

TALKING TO WALLS. THE SOCIALIST CALCULATION DEBATE THAT NEVER REALLY WAS ONE

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I INTRODUCTION

In his book «Socialism, Economic calculation and Entrepreneur-ship» Dr. Jesus Huerta de Soto (2010) gives an account of the his-tory of the socialist calculation debate, in which he shows very clearly why the political left today still believes a socialist econ-omy is possible. The popular wisdom in those circles, namely, is that in 1936, Oskar Lange (Lange, October 1936: 53–71 & February 1937) succeeded in refuting Mises' claim that central planning could not work because the information that is needed to draw up such plans can only be generated in a free market. This paper wants to show that nothing could be further from the truth: Lange never answered Mises' fundamental challenge, nor was there any other socialist economist that has been able to refute his central argument. A lot of straw men died, but Mises' funda-mental argument lives.

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II THE MISESIAN ARGUMENT (1920)

If one believes that value is dependent on costs, the only conclusion one can draw from the observation of an everyday production process is that labour is being exploited: the worker worked for eight hours, but the value of his produce could pay him for ten hours. If so, the «surplus value» created by the worker is stolen by the capitalist and must be returned to society.

One way to do this is to levy taxes, but that only reduces the problem. It does not solve it. As long as the value of production is higher than its cost, exploitation remains a «fact» and therefore the only just redistribution is no redistribution at all, but a centrally planned economy. If you can figure out how prices can match costs from the start, then a tax system is superfluous, because there is no exploitation in the first place. Central planning is the answer.

The first and foremost problem for such a central planning agency however, is to know at what cost things can be produced without the alleged exploitation. In other words: how much did the original factors of production «really» cost? If this can be calculated, the only thing the central planning agency has to do is to subtract the exploitation premium from the old selling price and in doing so the price will match the «true» cost.

But then a first problem arises. When building tractor, unit 239 rolling of the assembly line has a different cost than unit 99 and yet another cost than unit 1. The direct cost of resources (steel, paint, rubber) is namely only one of the costs involved. Besides those direct costs, there are a lot of overhead costs as well (maintenance of the assembly line, illuminating of the factory hall, heating of the hall, ...) and those costs can only be incorporated in the final selling price if one knows beforehand how many tractors are needed. If only 30 are needed, the overhead cost per unit will be a lot higher than when 300 are needed. Since in the socialist «non- exploitation model» the price has to equal the production cost, it is essential to know beforehand how many tractors are needed. Or else central planning (matching prices with costs) won't work.

A benevolent observer might claim that the central planning agency will find a way to know beforehand how much tractors

must be produced, and plan accordingly. It is here the fundamental insight of Mises comes into play: how?¹ How can the central planning agency know what is needed before production starts? By asking the consumers? By setting «trial and error»-prices? By computing statistic averages? We will see that all these «solutions» miss the fundamental point: the necessity of property rights for economic calculation. Without property rights, no central plan can ever work.

The Misesian argument can be summarized in three propositions:

1. If the economy is centrally planned, there is no more private property.
2. If there is no more private property, goods can no longer be exchanged.
3. If goods no longer can be exchanged, there are no market prices.

As such, we arrive at the core of his argument: if there are no market prices, then how on earth will the central planning agency be able to calculate costs? The logical fallacy that cost determines price becomes clear: it is the other way around. To sum up the argument: if socialism wants to work, it cannot allow private property. And precisely because it doesn't allow private property, it doesn't work.

The briefest illustration of this truth can be found in the production process itself. Let's assume that — by using magic, preferably of the Copperfieldian sort — the central planning agency knows *beforehand* that 300 tractors are needed. Even granted this information, the question remains: how can you build a tractor with steel that has no price, paint that has no price, or rubber that has no price? One cannot claim that resources will still have prices, while other things do not. Prices are the result of an exchange of

¹ This three-letter word is the most hated noun by socialists of all countries. When debating them is not wise to attack their ends, because they generally spring from good intentions. The attack should be on their means: how are you going to achieve what you are aiming for without invalidating your initial good intention? If the intention is «freeing the worker from exploitation», running the economy like a slave plantation cannot be the answer.

property. If all property is abolished, then nothing has a price. Not even resources.

