

On Ljunggren's 'Plan and Market'

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Sten Ljunggren is worried both by our general proposals for direct democracy and by our advocacy of a system of central planning. This response is in five sections. The first puts the debate into the context of what we see as the key features of the communist mode of production. The second deals with the question of control theory, and replies to Ljunggren's doubts about the use of computer models in planning. The third section puts forward our critique of market socialism and the fourth responds to Ljunggren's argument that a planning system cannot be as flexible as the market since it supposedly cannot replicate the horizontal links between enterprises found in market systems. The final section points out the differences between our conceptions and the planning mechanisms in the former Soviet Union, responding to Ljunggren's claim that there is not much new in our economic ideas.

1 Communism: direct democracy and planning

It is well known that classical Marxism saw society as passing through historical stages characterized by different modes of production: slavery, feudalism, capitalism and communism. Less well remembered is Marx's account of what distinguishes these modes of production. He said that they were distinguished by the specific way in which they produced and appropriated surplus labour. In slavery the entire working day was carried out under the direction of the slave-owner, the entire product went directly to him, and the slaves were apparently unpaid for any of their work. In feudalism, the surplus and necessary labour times worked were openly demarcated, unpaid time on estate versus free time on the peasant's plot. Under capitalism, labour is apparently free, work done for the firm being paid for by the hour. Marx's greatest theoretical contribution to communism was his analysis of how apparently free paid labour hid the extraction of surplus labour in the form of surplus value.

Marxists have had no compunction about examining surplus extraction in propertarian societies like slavery and capitalism, but they have been more reticent about applying the same analytical tools to socialism or communism. In general they did not even think to ask the relevant question—how is the necessary surplus to be extracted? It was a question that presented itself immediately to the unprepared Bolsheviks on taking power, and they came up with a series of improvised responses—expropriations in the short run, a tax in kind on grain, manipulation of relative prices of industrial and agricultural goods in the mid 1920s—before settling on a turnover tax on state enterprises as the stable and workable solution.

From the establishment of the planned economy in the USSR up to the time of Gorbachov, the turnover tax was the main the juridical form under which the state was financed. In capitalist language this was equivalent to meeting most state expenditure (new investment in infrastructure, education, welfare, defence, scientific research,

pensions and so on) out of the profits of nationalised industries. Another big source of revenue was the vodka tax. Together these provided a stable tax base until Gorbachov's teetotalism campaign, and his simultaneous decision to allow enterprises to retain most of their profits, destabilised state finances and debauched the Rouble.

But these taxes were, as Keynes would have realised, just an administrative measure necessary to maintain monetary stability. The taxes neither ensured the production of a surplus nor did they determine its magnitude. The real magnitude of the surplus was determined by the plan, when it laid down how much social labour was to be allocated to producing consumer goods and how much was to be allocated to other activities. Once the plan had decided how many workers were to build new steel plants, new railway lines, mines, tanks and bombers, the ratio of surplus to necessary labour time was given. The production of a surplus product at the societal level was the result of conscious and explicit political decisions. The socialist state, unlike the "nightwatchman" state of capitalist society, could not be content simply with collecting taxes on an autonomously produced surplus. The state had to turn itself into a mechanism for actually producing and directing that surplus. This is the inner logic of the socialist mode of production, its basic law of motion.

Just as the production of surplus value through the purchase and exploitation of labour power is the inner secret of capitalism, ultimately determining the whole character of capitalist society, so the public, planned social appropriation of the surplus is the inner secret of socialism. From the exploitation of wage labour spring the class contradictions of capitalism. From the necessary appearance of the surplus in money form spring the financial crises, recessions and economic cycles that punctuate capitalism's history. From the planned appropriation of the surplus under socialism spring the class antagonisms and class struggles of the socialist period. From the necessarily political form of surplus extraction spring socialism's political cycles: Stakhanovism, the great purges, de-Stalinization, the Great Leap Forward, the Cultural Revolution.

This is not the place to go into the class contradictions and vicissitudes of socialism's history, we can only state in summary form certain conclusions that we have drawn.

1. The process of surplus extraction by planning is a potentially contradictory process, that can give rise to class antagonisms pitting a state-aristocracy against the working class.
2. The process of struggle between these classes is characterised by a complex dynamics in which tendencies towards capitalist restoration are constantly generated.
3. The state aristocracy, while prone to corruption and the private use of state resources, was only able to personally consume a small portion of the surplus. This contrasts to the situation in mature capitalist countries where a large share of surplus value ends up funding the personal consumption of the upper classes. The state aristocracy only had the opportunity to consume public resources by virtue of their public position in an avowedly egalitarian state. Their private consumption thus appeared inherently shameful and could only be justified, if at all, by their record as patriots and revolutionary veterans. As the revolutionary generation passed, their successors looked longingly at the capitalist world which provided people like them not only with a much better life-style, but one in which luxury was legitimate not shameful.

