceive a new world plan and foresee the form which all human affairs must assume in the future --- that is so magnificent, so daring, that it has rightly aroused the greatest admiration. If we wish to save the world from barbarism we have to conquer Socialism, but we cannot thrust it carelessly aside." (1922: 41)

socialism it becomes apparent that the opposite is actually true. Humanity did not fall short of the ideals of socialism; socialism fell short of the demands of humanity.

The second reason for reconsidering the socialist calculation debate is of a more parochial concern, but equally important nonetheless. This debate taught the Austrian economists how their understanding of the market system differed from the understanding of their neoclassical colleagues. In this regard, the debate was critical to the development of a unique Austrian paradigm represented in the work of thinkers like Ludwig von Mises and F.A. Hayek (see Lavoie 1985 and Kirzner 1988).

The Austrian theory of the market process is a direct descendant of the socialist calculation debate. Prior to the debate, the Austrian economists viewed themselves as a branch of the marginal revolution (see Boettke and Leeson 2003). The differences between the Walrasian, Marshallian and Mengerian branches of neoclassicism were perceived as stylistic, not substantive in nature. The common enemy of neoclassicism was the atheoretical work of the historicists and institutionalists, and the residue of classical economics that could be found in Marxism. Modern economics, defined as the marginal and subjective revolution in economics, was united in opposition to the intellectual forces of these schools. But as the debate over socialism moved to the English-speaking world, a peculiar twist occurred. The strongest arguments against the Austrian position in the debate came not from atheoretical institutionalists and historicists, nor from the Marxian scholars. On the contrary, the strongest arguments against the Austrian position came from neoclassical economists themselves.

This essay is concerned with defending both of the arguments presented above; but the center of our focus will be on the latter. In particular, in the course of reviewing

the history of the debate regarding socialist calculation we aim to draw attention to how the arguments made by F.A. Hayek launched specifically against socialism in fact constituted a much broader attack on the neoclassical paradigm.

2 Building up to the Debate: The Classical Economists and Marx

The classical liberal political economy of David Hume and Adam Smith argued that the market system of private property, contract and consent could simultaneously achieve individual autonomy, peaceful domestic and international cooperation, and economic prosperity. Individuals pursuing their own interests within this setting would generate a pattern of outcomes that was socially beneficial. The argument of these thinkers was not that the pursuit of self-interest under any institutional regime would produce public benefits. Absent private property, for instance, unbridled self-interest would lead to the degradation of resources, not the creation of wealth.

Under the “right” institutional conditions, however, Smith argued that individuals pursuing their own ends would generate the same pattern of resource use that an omniscient and benevolent mind would have generated. Thus was born the contrast of designed and undersigned order. The proposition of self-regulation of the market economy was central to the invisible hand story that Smith told. This proposition would be challenged on several fronts by subsequent generations of political economists.

The problem of monopoly, as understood at Smith’s time, was not a problem inherent in the operation of the market system. Quite the opposite, it was understood as an outcome of government privilege. Nevertheless, those who came after Smith, like Marx, argued that the unregulated market economy necessarily led to the concentration of

capital in the hands of a smaller and smaller group of individuals. The bigger the firm, the story goes, the better a position it is in to compete with smaller ones. Bigger firms possessed more market power and would use this power to dictate the terms of exchange in such a way that it led to their growth at the peril of small firms. Thus the logic of competition would favor the big and, with that, advantage their ability to thwart pressures of competition. In this fashion, the market economy was said to tend towards monopolization.

In addition to the problem of monopoly, the market economy was said to possess another inherent feature that undermined Smith's claim of self-regulation. This feature was the tendency towards overproduction. Contrary to J.B. Say and his "law" which postulated a tendency for aggregate supply and demand to equate in the unhampered market economy, many political economists including Marx maintained that the market economy generated a general glut of goods. Met with general oversupply, the market was led to periodic business cycles, creating ups that were ultimately followed by economic crises in their wake.²

The upshot of these features of the market economy meant that rather than creating a "harmony of interests" as they do in Smith's story, markets instead create conflicts of interests. Furthermore, due to the endemic waste brought on by crises, the unregulated market would generate less economic prosperity than might be obtained otherwise. Finally, given the abundance of idle resources including labor, workers would be disadvantaged in exchange relationships with firms and would be subjected to "wage slavery," pushing wages to subsistence levels. In short, rather than simultaneously

² An excellent discussion of Marx's theory of crisis under capitalism can be found in Paul Craig Roberts and Matthew Stephenson, *Marx's Theory of Exchange, Alienation and Crisis* (1983).

creating individual autonomy, social cooperation and economic prosperity, the market system would produce wage slavery, class conflict and irrational production.

