
REFLECTIONS ON ECONOMIC DEMOCRACY

COCKSHOTT WPC@DCS.GLA.AC.UK
AND COTTRELL COTTRELL@WFU.EDU

Dept of Computing Science, University of Glasgow

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About a century ago, Lenin, pressing for the establishment of the Russian communist party, wrote that wrote that "without revolutionary theory there could be no revolutionary movement". We can generalise this to say that without economic theory no social group can constitute itself as a class in the political sense. One and a half centuries ago, on the foundation of the German communist party Marx wrote that "the immediate aim of the Communists is the same as that of all the other proletarian parties: formation of the proletariat into a class". The formation of the Russian and German workers into classes was linked to the propagation of the revolutionary interpretation of political economy in Marx's Kapital. The social democratic parties that grew to strength in the late 19th and early 20th centuries have Kapital as their bible. Every member did not, of course, read it, but through the mediation of party intellectuals, its outlook shaped the social-democratic press and the speeches of socialist politicians. Socialist educators like MacLean in Glasgow, taught Marxist economics to workers in Labour Colleges.

By the mid 20th century, things were looking grim for capitalism. Facing Stalinism's triumph in the USSR then Eastern Europe, and salami-slicer socialism in Western Europe, right wing economists like Hayek feared the very survival of liberal capitalism. In response their theoretical project aimed to do for capital what Marx had done for labour - to provide it with a coherent political economy adequate to the needs of the age. Where Marx's Kapital was, to paraphrase Bordiga, as much a manifesto for communism as a work of economics, Hayek's Road to Serfdom was a manifesto for counter-revolution. In the following half-century the ideas of neo-liberalism moved from the back shelves of libraries to dominate economic policy around the world.

They did this, because they both met a class need, and provided a plausible critique of an existing social order. They became hegemonic, in that they defined the terms of reference of debate.

Politicians like Thatcher openly adopted them, but they also exercised influence at one remove in the socialist movement. They created an intellectual climate in which left wing theorists lent a sympathetic ear to critiques of planned economy and advocacies of the market. Both in the West and the East, socialist economists like Burs, Kornai, Abeganyan and Nove started to advocate models of market socialism.

For a successful revolutionary movement you need both a guiding economic theory and a guiding political theory. The old communist movement had Marx's economics and Lenin's theory of the state and party, as its twin pillars. Neo-liberalism has free market theory and the idea representative government. In responding to neo-liberalism our aim must be to update Marxist economic ideas and Leninist ideas about the state. At the start of the 21st century we cannot be content with applying the labour theory of value to the analysis of capitalism, we have to apply it to socialism. Ninety years after Lenin's "State and Revolution" and a decades after the failure of the Cultural Revolution in China, we felt we have to re-write and radicalise Lenin's critique of representative government. We believe that one must combine three key ideas: the labour value, cybernetic co-ordination, and participatory democracy as an alternative to the liberal trinity of prices, markets and parliament. We have developed these themes in a number of publications (Cockshott and Cottrell 1989, 1992, 1993, Cockshott 1990).

Our emphasis on participatory democracy may owe something to the specific political circumstances of Scotland in the 1980s, when the country was treated almost as a colony by the Thatcher government. This led to a broad national democratic movement both of the working classes and the mass of the intelligentsia against Thatcherism and for self-determination. This movement was broadly 'socialist' and in favour of constitutional reform. It encompassed umbrella groups like the Scottish Socialists, to which we belonged as did Nove, and the more bourgeois democratic Scottish Constitutional Convention. We found ourselves working with the extreme left wing of this movement, believing that only direct participatory mass actions could

defend the people against the government. This left wing of the national movement was responsible for initiating the campaign of mass civil disobedience against the Poll Tax, which the English government had imposed on Scotland. We advocated that this tax on the right to vote be met by a refusal to pay. At the height of the campaign about half of the working class population of Glasgow were withholding their taxes, and mass pickets were defending working class homes against tax collectors. The book was written in the midst of this campaign. The mass movement was completely successful as opposition to the tax spread to England and led to Thatcher's demise.