4. The tendencies towards capitalist restoration were held in check by politics. Whether by ‘soviet power’, tyranny, the dictatorship of the Communist Party (CP), or by mass revolutionary enthusiasm.
5. Our view is, quite bluntly, that the revolutionary classes in socialist society failed to discover a state form adequate to the task of preserving and developing socialism in the long run. The characteristic socialist state forms have, up till now, been the revolutionary tyranny or the revolutionary aristocracy. Tyranny is functional so long as the original hero-king survives. As Castro shows, that can be quite some time, but it is a hard act to follow. Revolutionary aristocracy, aka the ‘leading role of the Communist Party’, independent of individual mortality, survived longer. Rule by the Leninist party starts out as the rule of the most conscious and self-sacrificing representatives of the oppressed, but by the iron law of aristocratic decay, transforms itself into a self-serving oligarchy.
6. Against these forms reformers and revolutionary enthusiasts have advanced two alternatives.
 - (a) From the social democratic right came the advocacy of regularised parliamentary ‘democracy’. This has been the consistent and honourable position of social democrats, dating right back to Kautsky’s critique of the USSR. Instead of socialist monarchy, or party dictatorship, they have advocated free and open parliamentary elections.
 - (b) From the extreme left came an advocacy of a Paris Commune type of state. In this delegates were to be elected by districts, subject to recall by their electors, and in receipt of only average workers wages.

We think that there are good grounds, both of reason and experience, for rejecting both these alternatives in favour of direct democracy.

Parliamentary government, legitimised by regular elections, is presented to the modern world as democracy plain and simple. We view it differently. We think, as Lenin did, that it is the most perfect form of rule by the rich. We think, as Aristotle taught, that elections are always and everywhere the mark of an aristocratic rather than a democratic state. Experience teaches that those elected to parliaments are always, everywhere, unrepresentative of those who elect them. Whatever indicator one looks at—class, gender, race, wealth or education—those elected are more privileged than those who vote for them. The elected are always socially more representative of the dominant classes in society than they are of the mass of the population. Once elected they will always tend to represent the interests of the classes from whom they are drawn. There are 101 detailed circumstances to explain this fact, but they all come down to the same thing. Those features which mark you out as one of society’s elect, one of its better sort, are also the features that help you get elected.

It did not, therefore, surprise us that the institution of free and fair elections in Eastern Europe led to the immediate establishment of bourgeois power, symbolically marked as it was by the new Hungarian government’s disarming of the factory militias. The USSR was a different case; there, the strange preference of the population for communist candidates meant that the road to ‘democracy’ had to go via Yeltsin’s banning of the CPSU and subsequent use of tanks to shell the Russian parliament into oblivion.

Those advocating open parliamentary elections in the socialist bloc were in the main conscious advocates of capitalist restoration who drew behind them a few naive social democrats. Those advocating a Commune type state, in contrast, wanted to reform and secure the socialist system. Their only problem was that Stalin had got there before them. The Stalin constitution of the USSR was already modelled on the Commune state: it was a council state, with peoples' delegates elected and subject to recall. This constitutional form was of course nothing but a mask for Communist Party rule. Why else had Lenin been such a strong advocate of the Commune style state?

Just as Lenin saw the parliamentary republic as the ideal form of bourgeois rule, he saw the council state, the Soviet Republic, as the ideal form of workers' dictatorship. But central to his revived Blanquist slogan of the workers' dictatorship was the Blanquist–Leninist revolutionary party. Just as the dominance of the Paris Commune by the Blanquists and Internationalists was the key to its bid for power, so the dominance of the Soviets by the Bolsheviks was the *sine qua non* of effective Soviet Power. Proto council-states are thrown up in most revolutionary crises, the most recent European example being Portugal in 1975. Their existence produces a profound crisis of legitimacy which must be quickly resolved in favour of parliament or councils. If the councils are dominated by a revolutionary party with appropriate military mutinies, this can lead to socialist revolution. Without the mutinies or without the revolutionary party's dominance, parliament wins.