By socializing the means of production, socialism would substitute production for use in the place of production for exchange. Whereas under capitalism the invisible hand operated to guide resource use, under socialism resource allocation would be “rationalized.” Planned resource use would replace the anarchy of production in the market. In doing this, in addition to achieving the liberation of workers and the cooperation of mankind, socialism would generate greater prosperity than capitalism was ever capable of producing.

3 The First Two Stages of the Debate: 1920-1937

In order to understand how the Austrian conception of the market, and in particular how Hayek’s, differed from that of their neoclassical cohorts, we must first understand the general stages that the debate concerning socialist calculation went through.³ Only in doing this is it possible to realize in the same way that the Austrians at the time did, what was unique and different in their approach.

In offering what they believed to be a refutation of capitalism, the socialists thought they had also established the fact that economic analysis (in addition to being incorrect) would be unnecessary in the socialist world. Against this claim, following the marginal revolution and in the years leading up to 1920, Friedrich von Wieser, Joseph Schumpeter, Leon Walras, Vilfredo Pareto, Enrico Barone, Fredrick Taylor and Frank

³ For a documentary history of the socialist calculation debate see Boettke, ed. (2000). This 9 volume reference collection reprints the main papers and excerpts from books dealing with the debate over socialism and the market economy and can be a convenient source for the original material discussed throughout our essay.

Knight all pointed out that if socialism was to rationalize production, it would have to succeed in satisfying the same formal requirements that capitalism was said to achieve under conditions of equilibrium.⁴ In other words, if rationalization implied the most efficient use of resources, which is the meaning it would have to have, then socialist rationalization would need to satisfy the optimality conditions which are described using marginalist principles. This point was little recognized by socialists until about 1920.

In 1920, Austrian economics' most prominent figure, Ludwig von Mises, published his piece, "Economic Calculation in the Socialist Commonwealth," where he critiqued socialism on the grounds that economic calculation in a socialist system was impossible. We will discuss Mises' contribution in this regard below and later when considering how Hayek formulated his argument against the socialists. For now it is sufficient to recognize that between the time this article appeared in 1920 and 1935, the debate concerning socialism was controlled by Mises' argument. Contributors believed that they had to respond to Mises' critique and none had provided an argument that won the general consensus among theoretical economists.

With the coming of the Great Depression the underlying confidence many economists had in the self-regulating properties of the market was lost. In addition, theoretical developments by Joan Robinson and Edward Chamberlin, and causal empiricism by Berle and Means had laid the groundwork for microeconomic criticisms of the efficiency of modern capitalism. Socialism now appeared as hope for a better arrangement of economic affairs.

⁴ The papers on this "formal similarity" argument and the subsequent attempts to develop a marginalist economics of socialism can be found in Boettke, ed., (2000), volume 4.

Against the backdrop of this intellectual climate, the Polish economists Oskar Lange launched an attack on Mises' argument that met with long-lasting and overwhelming approval among technical economists.⁵ Indeed, between 1937 and 1985, the basic consensus among professional economists was that the Austrian argument against socialism did not hold at a purely theoretical level and was empirically naïve.

Mises' 1920 article, which served as the core of this Austrian argument, proffered the following straightforward argument against socialism. Socialism, he pointed out, means the abolition of private property in the means of production. Furthermore, one its fundamental goals is to achieve advanced material production in order to accomplish the transition from a condition of "necessity" to a condition of "freedom." In order to achieve advanced material production, however, the socialist system of production must tend toward the optimal use of resources. Any suboptimal use of resources would need to be recognized and corrected or else advanced material production would not be possible.