Our publications on socialism so far leave lots of questions unanswered. The editors of a new Czech edition of TOWARDS A NEW SOCIALISM have asked us a number of these:

1. Does our perspective rest upon any particular assumptions about the dynamics of capitalism?
2. What is our view of the transition process between existing economic systems and a socialist economy?
3. What is our view of the failings of the Soviet model of socialism?
4. How do we answer the criticism that our advocacy of direct democracy is naive and would not allow a socialist state to survive any serious internal or external political pressure?
5. What is the relationship between our view of socialism and the transition to communism?

In addition others have asked us to justify why we make labour time calculations the basis of our proposals for a socialist economy. We attempt to answer some of these questions in this article.

1 INTELLECTUAL BACKGROUND - CONTRADICTIONS OF PRIVATE PROPERTY.

Although the conjuncture of the 1980s immediate condition of existence of our perspective, it had an intellectual history which went back a decade earlier. We drew intellectual influences from the French Althusserian and to some extent the Italian Bordiguist traditions. By the late 1970's

we were convinced that on the one hand further development of communist politics in Western Europe required advances in Marxist theory, and on the other, such theoretical advance could only occur in the context of questions posed by the needs of the political movement. In particular we were concerned with the programmatic questions posed by the transition to socialism in Western Europe and the nature of socialist economy.

One of our starting points had been the work of Bettelheim (Bettelheim 1971) on socialist economy, but we were unsatisfied with the positions he had arrived at. He seemed better at posing questions than providing answers. Despite the merits of his historical work on the USSR in the 20s and 30's he failed to develop a coherent economic theory of socialist society. For instance in his last English language publication (Bettelheim 2001), he wrote that the concept of a socialist mode of production was a theoretical innovation of Stalinism. This is partly right. But the idea of socialism as a transitional phase prior to communism is earlier, it is there in Lenin, it was not there in Marx. If this transitional period exists, the question inevitably arises as to what mode of production it has. But all that Bettelheim said on this is that it was an innovation of Stalinism, which by implication he disagrees with. What was missing was:

- a) His account of what the mode of production in the 'socialist' countries was, and what its laws of motion actually were.
- b) What he thinks the mode of production of communism and its laws of motion would be.

If he done this there would be some real theory with which one could come to grips, but it never seemed to come.

He wrote that 'capitalist ownership is not a juridical category, it is a social category that denotes the set of conditions of capitalist production.' This is fair enough but very ambiguous unless one specifies things in much more detail. In the absence of such detail it is hand waving not theory. He goes on to point out that the official Manual of Political economy speaks of socialist price and socialist wage. The official Soviet doctrine was that these were instruments or forms, which

had a new content in socialist economy. This Soviet theory can now be seen to be quite problematic, but rather than produce a real analysis of these issues Bettelheim just says that it 'leads to a rejection of the fundamental thesis of Marx that the forms of social relationship can not be separated from their nature.'

It is not clear that this is a fundamental thesis of Marx, it may be, but we cannot recall him making stating quite. What was missing here is any analysis of the system of reproduction in the USSR analogous to Marx's vol II of capital that would enable one to say whether these forms were or were not playing the same role as before.

Our contention would be that they were not, that in particular the value of the money wage was not the same as the necessary labour time. This was because a significant portion of the real consumption of the working class came in the form of goods that were distributed either free or at subsidised prices significantly below their labour values. Thus one of the key components of Marx's analysis of capitalism, the reproduction of labour power through wages, no longer fully held. In our analysis, this had significant effects on the development of the economy.