The leftist suggestion that a council state be used to overpower the aristocracy of an existing socialist state has, to our knowledge, only been attempted once: by the Shanghai left during the Cultural Revolution in China. Although this produced the biggest shake-up ever experienced by a socialist aristocracy, the attempt in the end failed. The revolutionary committees set up during the Cultural Revolution ended up being dominated by the CP just as much as the Russian soviets had been. We think that it is inevitable that in a socialist country with a well established CP, grass-roots representative bodies will either be dominated by the CP or by representatives of reaction. The overwhelming majority of convinced socialists will be in the CP, and their political experience and discipline will enable them to easily dominate grass-roots organisations where the general tenor is pro-socialist. Occasions when grass-roots organisations became consistently anti-CP tended to coincide with occasions when they were dominated by pro-capitalist sections of the intelligentsia and middle classes, the signal example being Solidarity in Poland. Those advocating an ideal council state as against the actual Soviet state were attempting to occupy a political ground that could not exist: for the council state to exist the CP would have to be abolished. Trotsky had the good sense to see the implications of this at Kronstadt. Some 70 years later some of his self-proclaimed followers with less sense found themselves cheering on Yeltsin's suppression of the CPSU.

To make headway one must recognise the hollowness of the claims of elective institutions to the title of democracy. It does not matter whether the institution calls itself a parliament or a council, if its members are chosen by election you can be sure that the representatives will be unrepresentative. It will be packed by the dominant social group in the society—the business and professional classes in civil society, or the revolutionary aristocracy and party in a socialist society. We believe the only viable alternative is direct democracy.

In classical Athenian direct democracy there were three key institutions: the mass assembly, the council and the *dikasteria* or jury courts. Ljunggren says that he fails to see how a democratic form of government adapted to 10000 freemen could function in a state with millions of citizens. We readily accept that you can not put millions into a

city square to listen to a debate. But there have been some advances in communications technology since the days of Solon. Television channels now stage programs in which a statistically representative studio audience debate topical issues after which the audience at home can vote by telephone. At present such votes have no legal standing, but there is nothing technically problematic about them. They are politically problematic, certainly, since their constitutional acceptance would take power from the hands of the present political class.

The suspicion with which many leftists view our suggestions for direct democracy makes us suspect that, in their imagination, they see themselves as part of a future political class. Although actually politically impotent, this imaginary consolation repels them from direct democracy. Comrade, it is better to admit that you will never be a commissar and that the leftist groupuscules will never be ruling parties like the CPSU-B. Forget your mistrust of the people, forget these ambitions to rule!

The central question in any socialist society is how the politically directed and sanctioned extraction of a surplus product can be prevented from turning into exploitation. We believe that the level of surplus extraction must be democratically decided. For this to work the mechanism of surplus extraction must be absolutely transparent and clear to all concerned. One of the paradoxes of hitherto-existing socialism is that the process of surplus extraction was almost as obscure as under capitalism. The wage form persisted and, since income tax was negligible compared to under capitalism, workers seemed to get back almost the full value of their labour. If anything, take-home pay underestimated the real value of the wage, since many basic consumption goods were sold below their true value. We advocate instead the forms put forward by Marx in the *Critique of the Gotha Program*. There he proposed that money be abolished under communism and replaced with a system of payment in labour tokens. From these an explicit deduction was to be made.

From this must now be deducted: First, cover for replacement of the means of production used up. Second, additional portion for expansion of production. Third, reserve or insurance funds to provide against accidents, dislocations caused by natural calamities, etc.

These deductions from the 'undiminished' proceeds of labor are an economic necessity, and their magnitude is to be determined according to available means and forces, and partly by computation of probabilities, but they are in no way calculable by equity.

There remains the other part of the total product, intended to serve as means of consumption.

Before this is divided among the individuals, there has to be deducted again, from it: First, the general costs of administration not belonging to production. This part will, from the outset, be very considerably restricted in comparison with present-day society, and it diminishes in proportion as the new society develops. Second, that which is intended for the common satisfaction of needs, such as schools, health services, etc. From the outset, this part grows considerably in comparison with present-day society, and it grows in proportion as the new society develops. Third, funds for those unable to work, etc., in short, for what is included under so-called official poor relief today...

Accordingly, the individual producer receives back from society—after the deductions have been made—exactly what he gives to it. What he has given to it is his individual quantum of labor. For example, the

social working day consists of the sum of the individual hours of work; the individual labor time of the individual producer is the part of the social working day contributed by him, his share in it. He receives a certificate from society that he has furnished such-and-such an amount of labor (after deducting his labor for the common funds); and with this certificate, he draws from the social stock of means of consumption as much as the same amount of labor cost. The same amount of labor which he has given to society in one form, he receives back in another.