In a system of private ownership, Mises argued, economists had come to understand how resource use was guided. Private property provided a strong incentive for people to use resources efficiently because they bore the costs and reaped the rewards of their activities. Prices established on the market signaled to producers and consumers about the trade-offs they would have to make in purchasing inputs and outputs. And finally, profit and loss accounting would inform market participants about whether their business decisions accorded well with underlying tastes and technology.

In light of this, Mises posed the following question to the socialists: In the absence of the institution of private property and the business practices of a market

⁵ Lange's articles "On the Economic Theory of Socialism" were published in the *Review of Economic Studies* in 1936-37 and are reprinted in Boettke, ed., (2000), volume 4, 115-133; 139-160. Besides Lange, the other main contributor to the economic theory of socialism was Abba Lerner.

economy, how would socialism motivate and inform its participants in order to achieve optimal production? Mises argued that socialism would be without any means to achieve its ends because the means chosen—abolition of private property—were fundamentally incoherent with regard to the ends sought—advanced material production.

Without private property in the means of production, Mises argued, there would be no market for the means of production. Without a market for the means of production, there would be no money prices for the means of production. Without money prices reflecting the relative scarcity of the means of production, there would be no way for economic planners to assess the opportunity cost of resource use. In short, economic planning would be groping in the dark. There will be no economic basis upon which to pursue project A rather than project B, decide what resources in what combination should be used to pursue one of these projects, establish whether or not the project was successful or a failure, or even if it should be undertaken at all. Rational allocation of resources under socialism was impossible. The notion of a “socialist economy” was therefore oxymoronic. There could be no socialist economy, only planned chaos.

What was Lange able to say against this in 1936-37 that would so convince the profession of economists that Mises was wrong and socialism was workable? In the belief that socialism, if it was to achieve its claimed outcomes of advanced material production, must satisfy the formal conditions of economic efficiency stipulated by marginalist principles, Frederick Taylor, Frank Knight, H.D. Dickinson and Abba Lerner began developing an argument that used modern neoclassical economics to assure the efficiency of socialist economic planning. Using the same line of neoclassical reasoning, Lange was able to formulate his critique of Mises.

In deploying the formal similarity argument, Lange provided the following blueprint. First, allow a market for consumer goods and labor allocation. Second, put the productive sector into state hands but provide strict guidelines for production to firms. Namely, inform managers that they must price their output equal to marginal costs, and produce that level of output that minimizes average costs. Adjustments can be made on a trial and error basis, using inventory as the signal. The production guidelines will ensure that the full opportunity cost of production will be taken into account and that all least-cost technologies will be employed. In short, these production guidelines will assure productive efficiency is achieved even in a setting of state ownership of the means of production.

Lange went even further in his argument for socialism. Not only is socialism, by mimicking the efficiency conditions of capitalism, able to theoretically achieve the same level of efficient production as the market, but it would actually outperform capitalism by purging society of monopoly and business cycles that plague real-world capitalism. In the hands of Lange (and Lerner) neoclassical theory was to become a powerful tool of social control. Modern economic theory, which Mises had thought so convincingly established his argument, was now used to show that Mises was wrong. In the eyes of the economics profession, Mises had been decisively defeated with this argument.

4 Hayek's Challenge

Lange's argument presented a formidable challenge for believers in the productive superiority of capitalism, a challenge that Mises' student, F.A. Hayek, would devote the

better part of the 1940s attempting to meet.⁶ Hayek's response to Lange's model for market socialism came in the form of a multi-pronged argument. First, Hayek argued that the models of market socialism proposed by Lange and others reflected a preoccupation with equilibrium. The models possessed no ability to discuss the necessary adaptations to changing conditions required in real economic life. The imputation of value of capital goods from consumer goods represented a classic case in point. Schumpeter had argued that once consumer goods were valued in the market (as they would be in Lange's model), a market for producer goods was unnecessary because we could impute the value of corresponding capital goods *ipso facto*.