Bettelheim was dismissive of the idea that economic planning was a significant feature distinguishing the USSR from capitalist economies. He held that plan objectives were often not met and that 'planning exerts an effective but blind action on reproduction; and that it does not shield the process from the exigencies of capital accumulation and its inherent contradictions'¹. This is a statement of an attitude rather than any sort of argument. We need some account of how planning operated to bring about reproduction, and what are the 'exigencies of capital accumulation' and which of its 'inherent contradictions' planning failed to shield the USSR from. He does not elaborate on this, but let us look at some of the 'inherent contradictions':

1. CONTRADICTIONS DUE TO THE POSSIBILITY OF FORMATION OF MONEY AS A HOARD INTERRUPTING THE CIRCUIT 'M-C-M' AT THE M PHASE. This was the major contradiction

¹ {Bettelheim 2001.}

of the capitalist world economy after the 1929 crash, but there was no possibility of this contradiction operating in a planned economy, and the USSR was completely unaffected by the downturn in the world economy in the 30s, the period to which Bettelheim devoted his efforts. This was obviously a major ideological influence on the support for communism elsewhere in the world at the time.

2. CONTRADICTIONS DUE TO A RISE IN THE RATIO OF PAST TO PRESENT LABOUR IN PRODUCTION. In a capitalist economy this appears as a rising organic composition of capital and a falling rate of profit. A falling rate of profit is contradictory for capitalism if profit rates fall below prevailing interest rates and inhibit further accumulation (see sec. 2). Since the planners in the USSR were not inhibited from re-investing the surplus because of low rates of profitability this did not stop re-investment there the way it would in a capitalist economy. This became evident after the restoration of capitalism when huge parts of the economy shut down since their rate of return was too low for private capital to support.
3. CONTRADICTIONS DUE TO THE GROWTH OF UNPRODUCTIVE EXPENDITURES - ADVERTISING, FINANCIAL SERVICES - CONSUMING AN EVER GREATER SHARE OF THE SURPLUS PRODUCT. These contradictions did not operate in the USSR. A glance at the architecture of an average Soviet as opposed to a US city would have confirmed that the proportion of office workers was much lower in the former.

One is left wondering what are the exigencies and what are the contradictions?

We had a definite conception of what modes of production were and how transitions between them occurred. Some of these ideas are working in the background of TOWARDS A NEW SOCIALISM, laying the path along which the overt ideas are explained.

Our analysis was that the tendency of the development of capitalism has been towards the abolition of private property and thus towards communism. This development is manifested initially at the level of property relations where a sequence of property forms arises reflecting the increasing socialisation of the means of production: petty commodity producer, capitalist

enterprise, joint stock company, state capital, socialist property. At the same time as these developments in property forms take place, the accumulation of capital starts to meet internal limits. The working class population stabilises and becomes better able to defend its conditions of life. Capital meets barriers to accumulation associated with falling rates of profit. The establishment of universal suffrage allows the working class some leverage on politics. The combined effects of these developments leads to periodic re-structuring crises. These crises can either be resolved in a progressive or a reactionary manner. Crucial to the outcome is whether there is a working class movement with its own distinctive political economy and approach to economic transformation. Without a distinctive and progressive economic program, there is no possibility of resolving the restructuring crises in favour of the working-class. In the crises which arise, the transformation of property relations towards or away from communism is the key political question¹.

Our approach to analysing the problem of socialist property relations started out with a critique of empiricist readings of what property relations mean. An empiricist account holds that the essence of capitalist property relations is the private ownership of the means of production; the essence of the communist revolution is its abolition. This formulation has two theoretical effects: it removes the distinction between different forms of capitalist property (e.g. individual ownership, limited liability property, state property and cooperative forms of ownership) and their economic and political articulation; and it reduces the question of the construction of communism to a single act of 'abolition'. In contrast one needs to see the process of abolition of capitalism as something that goes through a sequence of property forms which in themselves tend to abolish private property.

To understand the transition from capitalism to communism it is not the invariant property relations of capitalism that one must understand, but the range of their variation under capitalism and in the transition to communism. Such an investigation is essential to an adequate comprehension of any current conjuncture, the elaboration of a communist programme, and hence the specification of the objectives of communist intervention.

In examining property relations, one does not start with property as it appears, with the legal expression of property relations. Instead one recognises property relations to be particular types of reproduction relations, and that in consequence, property relations must be understood in the context of the form of social reproduction to which they belong. Social continuity depends upon the ever-repeated production of the material goods needed for survival. Social unity arises from the interconnection and inter-dependence of the different aspects of social production. Thus, the starting point of any study of society must be its process of material reproduction, just as scientific biology makes its starting point the reproduction of the species. The material reproduction of a society must take place in an organised way, within the framework provided by one or more forms of social reproduction, what Marx termed a mode of production.