A key point here is that *everything is explicit*. Payment is in hours of labour, deductions are in hours of labour. The surplus extraction is not hidden. Because it is explicit it is amenable to democratic debate and decision. People can vote on how many hours a day they think should be for themselves and how many for society.

Only major decisions like this, affecting society as a whole, need to be put to a general plebiscite. There is a limit to the amount of time public as a whole wants to spend voting. For more detailed issues we propose that decisions be made by randomly selected juries of citizens. Ljunggren quotes our suggestion that strategic economic plans be decided this way. We suggested that groups of economists, perhaps acting on behalf of campaigning organisations, draw up alternative economic plans, among which a citizens' jury then decides. Ljunggren is worried that this means that the planning of the economy will 'not be under government control', and that it will not be 'politically founded'. In the absence of such government control you will have 'set the stage for an expert rule that makes the power held by today's economic experts pale by comparison'. For Ljunggren, it seems, decisions are only 'politically founded' if they are made by politicians or government officials. Ordinary citizens presumably lack the skill to make such important decisions, and are too easily fooled by the experts. Well, this is an old argument against democracy, going right back to Plato, and we don't accept it.

Along with this contempt for the ordinary citizen goes an attempt to use the word 'expert' as term of abuse. Modern society has a high level of specialisation and technical sophistication. There are many activities that only certain experts are qualified to perform. The process of drawing up coherent and balanced economic plans would require certain specialised skills. One cannot do away with the need for experts, but on issues of social concern the experts have to be held accountable. They are presently held accountable by government ministers or other elected politicians. This is what Ljunggren means by politically founded management. We think that experts will face a much tougher grilling from a citizens' jury than they would from a government minister.

2 Control Theory

Ljunggren reproduces our diagram of a feedback control loop and then, since one of our examples mentioned a thermostat, uses this to parody central planning as only good for keeping things static. This misrepresents our argument. Optimal control theory is not restricted to systems with static goals. It is used, for example, in fly-by-wire aircraft. Here the controller takes a highly dynamic input—the pilot's joystick—and computes what changes in the control surfaces are needed, taking into account the airspeed and aircraft dynamics, to produce the desired change in course. We devote a large part of our book to looking at how a market for final consumer goods can be used to provide dynamic input to a planning system. What a planning system can do is work

through the implications of the structure of final demand for intermediate and primary production in the economy.

We were arguing that all economies need feedback loops, whether they are based on plan or market. But a poorly constructed feedback system will be unstable, leading to oscillations. Optimal control theory deals with the construction of feedback mechanisms that avoid such oscillations. We argue that the feedback mechanisms in a market economy are far from optimal. All market economies are subject to the business cycle, where boom and recession alternate roughly every 7 years. Planned economies are not subject to this cycle. They grow steadily and constantly. This is borne out by Ljunggren's graph contrasting the growth of the Soviet and US economies. From 1943 to 1989, the graph for the USSR shows a constant upward slope. The US economy by contrast shows periodic downturns, shrinking from 1945–48, in 1955, in 1969, from 1973–75, 1981–82. This instability, and all the suffering it causes, arises because a market control mechanism has no predictive ability. It responds only after it has got things wrong.

Look at the recent “dot-com” bubble in which hundreds of billions of dollars were wasted investing in internet and telecoms projects. The bubble collapsed when it transpired that the revenue stream going into internet companies was far too small for more than a fraction of them to be profitable. This could have been determined in advance by a simple application of input–output analysis, the mathematical technique used in central planning. This would have revealed that the combined revenues of the entire advertising industry and Hollywood taken together would have been insufficient to make the capital invested in the internet profitable. Web advertising and the putative delivery of streaming video were touted as the main money-making schemes for the internet. But since the internet could only hope to capture some fraction of the current advertising and entertainment industries' shares of the economy, taken as a whole the investments in the internet sector could not possibly be profitable. This judgment is easy in hindsight but was in fact made before the event by a researcher at Bell Labs.¹ But sound advice like this has never stopped a good bubble. Following some new technological advance thousands of promoters advance thousands of ‘exciting new products’. They raise capital and start spending it. This generates opportunities for their suppliers—firms like Cisco, Motorola, Lucent and BT in the last boom. The suppliers respond by seeing more exciting new opportunities and start investing themselves. The stock prices of all these companies soar, drawing in savings from across the world in a Gadarene rush towards the abyss. Such instabilities are not incidental, they are inherent to market economies.