But let's stay benevolent to the idea. Let's even grant the assumption that somehow, besides knowing the amount of what is to be produced, the planning agency can know the cost of the resources required for the production process. This again requires magic, and since we are talking about an enormous amount of prices, this time Copperfieldian magic will not suffice. We will have to invoke magic on an even higher level, let's say that of Houdini: nothing has a price, yet still our central planning agency will be fed with the right prices of the resources it uses to produce the exact quantity of goods the people need. One cannot get more benevolent than this.

Now consider this: even under those best of assumptions, and with the best magic that money can buy, the core problem is not solved: how would that information be *generated* in the first place? Copperfield and Houdini did their best to *deliver* the right information about the prices at the right time. But did they also *create* that information? No, that would be overestimating their capacities. Who can exploit information no one else has yet acquired, and create value from that information? Who can estimate future profits nobody else can yet imagine, and pay the workers today? Who has the power to create such data?

There is only one answer to these questions: *the entrepreneur*.. It would seem that the creation of this kind of information requires magic of the sort only Merlin can produce and yet, this miracle is performed on a daily basis. Socialist theorists never incorporate this «factor» into their economic model. They fail to see that an act of entrepreneurship creates the very information they would need to plan the economy. They think that central planning does not work because entrepreneurs (be it in the black market or else-where) thwart their beautiful central plan. That is why legislation is needed: allowing free entrepreneurship is incompatible with central planning because it distorts the precious data they are diligently working with.

What they fail to see is that the reality is just the opposite: their central plan does not work, because it is based on information that is outdated. It once did depict real market conditions, but ever

since this data entered their planning, people have moved on, and the relative structure of prices has irrevocably changed. By the time any grand plan for central production would be ripe for execution, both the planned demand and the foreseen supply will not hold true anymore, the consequence of which will be that the centrally fixed prices in no way will reflect the true offer and demand at that point in the evolution of market. In short: socialist economic engineers do not understand that the market is a process, not a place.

Let me illustrate this. When I buy an apple, I do not only influence the price of Jonagolds, but also the price of pears, cars and F-14 Tomcat fighter jets. Every action in the market has an influence on other actions, and precisely because that second set of market actors engage in exchange, yet another set of market actors are influenced to do the same. Me eating an apple in Madrid may cause a contractor signing a multimillion-dollar contract in Singapore. I don't know. All I know is that by my actions I have instantly changed the relative price system, which instantly leads to other changes, which instantly leads to yet other changes². For proverbial use, one could even say that the price already is the calculation³.

That is what planners fail to see. All central calculation comes too late, because there is no system faster than the price system to transmit a change in market conditions: one apple been consumed, produce another. By the time a central planner knows that an apple must be produced, has — politically — decided which orchard has

² Having said this, I want to stress that the only thing that has changed instantaneously is what we could call the virtual price structure, by which I mean the price structure that comes about after adding (producing) or subtracting (consuming) a product to the market. To make this virtual change in prices real, however, this change in prices has to be discovered. That is the essence of the Hayekian analysis: entrepreneurship is about showing «perspicaz»: the ability to observe changes nobody else has observed yet. In this regard, socialism can be seen as the institutional arrangement of deliberately slowing down that process.

³ I do not claim, however, that all information is already contained in the price. Quite the contrary: prices come about only when market actors exchange property titles, and it is precisely these actions that change prices, inducing yet another set of market actors to act. The proponents of the «Efficient Market Hypothesis» fail to understand this. So yes, the price is the calculation, but only for that very moment.

to produce that apple, has transmitted that order to Public Orchard nr. 56 and has replenished the stock of apples, I have already eaten a dozen more. Or none. I might have eaten so many apples in my life that I never want to eat one more apple. The future of what is needed is radically uncertain. Entrepreneurship mitigates that uncertainty.

That is the true «miracle» of the market. By buying products, I coordinate the production of other products. Even doing *supposedly* nothing is enough to make prices change: my breathing makes the value of forestry go up. Even if I have no intention of doing so, the mere fact that I am alive is inducing others to undertake action. Not by forcing them, but by creating profit opportunities they will be happy to exploit. As my actions are distorting the previous price of everything, new actions will be required to find a new balance. And in turn, those actions will create new distortions, providing new profit opportunities for others to take advantage of. It is a never-ending process of action, just as life itself.

The market is the social institution that coordinates those actions. Central planners do not understand this fact. To them, prices are a static given, which have nothing to do with the dynamics of life. Life, in their view, is nothing but a methodological nuisance disturbing their calculations. That also explains why socialist regimes cannot but require an iron discipline of their citizens when it comes to following their ideology: any human action distorts their static economic planning. The only way socialism can work, is if man can be administered in the same way steel, paint or rubber are: having no will of its own, not thinking, not being creative in and of himself. Or in short: if man is no longer man.