A mode of production needs a coherent structure of productive forces, the way in which the elements of the labour process are technically organised into an effective process of production. This organisation sets up definite technical relations between the various elements of the production process. Raw materials and other objects of labour require appropriate means of labour if they are to be worked up into finished products. Mainly the implements used determine the type of technical relations that make up the system of productive forces. These determine what resources are available as objects of labour; what types of physical operations the workers must carry out; and what types of co-operation and division of labour are possible. Most importantly, the system of productive forces determines the size and properties of the basic units of production; and, in doing so; it determines what forms of exploitation are compatible with the continuation of production.

Units of production are central to understanding property relations. Units of production are aggregations of workers and means of production within which certain organically linked labour processes take place. Within the unit of production the various different labour processes are directly connected, and stand in definite, technical relationships, the output of one process becoming the immediate input of another.

The material base of the unit of production is a grouping of means of labour serving to reproduce a determinate labour process. A unit of production exists only so long as the reproduction of an aggregate of labour processes is continued; the existence of the unit of production through time is nothing other than the existence of successive cycles of the same labour process using the same means of production[1].

We distinguish three functions, which property relations perform:

Level 1-property relations: act to ensure the reproduction of the units of production.

Level 2 property relations: act to ensure the extraction of surplus labour.

Level 3 property relations: act to govern the distribution of surplus labour.

Although these functions are analytically distinct it does not follow that a particular type of property relation will perform only one function.

At any given moment, changes to an existing concrete set of property relations are limited to those compatible with the continued material reproduction of society. It is only within in such a range of variation that effective political struggles can change property relations. Movements within this range are the resultant of two kinds of forces: the system of productive forces, particularly in its technological aspect; and the class struggle. Changes in the system of productive forces act to shift the limits or margins of the range of variation. For example, the development of large-scale machine industry is a precondition for either limited liability companies or state capitalism being the dominant form of capitalist ownership.

The range of variation of dominant forms changes over time, it now includes limited liability companies and state capitalism; but the productive forces exclude domination by sole proprietorship. The impossibility of a return to this form of dominance is attested to by the repeated defeats of the reactionary populist movements of the petty bourgeoisie since the development of machine industry. This points to the second force that enters into the transformation of property relations: the class struggle. Once a new system of productive forces and relations is established the variations within that field are determined by politics. Political

class struggle is always a struggle around and about state power, but state power is the means by which particular property relations may be changed or abolished. Changes in property relations are the strategic objectives of conscious class struggle. They give it strategic content. Without a concrete understanding of the range within which this struggle is waged, and the significance of the various possible transformations, no scientific practice of the class struggle is possible.

The immanent tendency of the capitalist mode of production is towards the abolition of all personal private property. First the direct producers are expropriated and reduced to the status of property less proletarians. Then the centralisation of capital and the formation of joint stock companies dissolve the personal property of the private capitalist. With the limited liability company ownership is separated from control: the capitalist as organiser and controller of the production process is reduced to a paid functionary, albeit well paid; the capitalist as owner is reduced to a functionless rentier. The personal ownership of the rentier, in its turn, becomes a juridical fiction, a pure level 3 relations concerned only with the distribution of surplus value and carrying with it no effective control over the means of production. Being functionally redundant to the operation of capitalism it can wither away. This withering away however, is not the same as abolition. The dominance of rentier's property is reduced to make way for new forms of capital, but shareholding persists because:

1. The development of technology, and the concentration of capital is an uneven process. Some areas concentrate more slowly: capitals arising for the first time in new areas of technology recapitulate the development of capital as a whole. Some capitals at earlier stages of development still continue to exist.
2. Share ownership remains the standard juridical form of capitalist property. In this capitalism shows conservatism, retaining the same juridical form with changed economic content. Companies remain constituted as objects of private property through the ownership of their shares, but the concrete personalities who constitute the subjects of this property relation change. Into the place of the rentiers there steps a handful of big financiers; and a still smaller group of impersonal financial institutions, banks, insurance

companies, investment trusts. The private shareholder is not abolished outright or expropriated, just progressively displaced.