Planned economies, by contrast, work with a predictive control mechanism. Starting from anticipated final demand the implications for intermediate products are worked out in advance before orders are placed. Our thesis is that with the use of modern computer networks this can be done so fast that it is effectively instantaneous. What this means is that a modernised planning system, far from being static, could adapt to trends in technology and consumer preferences faster and more smoothly than a market can.

Ljunggren is sceptical about the contribution mathematics and computation can make to socialist planning. To reinforce this doubt he makes reference to the use of computer models on the stock market. “The attempts made in for example the stock market to use advanced mathematical models to decide purchases and sales have, to

¹See “Content Is Not King” by Andrew Odlyzko, which may be found at http://www.firstmonday.dk/issues/issue6_2/odlyzko/

put it mildly, not been success stories. It worked for a while but, when something unexpected occurred, the computer programmes run amok and contributed to worsen the situation.” But he has chosen the wrong analogy. For one thing, it is a well known theorem of neoclassical economics that if asset markets are efficient, asset prices will be inherently unpredictable. Predicting the stock market is a mug’s game, but this does not mean that real economic variables of interest to planners (e.g. the demand for housing or for public transport, the supply of electricity) are inherently unpredictable. Secondly, the computer programs to which Ljunggren alludes, far from being attempts at planning, are attempts to “beat the market”, to sell high and buy low. This is necessarily a zero-sum game (you can sell high only if someone else buys high). If everyone uses the same computer program, and therefore gets a “sell” signal in response to a given piece of news, then naturally stock prices will go into free fall. The economic uses of computer models under capitalism that are relevant to planning are not in the stock market, rather they are just-in-time inventory control, management accounting systems, computer-aided design and the like—systems that seem to be highly successful.

3 Market socialism not a mode of production

Ljunggren is an advocate of market socialism. It is our contention that market socialism does not constitute a distinct mode of production with its own dynamical laws. Capitalism is a mode of production with a distinct surplus extraction mechanism and distinct laws of motion; so too is the socialist planned economy. Market socialism on the other hand is an ideological label applied to certain social formations dominated by the capitalist mode of production. It is questionable whether such social formations can ever be stable. Depending on political circumstances, they evolve more or less rapidly into conventional capitalist economies or socialist planned economies. Economies that have characterised themselves as market socialist are rare, but the USSR in the NEP period, Tito’s Yugoslavia and China both in the 1950s and then subsequent to Mao’s death, are probably the most important examples.

Market ‘socialist’ formations are characterised by a multiplicity of units of production that sustain themselves by selling commodities, and whose reproduction depends upon the purchase of commodity inputs. These commodity inputs comprise both means of production and labour power. For the units to survive their sales measured in money must exceed their purchases. They therefore partake of the circuit $M-C-M'$, the characteristic circuit of capital. The units themselves are juridical subjects, able to own and dispose of property, and able to enter into contracts. As such the units are capitals, just as any joint stock company is.

What distinguishes market socialist social formations from other capitalist economies is that the structure of share ownership is different. Market socialist social formations have a relatively higher proportions of shares owned by employees and by public institutions than is the capitalist norm. Whilst this modifies the class distribution of income somewhat, it does not alter the basic laws governing the economy. The potential for recession and unemployment characteristic of all capitalist economies remains. The social surplus still depends on the exploitation of labour power and the extraction of surplus value. The tendency towards capital concentration and capital polarisation remain.

Successful enterprises accumulate surpluses, others are forced to borrow from them, either to expand or to stave off bankruptcy. This polarisation means that one set of

enterprises take on the character of pseudo-rentiers profiting from interest, whilst in debtor enterprises the equity of the employees becomes increasingly diluted. In the process, income differentials between classes and regions are accentuated. These inter-regional differentials were evident in both China and Yugoslavia, and were a significant contributory to the disintegration of the latter.

Since no guaranteed right to work exists, and since market discipline implies the potential for bankruptcies, a reserve army of labour forms. This is very evident in contemporary China and was evident under the NEP in Russia, but was slightly obscured by emigration to Germany in the Yugoslav case. The existence of a reserve army of labour, along with the class divisions caused by the polarisation of enterprises, weakens the social position of the working class.

At the same time the professional managerial strata increasingly take on the characteristics of a capitalist class, seeking opportunities to privatise enterprises. In this they are aided by the growth of a class of small entrepreneurs who initially co-exist with the worker-owned enterprises but who grow in wealth and importance. Pressure grows for enterprises to issue tradeable shares. Once this happens, the transition towards a normal capitalist distribution of share ownership is rapid. This phase was reached in China and Yugoslavia by the end of the 1980s.