Confronted with these arguments, one could call it a day and conclude that Mises refuted the possibility of central economic planning. If the cost of production can never be known (1), if the transmission of information by necessity must always be late (2), and the information needed for central planning can only be created through entrepreneurship (3), what else is there more to say? This critique was already devastating.

But then there are the eternal sceptics, the kind of people that invent all kinds of presuppositions to resuscitate a failed idea. Not hindered by the fact that those presuppositions would require

more proof than the conclusion they are challenging, they go on asking:

«What if, somehow, combining the magical forces of David Copperfield, Houdini, Merlin, The Amazing Jonathan, Bill Malone, Matt Wayne, Dick Zimmermann, Gregory Wilson, Harry Black-stone Junior and Senior, Jay Marshall and some others, the central planning agency would find a method that allows it to acquire the right information at the right time, faster than the price system and created by a sort of pseudo-entrepreneurship? Then, under those conditions, central planning could work, couldn't it?»

The sceptic waits in hopeful expectation. Theoretical Misesians remain calm: «No».

When a friend tells you he opened a copy shop next to your former high school and brags on how profitable it is, you kick your-self in the head and you think: «Why didn't I think of that? I walk past my old school every day. I saw the empty store. I remember how I always had to wait in line at the schools own copy service during lunchtime, and how much I hated that. Why didn't I come up with that brilliant idea myself?»

The answer is: you didn't *see* the opportunity. You were less attentive to the same facts, focusing your attention on other problems; you were busy with things that interested you more. You are another person. You are not like your friend. You are a mess at deadlines. He only feels alive when he has one. You don't like the stress of copy shops. You like the convivial atmosphere of candy shops. You are a totally different person, with totally different preferences.

Why is that important in the debate? Well, if two persons can value the same facts differently, then that means that their valuations are *subjective*. By what method is the central planning agency going to compute those different valuations into one central statistic? Computing requires cardinal numbers, but the only valuation people can express is ordinal in kind: that they would like a candy shop more than a copy shop, or not. Try computing an aggregate out of the «firstness» of my preference for a candy shop and the «secondness» of my friend's preference for that same project. No

such thing is possible: valuations are ordinal, mathematics need cardinals.

To finish the argument completely: entrepreneurial information differs from scientific knowledge in that it is not generally known. If it would be, it would cease to be entrepreneurial information, since the wider the knowledge of an opportunity spreads, the less value this unique information potentially has. Entrepreneurial information is therefore necessarily unique and as such cannot be aggregated, since the hallmark of uniqueness is its incommensurability.

Now that we understand the fundamental argument of Mises, the time has come to see what the socialist economic theorists brought into the debate. The reader be warned: this will be boring.

III THE FIRST RESPONSES

The responses of the socialist economic theorists can be divided into two groups: irrelevant and honest. The irrelevant ones fail to answer the fundamental challenge Mises posed. And the honest ones agree with Mises, but do not see it as a problem that socialism is impossible without destroying value. The ideal is more important than the sorry little preferences of the people and socialism must be implemented for socialism's sake. Oskar Lange can be viewed as the iconic figure of the first group, Maurice Dobb as the main proponent of the last.

The first socialist proposals to solve the problem of economic calculation were focused on trying to find a substitute for money. Carl Landauer, for instance, considered it possible to carry out economic calculations in *kind*. One would calculate the value of a given product, *not* using a fixed standard of measurement. This literally comes down to comparing apples with pears. On this most pathetic of responses Mises rightly commented: «Landauer cannot understand that — and why — one is not permitted to add and subtract figures of different denominations. Such a case is of course beyond help» (Mises, 1922 [1982], footnote nr 119). As we have seen above, the very essence of calculating requires a standard of value.

That other big proposal — to do the economic calculations in terms of hours worked — received a lot more attention and was deemed a lot more credible, but as the reader will soon understand, it is in fact just an instance of the same error: no two worked hours are alike. In order to overcome that problem, traditional Marxist doctrine has attempted to reduce the different types of work to what is called ‘simple, socially necessary labor’. But even that is a misgiving, since any attempt to make ordinal values cardinal presupposes a standard. A standard, moreover, which can-not be provided under central planning.