This "solution" was of course accurate in the model of general equilibrium where there is a pre-reconciliation of plans (i.e., no false trades). Hayek's concern, however, (as was Mises') was not with the model, but how imputation actually takes place within the market process so that production plans come to be coordinated with consumer demands. This is not a trivial procedure and requires various market signals to guide entrepreneurs in their decision process on the use of capital good combinations in production projects. In a fundamental sense Hayek was arguing that Mises' calculation argument could not be addressed by assuming it away. Of course, if we focus our analytical attention on the properties of a world in which all plans have already been fully coordinated (general competitive equilibrium), then the process by which that coordination came about in the first place will not be highlighted.

This was Hayek's central point. Absent certain institutions and practices, the process that brings about the coordination of plans (including the imputation of value

⁶ Hayek's essays are collected in his *Individualism and Economic Order* (1948). Also see Caldwell (1997) for a discussion of the development of Hayek's thought that was brought on by his debate over socialism.

from consumer goods to producer goods) would not take place. Some alternative process would have to be relied upon for decision-making concerning resources, and that process would by necessity be one that could not rely on the guides of private property incentives, relative price signals, and profit/loss accounting since the socialist project had explicitly abolished them. In other words, the *ipso facto* proposition of competitive equilibrium was irrelevant for the world outside of that state of equilibrium. The fact that leading neoclassical economists (like Knight and Schumpeter) had not recognized this elementary point demonstrated the havoc that a preoccupation with the state of equilibrium, as opposed to the process which tends to bring about equilibrium, can have on economic science.

In Hayek's view, the problem with concentrating on a state of affairs as opposed to the process was not limited to assuming that which must be argued, but directed attention away from how changing circumstances require adaptations on the part of participants. Equilibrium, by definition, is a state of affairs in which no agent within the system has any incentive to change. If all the data were frozen, then indeed the logic of the situation would lead individuals to a state of rest where all plans were coordinated and resources were used in the most efficient manner currently known. The Lange/Lerner conditions would hold—prices would be set to marginal cost (and thus the full opportunity cost of production would be reflected in the price) and production would be at the minimum point on the firm's average cost curve (and thus the least-cost technologies would be employed). But what, Hayek asked, do these conditions tell us about a world where the data are not frozen? What happens when tastes and technologies change?

Marginal conditions, he noted, do not provide any guide to action; they are instead outcomes of a process of learning within a competitive situation. In a tautological sense, competition exists in all social settings and thus individuals find that in order to do the best that they can given the situation, they will stumble towards equating marginal costs and marginal benefits. This is true at the individual level no matter what system we are talking about. But this says nothing about the second optimality rule proposed in the Lange/Lerner model—that of producing at the level which minimizes average costs. Rather than being given to us from above, entrepreneurs must discover anew each day what the least-cost methods of production are and how best to satisfy consumer tastes.

Effective allocation of resources requires that there is a correspondence between the underlying conditions of tastes, technology and resource endowments, and the induced variables of prices and profit and loss accounting. In perfect competition the underlying variables and the induced variables are in perfect alignment and thus there are no coordination problems. Traditions in economic scholarship that reject the self-regulation proposition tend to deny that there is any correspondence between the underlying conditions and the induced variables on the market.

Hayek, in contrast to both of these alternatives, sought to explain the lagged relationship between the underlying and the induced. Economics for him is a science of tendency and direction, not one of exact determination. Changes in the underlying conditions set in motion accommodating adjustments that are reflected in the induced variables on the market. The induced variables lag behind, but are continually pulled towards the underlying conditions. If the underlying conditions could be represented by a rabbit and the induced conditions are represented by a dog, then perfect coordination

(equilibrium) for the dog would be where the rabbit is; but as the dog moves the rabbit moves. Thus we can tell a story about where the dog is heading even the rabbit is constantly moving.

The detour on equilibration versus equilibrium in the core of economic theory was important because of the turn the debate took after Lange's paper and the transformation of basic language in economics. To Hayek, competition is a verb. To Lange, who was using a neoclassical conception, competition is a noun. Market efficiency is adaptive to Hayek, but to Lange and the neoclassicists it is a question of static efficiency. Similarly, to Hayek prices represent not only exchange ratios but also serve a crucial economizing and information role. For Lange and neoclassical economists they are merely the former.