Politics is ultimately decisive. Where the state is controlled by socialists, it can intervene in the economy, restricting private trade, restricting the right of enterprises to dispose of their own surpluses, and moving towards a planned economy. If those in control are advocates of capital, the state will intervene to enlarge the field of operation of private enterprises, restrict worker's rights that are incompatible with the needs of the market and accelerate the transition to a full market economy.

4 Horizontal links between enterprises

The points above concerning the unstable and transitional status of market socialism seem fairly obvious. Why are so many socialists nonetheless drawn in this direction? People seem to think that a planned economy cannot be flexible and responsive, that it must be lumbering and regimented.

One of Ljunggren's main themes is the importance of horizontal links in a market system, or in other words customer-supplier relationships between enterprises. He argues that these links play a vital role in facilitating flexibility and innovation. They are not recognized in neoclassical economic theory, which represents enterprises as relating to each other only via anonymous markets; and they are not possible within a centrally planned economy (CPE). "The traditional CPE simply lacks space for direct horizontal relationships between enterprises. Every decision has to be handed up and down through the planning hierarchies" (p. ??) The "hierarchies" that Ljunggren has in mind are those of the Soviet system, e.g. industrial ministries and regional bodies. These hierarchies are inherently inimical to innovation and flexibility; they are also display great inertia so that if a new product is launched and turns out to be unsuccessful in satisfying consumers' wishes it is very difficult to cease production of the unwanted item.

We have two responses to this argument. First, we don't accept that the customer-supplier link is a major locus of innovation in capitalist economies, compared to the direct pursuit of innovation in new products and processes via investment in research and development. It is nonetheless an important locus of *optimization*, as firms negotiate and discover the precise specifications of the inputs that will serve them best.

Second, we believe there would be space for horizontal links in the sort of planned system we advocate. There should be nothing to stop enterprises that are linked via the plan from discussing the details of the product to be shipped from one enterprise to the other. Enterprises in a CPE would not have the right unilaterally to terminate such a relationship and seek a new supplier, but if an enterprise thinks it would be better served by a different input from a different supplier, it would be able to submit a plan variant calling for use of the alternative input.

Ljunggren reckons that horizontal links are impossible in a CPE because of the way that an enterprise in a CPE is inserted into a vertical hierarchy or hierarchies. As mentioned above, he has in mind the Soviet Ministry model. From our point of view, the Ministry model was in fact an index of the inability of Gosplan to plan the Soviet economy in detail. The Soviets were forced to plan in aggregated terms at “the top”, and the plan was filled out in successively greater detail by successively lower hierarchical levels, starting with the industrial ministries and ending with the enterprises. In previous writings we have expressed agreement with Alec Nove’s argument that this is bound to lead to incoherent results (see Nove, 1983; Cockshott and Cottrell, 1993). It also undoubtedly makes for a cumbersome system, as Ljunggren says. By contrast, we envisage a relatively “flat” system, in which the “centre” is able to plan in detail and Soviet-style layers of hierarchy between planners and enterprises are absent.

The inability of Gosplan to plan in detail stemmed in part from the relatively primitive systems for the gathering and processing of information in the Soviet system, and one of the main points in our book is the elaboration of the sort of information systems that would permit detailed planning.

5 Are our ideas new?

One of Ljunggren’s concerns is that our ideas relating to socialist planning are not really new: they are essentially what was tried, and failed, in the USSR in the 1970s. In our book we don’t spend a lot of time distinguishing ourselves from the Soviet model, but we have published a piece that deals specifically with this issue (Cockshott and Cottrell, 1993, also available as a PDF file on the Internet). In this section we set out some of the points from that article.

Soviet plans were not drawn up according to the schema outlined in our book. Working backwards from a target list of final outputs to the required list of gross outputs, consistently and in detail (as we advocate), was quite beyond the capacity of Gosplan. Often, instead, the planners started out from targets that were themselves set in gross terms: so many tons of steel by 1930, so many tons of coal by 1935, and so on. This early experience arguably had a deleterious effect on the economic mechanism in later years. It gave rise to a sort of ‘productionism’, in which the generation of huge outputs of key intermediate industrial products came to be seen as an end in itself. From an input–output point of view, one really wants to economise on intermediate goods so far as possible. The aim should be to produce the *minimum* amounts of coal, steel, cement, etc., consistent with the desired volume of final outputs.