The third futile attempt was to perform economic calculation by using a unit of utility. Again, this assumes away the fundamental problem, namely that value cannot be measured cardinally, and that all the central planning agency would be able to do is to compare values ordinally, excluding the possibility of aggregates from the start. Clearly, the first responses to the challenge of Mises can be summarized under the Spanish proverb: «Todo necio confunde valor y precio», or, in English: «All fools confuse value with price» (Machado 1989, 1, 640, 820)

Why then, did it take so long for Mises to win the debate? One plausible explanation is that two of his predecessors debated non-essentials. In an attempt to impress the socialist economic theorists, they argued that even under an ideal socialist regime, the basic concepts of value and interest could not be dispensed with. Friedrich Von Wieser’s (1889 [1971], 60) book for instance, *Der Natürliche Wert* (Natural Value) focused on the fact that even under socialism, the essential laws of value would still remain in place. The characteristic logic of choice in a market system and in a socialist system would be formally similar.

Böhm-Bawerk (1889 [1959], 345 -346), trapped in the same debate on non-essentials, claimed that the fiercely criticized «surplus value» and the ensuing «exploitation», typical of the capitalist system would not disappear under a socialist regime, since the effects of interest in both regimes would be formally similar. A whole sub-debate on the so-called formal similarity of socialist and capitalist systems ensued, causing a shift in the debate: away from the core argument — data-generation under central planning is

impossible — and towards the (technical) problem of how to calculate all this data.

While both arguments were well intended, they did more harm than good, since stressing them so much gave the impression that the fundamental problem — the impossibility of data-generation — was already solved. Indeed, when the assumption is accepted that all information is available to the central planning agency, the only problem remaining is how to solve the economic equations. But that argument is entirely besides the point. The core problem is that without entrepreneurship you have no effective data *to start with*. The essence of the argument is that only the market can generate the data the central planners need — and no such market is allowed.

To this day, socialist theorists use the rebuttals of Wieser and Böhm-Bawerk to claim that even the Austrians agreed on their socialist equilibrium analysis. Valiantly, they grant that Wieser and Böhm-Bawerk were right about value and interest being indispensable, but in the same breath they claim that that could all be solved by complicated mathematics. They are obviously missing the point, but from a strategic point of view that does not matter: all other theorists that followed (Barone, Cassel, Lindhal) seemed to say the same as the Austrians. It was a highly confusing period, and in confusion error always wins.

As such, a lesson can be learned: when entering a discussion, one must always be aware of the terms of the debate. Debates are only won by challenging assumptions, not conclusions. The question is not about the practical possibility of a theory, given certain assumptions, but precisely about the validity of the assumptions, accepted as the given. Any concession on assumptions with the aim of winning a debate on a lower conceptual level will end in failure, because it is precisely the assumptions that frame the debate. In (implicitly) granting the socialist theorists their much-cherished assumption that a state of equilibrium really can be achieved by the central planning agency, the defeat of Wieser and Böhm-Bawerk was 100 % predictable.

Based on the excellent work done by Dr. Huerta de Soto, I will now try to give an oversight of the three main «solutions» to the fundamental challenge of Mises.

1. The mathematical solution

One of the results of a derailed the debate was the common grow-ing belief that socialism was a problem of finding the right mathe-matical solution. As described above this belief is erroneous, since mathematics requires cardinal values to compute, and the essence of the problem is that valuations are always *ordinal*. Only money can serve the function of integrating all value scales in society, and precisely money is impossible under central planning. But since Wieser and Bohm-Bahwerk had granted the assumption of equi-librium for the sake of the debate, the mathematical solutions were rampant: Taylor (1928), Dickinson (1933), and many others debated with one another about the best answer to the wrong question.

One particularly sad solution is the one advanced by Kläre Tisch, who claimed that it was possible to construct a system of equations with as many equations as unknowns, a system which, once solved, could dispose of the problem of economic calculation. Tisch's doctoral thesis, supervised in 1932 by Schumpeter, gave rise to even more confusion, Mises' 1920 contribution notwithstanding. For a long time it was assumed that the problem of eco-nomic calculation was solved, and all that was needed was the right information at the right time. But that was exactly the prob-lem *ab initio*.

2. The method of trial and error

The trial and error method can be seen as a variant of the mathe-matical solution, in that it tries to avoid the thorny problem of find-ing one general big equation that can explain all prices. Barone had already observed that mathematical precision can only be achieved at the expense of nearly all the model's remaining explanatory value: the more you try to describe economic reality in mathemat-ical terms, the less it has to do with the reality of economics.