Hayek's fundamental critique of Lange's contribution was that economists must not assume what they must demonstrate for their argument to hold. Informational assumptions were particularly problematic in this regard. As Hayek developed his argument, for the most part he steered clear of motivational issues and claimed that individuals (both privately and as planners) would have the best of intentions. However, while assuming moral perfection he refused to assume intellectual perfection. This was quite understandable. If one assumes both moral and intellectual perfection, then what possible objection could anyone raise to any social system of production? In fitting with our discussion above about equilibration vs. equilibrium, Hayek argues that perfect knowledge is a defining characteristic of equilibrium but cannot be an assumption within the process of equilibration. The question instead is how do individuals come to learn the information that is necessary for them to coordinate their plans with others?

In “Economics and Knowledge” (1937) and “The Use of Knowledge in Society” (1945), Hayek develops the argument that how economic agents come to learn represents the crucial empirical element of economics and that price signals represent the key institutional guide post for learning within the market process. Traditional neoclassical theory taught that prices were incentive devices, which they indeed are. But Hayek pointed out that prices also serve an informational role, which is often unfortunately overlooked. Prices serve this role by economizing on the amount of information that market participants must process and by translating the subjective trade-offs that other participants make into “objective” information that others can use in formulating and carrying out their plans.

As the debate progressed, Hayek emphasized different aspects of the argument developed in these two classic articles and came to place particular emphasis on the contextual nature of knowledge that is utilized within the market process. Knowledge, he pointed out, does not exist disembodied from the context of its discovery and use. Economic participants base their actions on concrete knowledge of particular time and place. This local knowledge that market participants utilize in orienting their actions is simply not abstract and objective and thus is incapable of being used by planners outside of that context to plan the large-scale organization of society.

Hayek’s reasoning for why planning cannot work is not limited to the problem that the information required for the task of coordinating the plans of a multitude of individuals is too vast to organize effectively. The knowledge utilized within the market by entrepreneurs does not exist outside that local context and thus cannot even be organized in principle. It is not that planners would face a complex computational task; it

is that they face an impossible task because the knowledge required is not accessible to them no matter what technological developments may come along to ease the computational task.

5 Austrian and Neoclassical Economics Dehomogenized

Later, Mises buttressed Hayek's argument with his notion of the entrepreneur. The entrepreneur, Mises stated, is the driving force of the market process. Entrepreneurs both create and respond to the changes in market conditions, and through their profit seeking push the market in the direction of clearing. Absent the institutional framework of private property that allows entrepreneurs to appraise the economic situation via the price system, socialist planning must fail. While Hayek's work in response to the market socialists focused on fleshing out the importance of the market as a process that generates a price system that enables us to make use of dispersed knowledge, Mises' subsequent work (1922, 1949) not only restated his argument on the impossibility of economic calculation under socialism, but also developed his notion of the entrepreneur as the driving force in the market economy.

It was only in the years following the third stage of the socialist calculation debate, in the late 1940s, that Hayek (and Mises) fully understood that their view of the nature of the economic process—the one we have described above—was fundamentally different from the view of the rest of the economics profession (see Kirzner 1988). The increasing emphasis of Mises and Hayek on uncertainty, entrepreneurship, knowledge, equilibration (as opposed to equilibrium), and market processes all emerged in the course of the calculation debate. The calculation debate forced Mises and Hayek to carefully

elucidate their understandings of the market process, and made them realize the implications of their own ideas. They were blind-sided by the fact that Lange (and Lerner) used neoclassical arguments to construct a defense of socialist economic organization. Although by the 1930s it seemed as though the mainstream had incorporated Austrian ideas rather fully, it became clear to those trained under them in the late 1940s and the 1950s that Mises and Hayek's understanding of the economic process was very different, and far from being accepted by the profession at large. The dividing line between Austrian and neoclassical ideas was drawn and with it the Austrian school, as a distinct school of economic thought, reborn.