Following the period of post-war reconstruction after World War II it became clear that the sort of planning system inherited from the early industrialization period was incapable of developing a dynamic, technologically progressive economy that would satisfy consumer demand. Certain priority sectors such as space exploration showed remarkable successes, but it seemed to be an inherent feature of the system that such successes could not be generalized; the converse of the priority given to the privileged

sectors was the relegation of the production of consumer goods to the role of residual claimant on resources. Over the course of the 1960s and 70s, repeated attempts at reform of one kind or another were basically a failure, leading to the notorious ‘stagnation’ (*zastoi*) of the later Brezhnev years.

Why did this happen? One factor is the state of Soviet computing and telecommunications facilities. We have argued that effective, detailed planning is possible using current Western computing technology, but there is no doubt that the technology available to Soviet planners in the 1970s was very primitive by comparison. Another weak link in the Soviet case was the notoriously backward telecommunications system. Goodman and McHenry (1986) draw attention to the slow speed and unreliability of the Soviet phone system, and the problems of finding links that were good enough for data transmission.

We do not, however, wish to over-emphasize technology. The economic information systems developed by Stafford Beer in Allende’s Chile (described in Beer, 1975) show what could be done with modest resources, given the political will and theoretical clarity on the objectives of the system. If the Soviets had been equally clear on what they hoped to achieve via the computerization of planning, then even if it were impossible at first to implement all that they hoped for, they would have been in a position to exploit new developments in computer and communications technology as they appeared. Other factors played a role in retarding Soviet planning.

Ideological resistance to new planning methods

It is well known that official Soviet adherence to ‘Marxist’ orthodoxy placed obstacles in the way of the adoption of rational planning methods. New approaches to planning were generally regarded with suspicion, even when they had nothing to do with the introduction of market relations. As regards the input–output method, Augustinovics (1975, p. 137) has pointed out the irony whereby this method “was accused of smuggling the evil of Communist planning into the free democratic economy and the evil of bourgeois ideology into the socialist economy.” Treml (1967, p. 104) suggests that the very idea of starting the planning process from final output targets was seen by the official guardians of orthodoxy as consumption-oriented and therefore somehow ‘bourgeois’. Kantorovich’s path-breaking work on linear programming was for long rejected.

It would appear that the worst of this sort of ideological rejection of theoretical innovation had been overcome by around 1960. But although input–output and linear programming eventually received some degree of official blessing, these techniques remained marginal to actual Soviet planning procedures. This was due in part to the problems with computer and communications technology mentioned above, which meant that input–output methods could not replace the much cruder ‘material balance’ calculations for the full range of goods covered by the latter method (which was itself only a relatively small subset of the complete list of goods produced).² But other factors were also involved.

The sharp division between ‘practical planning’ and research

There was a sharp divide between the routine activities of Gosplan and Gosnab (lacking an adequate theoretical basis, and driven by ad hoc political pressures from the

²For the limitations on the size of the input–output systems which the planners reckoned themselves able to deal with at various times, see Treml (1967), Ellman (1971), Yun (1988), Treml (1989).

Politburo) and the highly mathematical theorization of planning in the research institutes. This division has two sides to it. On the one hand the ‘practical planners’ seem to have been resistant to innovation even when their resistance was not rationalized in ideological terms. Kushnirsky (1982) notes that while work on input–output was done at two Gosplan research institutes—the Scientific Research Economic Institute and the Main Computer Centre—participation in this work by the actual Gosplan departments was ‘minimal’. One of the reasons he gives is that “the planners think that determining final demand components is even more difficult than determining gross output” (p. 118). Moving to a system of planning final outputs in the first instance would, as we have already noted, mark a substantial change from the traditional Soviet pattern, a change that Gosplan was apparently reluctant to make. As Kushnirsky notes, “since the demand for goods and services in the Soviet economy is substituted with ‘satisfied’ demand, which is derived from the level of output, planners believe they can determine production plans more precisely than they can components of final demand.” (*ibid.*).

Again, the introduction of the Automated Planning Calculations System (ASPR) in the late 1960s is seen by Kushnirsky as having little impact on the actual procedures of Gosplan. He points out that “the ASPR project [did] not create new problems for planners since their involvement [was] minimal” (p. 119), and goes on to explain that “there is not much room for changes in planning techniques through ASPR, even if its developers possessed the required skills. ASPR must follow the existing planning methodology, and elaborate only such alterations as are approved by Gosplan. Otherwise the suggested techniques could not be applied, and Gosplan would not pay for them” (p. 123). Summing up, he remarks that “Gosplan is not the place for experiments” (*ibid.*).