The solution, then, is to try out algebraic formulas, see how much prices they explain and then adapt the formula according with the new information that comes from applying it. A reported shortage or surplus would signal to the central planning agency

that the algebraic model was not reflecting economic reality, and through subsequent adjustment of the formula, the model could be refined.

This solution, again, is the right answer to the wrong question. The question is not how we can calculate an aggregate that would teach us how to achieve a state of economic equilibrium. The real question is if such an economic equilibrium is possible in the first place. Total equilibrium would constitute an economic state in which every demand is met, prices do not change, and individuals never change opinion. In other words: it would negate the very essence of the market process.

3. The error carried to its fullest potential: planimetrics

Planimetrics is the generic heading for all computational methods that try to formulate equations that do not even have the modesty to subject themselves to reality. The ambition of these models is to determine an entire configuration of equilibrium prices *a priori*: regardless of what the market would actually do, it would pre-co-ordinate the plans of all individuals in society. The price of a beer, the price of wheat to produce it from, the price of the truck that will carry the wheat from the farm to the brewery, and every other price is already implicit in the model.

The fundamental error in this line of reasoning remains the same: all these models assume the information is given at the start of the exercise, while in reality the opposite is the case. One can use the most sophisticated mathematical techniques (such as non-linear programming, whole-number programming, cyber-netic models of decision making and many more) to compute aggregates, but nothing can alter the fundamental fact that this information must first be created, and that only the entrepreneur-ial process — absent in these models — can provide these theorists with this information.

The only information that can ever reach the central planning agency, is information *a posteriori*: the exact opposite of what is required. The hopes of theorists like Leonid Hurwicz, Kenneth Arrow and Richard Musgrave that with the development of

computer science the required computational capacity would become available is the most vivid illustration of the general error involved: to think that the calculation problem would be a problem of application rather than of principle. Huerta De Soto, in his book *Socialism, economic calculation and entrepreneurship* (2010, 59-60) clearly explains why that is: in the case computer technology becomes more readily available for the general public, «there will be a dramatic rise in the quantity and quality of the information generated through entrepreneurship».

As such, the development of computational capacity does not change one iota to the fundamental problem. Quite the contrary: the existence of computers makes the problem central planners have even bigger, since all market participants are now able to carry out computations of prices faster, which enables them to value the results faster, outdating the strenuously collected information by central planners even more rapidly than before. To claim that computers would make the central planning and control of society easier is the same as claiming that the invention of the printing press *reduced* the speed of the spread of knowledge over society during the Renaissance.

In short: all the other corollaries of Mises' fundamental argument remain valid: entrepreneurial information is subjective, individual and ordinal. The appreciation of an opportunity is *subject* to the preferences of the *individual*, and those preferences are ranked *ordinally* in the minds of millions of people. These valuations can never be compared more objectively than the market already does by virtue of the social institution of money, which is the integrator of the ordinal value scales of all individuals in society.

As stated above: observing the same error over and over again becomes boring. But there is one response that was particularly creative in trying to come up with an answer to Mises challenge, to the extent that it deserves separate attention: that of Oskar Lange. This creativity, however, cannot be found on the theoretical level, but rather in the mainstream perception of perfect integration of his ideas with neo-classical theory, obfuscating the obvious fact: Mises' argument stands like a rock. It was Hayek, however, who was able to put the final nail in the coffin.

IV THE RESPONSE BY OSKAR LANGE (1936)

Combine all the previous erroneous ideas into a whole, dress that up in vague language, and confuse your adversaries by accommo-dating some of their critiques, and you arrive at the curious notion that came to be known as «market socialism». This solution attracted a lot of theorists (for instance Heimann, Polanyi, Dickin-son, Durbin, Lerner) but got his most famous proponent in Oskar Lange. When socialists today are presented with Mises' challenge, they refer to Lange, as if he would have resolved the information issue. He has not.

To an experienced reader, the very notion of a «market for socialism» must come across contradictory. How can one combine the free exchange of property titles with its very negation? How can one conceive of an idea of central planning that is in competi-tion with other central planning? Doesn't that invalidate the whole idea of *central* planning? Isn't the fact of competition — which pre-supposes at least two centers of decision — the negation of what *central* means? It is clear that by giving in to their original ideal of central planning, the socialist theorists wanted to reap the benefits of the price system, while maintaining the general idea of social-ism: that all profits are exploitation. What these theorists tried to do was to square the circle: socialism is possible, if only the market would be allowed to work ... a bit.