At the same time Mises and Hayek were realizing how their views differed from those of neoclassical economists, economic theory was increasingly moving towards greater and greater formalization in style. This move, an outgrowth of economists' increasing desire to be scientific in the sense of the natural sciences, served not only to sideline Hayek's argument which had been rendered verbally, but also to drive a larger wedge between the Austrian approach to economics described in terms of Hayek's arguments above, and mainstream neoclassical economics.

Although Lange's argument held sway over most of the profession for many years, by 1985 the socialist world was experiencing obvious shortcomings. Consumer frustrations were high, technological development was lagging behind the West, and even military superiority was questionable. In light of these developments many economists began to reevaluate their previous thoughts regarding the status of socialism as an economic system.

Despite this, Hayek's ideas did not carry the day. In fact, after experiencing a brief spike in popularity, by 1990 consensus among economists held that although socialism suffered from serious problems in practice, Hayek's arguments, which as we saw above in many ways constituted an attack on central tenets of the neoclassical approach, could not be accepted. Although Hayek's arguments were seen as correct in conclusion, they had to be rejected in analysis because accepting them this way would demand a radical recasting of much of contemporary economic theory.

Thus economists such as Joseph Stiglitz (1994) are explicit in their judgment that modern information economics cuts equally against Lange and Hayek. Shleifer and Vishny (1994) are damagingly critical of socialist models, but they grant that Lange was correct in his critique of Mises on purely theoretical grounds, though they contend that he was completely ignorant of the real-world problems socialism would have to confront on public choice grounds. The incentive problems that socialist planners would confront in organizing economic life are insurmountable and the opportunities for opportunistic behavior on the part of planning bureaucrats are too numerous for an efficient economic organization to be realized. From the perspective of modern neoclassical economics, socialism cannot work; but not for the reasons emphasized by Hayek.

As we noted above, modern information economics cuts equally against the model of perfect competition and the model of market socialism. Asymmetric information and imperfect competition market structure assure that a market economy left to its own devices will not perform optimally, just as informational and incentive issues plague socialist models. The most ambitious attempt to reconstruct the case for socialism from the point of view of modern informational economics is the model of

Pranab Bardhan and John Roemer (1992). This work builds on a series of papers in which Roemer attempts to recast Marxian theory on rational choice foundations and also uses rational choice logic to (1) defeat the welfare claims of competitive equilibrium and (2) challenge the government failure argument.

What is demonstrated in this literature—a conclusion that is reached by Stiglitz—is that the neoclassical defense of the market is a non-starter. If the neoclassical defense were valid, then the model of market socialism would work. If the model of market socialism fails to work for informational and incentive issues, then so does the neoclassical conception of the market. This conclusion is not only accurate, but perhaps one of the most important lessons we could learn from a century-long dispute over the nature of economic organization. All the important characteristics that distinguish a market society from a non-market society cannot be adequately captured in the model that most believe is the foundation for studying a market society.

As Hayek pointed out, the neoclassical construct of perfect competition leaves no room for learning, bargaining and trading, entrepreneurship, innovation, variety and numerous other dimensions that constitute economic life in the real world. Each of these things, instead, is understood formally only as evidence of deviations from the ideal and thus as suboptimal from the standpoint of traditional welfare economics.

If the model of the market is suboptimal and the model of socialism is suboptimal, on what basis do we choose between them? Traditional neoclassical theory cannot adjudicate on grounds of efficiency; but Hayek's argument had nothing to do with the stylized neoclassical market. Thus we can turn to him to adjudicate between capitalism and socialism. The condition of uncertainty and imperfect information that is so

problematic for the neoclassical model of the market is a virtue in Hayek's theory. As we discussed above, for Hayek, the market works precisely because it is not perfect. The great strength of the private property market economy is not the optimality properties of a state of affairs where all the gains from exchange have been exhausted, but the fact that the market economy is in a constant state of flux where existing errors provide the incentive for future corrections and thus lead individuals to be less erroneous than before.