The second aspect of the division lies in the abstracted nature of much of the work done in the research institutes. The latter produced some good ideas for planning at the micro level (e.g. Kantorovich’s linear programming), but much of the work done on ‘optimal planning’ of the system as a whole was hopelessly abstract, in that it required a prior specification of some sort of ‘social welfare function’ or general measure of ‘social utility’.³ While making little headway on this task, the ‘optimal planning’ theorists contributed to the ‘cooling of interest’ in input–output methods described by Tretyakova and Birman (1976, p. 179): “Only those models and methods that would lead to optimal results were worthy of attention. Inasmuch as it became clear almost immediately that an optimal model could not be built on the basis of input–output, many simply lost interest in the latter.”

In this context it is interesting to note that S. Shatalin—author of the briefly celebrated but absurdly impractical ‘500 Days’ plan for the crash introduction of capitalism in the USSR in 1990—was in a previous incarnation the author of an equally impractical notion to optimise the plan. (See the account in Ellman, 1971, p. 11, where Shatalin is cited as discussing both input–output and ‘optimal planning’, and claiming that only the latter is ‘really scientific’.)

By contrast, our own proposals—although they certainly depend on sophisticated information systems—are relatively robust and straightforward. There is no attempt to define a criterion for social utility or optimality *a priori*; rather ‘social utility’ is revealed (a) via democratic choice on the broad allocation of resources to sectors, and (b) via the pattern of ratios of market-clearing prices to labour values for consumer

³Besides this sort of problem, Kushnirsky notes the poor quality of the studies of existing planning technology conducted in the research institutes in the context of the ASPR project. He found that the accounts produced in the institutes were not amenable to algorithmic presentation, and “it was difficult to ascertain the purpose of these materials” (1982, p. 124).

goods.

The idea that improved technique was a substitute for fundamental reform

A further reason for the failure of attempted reform of the Soviet planning system in the period from the 1960s to the early 1980s was the idea—apparently held at various times by the leadership of the CPSU—that the application of new mathematical or computational methods offered a ‘painless’ means to improve the functioning of the economy, a means that would not fundamentally disturb the existing system (as opposed, say, to the widespread introduction of market relations). In fact, advanced technical methods could yield real dividends only in the context of an overhaul of the economic system as a whole, involving among other things a re-examination and clarification of the goals and logic of planning, as well as reorganization of the systems for assessing and rewarding the performance of enterprises. Goodman and McHenry (1986, p. 332) make clear that the Automated Management Systems (ASUPs) introduced from the late 1960s were to a large extent rejected as an alien implant, whose purposes were at odds with the actual purposes of enterprises under the existing system. For example, the idealized ASUP goal of “optimal, minimal levels of inventory” conflicted directly with the traditional enterprise goal of amassing “as many supplies as possible”, and the ASUP goal, “realistically evaluate capacity”, ran counter to the enterprise objective, “understate capacity”. Clearly, it would have taken a bold and far-reaching reform of the system to make the goals of ASUP effective.

In the planning scheme we advocate, production is expanded for those products showing an above-average ratio of market-clearing price (expressed in labour tokens) to labour value and reduced for those products showing a below average ratio. Such a system rewards (with an increased allocation of labour and means of production) enterprises making particularly effective use of social labour; hence enterprises should have an incentive to employ methods which enable them to economise on labour input (both direct and indirect) per unit of output. Some such scheme would be required to break out of the traditional Soviet pattern whereby enterprises merely aimed at securing easily attainable plan output quotas, and had no interest in improving their own efficiency.

Failure to employ labour-time accounting

Our planning proposals give a key role to calculation in terms of labour time. That this idea was not adopted seriously in the USSR must, we think, reflect the economic interests of those with power and influence in that society. Its radically egalitarian implications would have been unwelcome to officials whose income differentials it would have threatened.

Having failed to adopt labour-time calculation, pressure from the working class for egalitarian measures was bought off by subsidies on essential goods. Subsidies were the bad conscience of socialist inequality. One of their consequences was to depress wages below the level of necessary labour time. Under capitalism, the fact that employers pay for only part of their employees’ labour, whereas they pay in full for all capital equipment, introduces a systematic bias against the introduction of labour-saving technology that varies inversely with the level of wages. Low wage rates encourage the squandering of labour with sweatshop technology. The effects in the USSR were similar. With labour-power cheap, it was rational for enterprises to hoard labour and pay little attention to staffing levels. The use of Marxian labour values for payment and eco-

conomic calculation would, by contrast, have introduced a strong pressure to economise on the use of labour. A plant that had to meet its output targets within a pre-given labour budget, according to which an hour of living or an hour of embodied labour were costed at par, would tend to be alert to the possibility of replacing labour with machinery.

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