The first result of such a conflicting line of thinking is the idea of so-called «parametric» prices. Lange's big dream was that it would be possible to simulate the final state toward which the market process and competitive economics tend, but without a market. He believed that the government should construct a list of predefined prices, which, although not determined by the market, would nevertheless permit rational economic calculation by incor-porating the vital information essential for it. These parametric prices would then be used by the producers.

Again, we see the same error coming to the surface: the idea of parametric prices takes for granted that the socialist calculation problem is *already* solved, and goes from there. The information needed to calculate these parametric prices is assumed as given,

while it is exactly this information that cannot come into being under central planning. Even when one would want to make a list with fixed prices for everything, the information needed would have to come from the producers. It is clear that the competitive solution Lange proposed is just a variation on the same error.

V

THE HAYEKIAN NAIL IN THE COFFIN (1940)

What Lange tried to achieve was an integration of socialist economic planning with neo-classical equilibrium theory. This should come as no surprise: the neoclassical model too eliminates the role of entrepreneurship in the discovery and use of profit opportunities, and it filters away any reference to the dynamic process of constant change. As such, it does not differ in principle from Marx-ist theories, it only does so in degree. If you assume that all vital information is already available to construct the model and go from there, you are only one step away from taking that model and use it for central planning.

One could say that Lange has succeeded in his task: he did integrate his model with the neo-classical one. But the achievement of making one error (socialism) consistent with an erroneous framework (neoclassical theory) does not mean that one has identified how an economy really works. Socialist and neo-classical theorists see *equilibrium* as a state to be achieved while at the same time it is already assumed, and hence, they rest content in describing nothing. As such, Lange received mainstream recognition, not for having rebuked the Misesian argument, but merely for confirming mainstream thought.

In 1940, Hayek (1940 [1972], 198-199) wrote an article that analyzed and criticized Lange's model in great detail and explained, point by point, which implications of the model were problematic. Lange was deeply impressed by these critiques, and acknowledged that Hayek had succeeded in raising a series of essential errors and problems with the model: «There is no question that you have succeeded in raising essential problems and in showing gaps in the pure static solution given by me. I intend to work in this

subject and give an answer to your paper ... sometime in the fall.» (Lange, in a letter to Hayek dated August 31, 1940)

Such an answer never came. Though Lange had privately admitted that there were fundamental errors with his model, he kept on expounding it publicly, and in the last stages of his intellectual life, he even ditched the competitive solution altogether as not being radical enough. Shortly after Hayek's destroying critique, Lange became a member of the Polish Communist Party, and in 1953 he published a work (Lange, 1953) in which he outright praises Stalin's fully centralist economic system, in terms of both theory and practice. Indeed, when one makes an error, one has to accept it down to the root to maintain the idea of consistency.

VI CONCLUSION

When confronted with the arguments of Mises against socialism, the standard response of social democrats in Europe and liberals in the Anglo-Saxon world is that his theory has been refuted. They refer to Oskar Lange, who would successfully have demonstrated how socialism can work, and how it can be integrated in neoclassical theory.

However, only that last part is true. That Lange succeeded in connecting his socialist ideals with the neoclassical theory may be admitted, but it hardly follows that the theory of equilibrium therefore in itself is true. Quite the contrary: precisely by using the erroneous assumptions of neoclassicist theorists, Lange was merely saving face.

The conclusion, therefore, can only be that it was Mises who gave socialism's final theoretical blow. In his 1920 article, he demonstrated that the only way a central planning agency can acquire the information it needs, is by letting the market free. Only when people freely exchange property titles, prices arise. And only when prices arise, goods can be allocated correctly.

Mises reminds us of a very important fact: when two individuals exchange values, an ordinal transaction takes place, not a cardinal one. But yet aggregates need cardinal numbers, and that is

why a central planning agency, even delivered with the «right» information in time, will never see the right information in kind.

Mises also conveys a message to the neoclassical equilibrium theorists: the problem is not that central planning couldn't work under static equilibrium. The problem is that such equilibrium does not exist in the first place. Only when the «disturbing» role of the entrepreneur is fitted into the model, can it be realistic. But precisely because this role is indeterminate, all models fail.

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