Markets prod and push; they are unsettling to all who wish to sit still. It is this constant activity that is the source of the adaptability to changing circumstances and the spur for innovation. Thus although neoclassical economics does not provide us with the means to establish the superiority of capitalism or socialism, the Austrian framework of both Hayek and Mises that places uncertainty, imperfect information, entrepreneurship, and constant change at the center of our attention provides us with strong reason to believe that a private property order will tend to push us in the direction of prosperity, while socialism cannot.

6 Conclusion

At the beginning of this century economists debated whether economic law would even be necessary in the future socialist world. This is no longer part of the conversation. A century ago we also debated whether a market economy could be completely abolished. Today, except for extreme voices, the necessity of the market is widely recognized. There do, however, remain several modern arguments for socialism. Besides that of Bardhan and Roemer, which we have already mentioned, there is the model proposed by Cottrell and Cockshot (1993), which uses developments in the theory of artificial

intelligence to try and show that the problems faced by socialism according to Mises and Hayek are in fact surmountable. However, there are several problems with this model. Without going into depth, we should note that as Horwitz (1996) points out, these authors' argument fundamentally misunderstands the role of money and money prices in enabling economic calculation. Additionally, some have suggested a more decentralized workers' management model as means of rejuvenating socialism. Arguments against such arrangements have been leveled by those working in the property rights tradition, as well as by modern Austrians, such as David Prychitko (1996, 1991) who has shown that such models do not escape the knowledge problem identified by Mises and Hayek.

While such attempts at resurrecting socialism still exist, the debate has largely shifted and is now really about how to temper a market to serve egalitarianism. Joseph Stiglitz asks in his book *Whither Socialism?* whether modern economics can be used to serve the goals of nineteenth-century socialism (1994: 269-277). Whatever the answer to this question, it is unclear that Stiglitz's offer has much argumentative weight beyond a very rarefied class of models where basically anything can be proven given certain assumptions.

The most important lesson we can take away from Hayek's arguments against the neoclassical framework in the socialist calculation debate is the necessity of moving away from idealizations of efficient systems and rarefied models that depend heavily on sensitive, specialized assumptions, to a conception of political economy that focuses on the robustness of systems.⁷ We live in an imperfect world, populated by individuals caught between alluring hopes and haunting fears. Individuals who will make errors and

⁷ This notion also played a prominent role in Mises' arguments regarding the practicability of socialism. For examples of recent work building in the Mises-Hayek tradition in this fashion see Boettke (2000) and Boettke and Leeson (forthcoming).

individuals who will use whatever tools are available to them to take advantage of others exist side by side with individuals who willingly cooperate and those who want to be left alone. Neither moral nor intellectual perfection must be assumed. A robust theory of political economy must instead challenge all models that assume either benevolence or omniscience. This is not because men are opportunistic as a description, but because in the event that we get an opportunistic ruler we want to constrain them to behave in a manner consistent with benevolence. Similarly, we do not build institutions with the idea that all men are largely ignorant because they are, but because by so doing we do not require that only the smart will be able to make the system work. Hayek's position in the debate against Lange and, implicitly the neoclassicists, underscores the importance of evaluating how alternative systems of economic organization perform under less than ideal conditions.

The arguments advanced by Mises and Hayek relaxed the assumption of planner self-interest in order to focus analytical attention on informational issues socialist planners would confront. In doing this they created a "best case" scenario for socialism and still were able to demonstrate the fragility of the system to deviations from ideal information conditions. Socialism, they showed, cannot perform adequately in light of the information problem planners face.

Drawing on the arguments of Adam Smith and David Hume, Mises and Hayek assumed the "worst case" for capitalism. Not only were individuals assumed to be self-interested, but imperfect information was assumed as well. Hayek's arguments, building on Mises and Smith, demonstrate that the system of private property create a strong

tendency toward the efficient allocation of resources in the face of these “worst case” conditions. In other words, the market economy is robust.⁸

Regardless of whether one accepts these arguments advanced by Mises and Hayek, the lesson learned from their participation in the calculation debate remains valid. If we desire theories of political economy that correspond to the real world, which is characterized by highly imperfect conditions, our theories cannot begin by assuming perfection.

⁸ For a more detailed discussion of this issue see (Boettke and Leeson 2004).

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