The continuous depersonalisation of capital ownership does not undermine the capitalist character of production, it ushers in no new age of managerialism or technocracy, and it just proves the impersonal character of the laws governing the mode of production. Modern capitalism retrospectively proves Marx's thesis that the types of personalities who walk the economic stage, are personalities only as agents or personifications of objective functions laid down by the mode of production. Capitalism as a mode of production remains legally feasible without joint stock companies or sole owners. So in the abstract Bettelheim's claim that the USSR was capitalist is not ridiculous. But the crucial issue is whether the units of production reproduce themselves via commodity relations. For this to be the case, for the law of value to regulate, there must be the possibility of bankruptcy. A shift of ownership from private owners to the state undermines bankruptcy as a regulator - this was one of the key objections to socialism by the Austrians. Closing down a firm becomes a political decision, subject to political pressure by the workers not the automatic act of an autonomous economic domain.

As capitalism progresses an increasing part of the assets of firms consists of Intellectual Property: patents, copyrights, and trademarks. This rise in the importance of intellectual property is a consequence of technological changes. Information technologies, conceived in the broadest sense as those technologies that facilitate the copying and transmission of information, have been the most dynamic field of technical development in the last 40 years. Telecommunications, photocopying, faxing, software, the Internet, digital games, digital cinema have all vastly driven down the cost of copying and distributing information. As the distribution of information has got cheaper, an increasing portion of the population has been drawn into occupations that involve the production of information: writing software, making TV and video material, publishing. What all of these have in common is that whilst the labour required to produce the information in the first place may be considerable, millions of person hours for a blockbuster film, the labour required to replicate it becomes vanishingly small.

An analogous case exists with the pharmaceutical and biotechnology industries. Here the labour required to discover and test a drug can be large, but once the chemical formula and its usage are understood the incremental costs of mass-producing tablets can be low.

Let us call the information required to replicate these products embodied information. This embodied information has a value: the work required to produce that information in the first place. Under capitalist property relations the reproduction of firms engaged in these industries is only possible if they are given legally enforced monopoly rights that allow them to recover the costs of producing or discovering the embodied information. They do this by selling the product well above its value. This is an inherently unstable situation. Capitalist juridical property relations here come into sharp conflict with the potential of the forces of production. The enforcement of the property relations becomes problematic.

This is seen in more and more areas. The explosion of file copying over the Internet allows people to evade the monopolies of the film and recording industries. The producers of cheap generic drugs potentially allow AIDS patients access to life saving drugs that the pharmaceutical monopolies would deny them. In most cities there are shops selling nothing but bootleg software disks. Attempts by big media firms to encrypt pay-TV stations and recording formats are almost immediately broken by black-market hacking devices. The basic problem for capitalism now is that the evolution of technology militates against private property. In the past property inhered ultimately in physical objects whose ownership is much easier to police than an ownership of information. Yet unless private ownership of information can be enforced, it brings no revenue and its production is unprofitable.

At the same time we see nascent communist forms of anti-property brought into existence by the same revolution in technology - the open-source movement and the copy-left movement. Much of the Internet now runs on open-source software, the Linux operating system, the Apache web servers etc. This software, written not for profit, but for the simple satisfaction of producing a useful product, prefigures a future in which productive social labour becomes an end in itself.

These are harbingers showing that private property has become a constraint on the development

of technology. Within a continental scale socialist economy, the overhead costs of producing information, whether it be videos, software or new pharmaceuticals could be met out of general taxation allowing the information itself to be disseminated free of charge.

2 CONTRADICTIONS IN THE ACCUMULATION PROCESS

In addition to the changes in property relations discussed above there are long-term structural developments, which encourage the progressive incursion of socialist elements within the capitalist system.

Capitalism is built around the accumulation of property values. The aim of all firms is to increase the value of their capital stock, and increase the value of their turnover. But there are inherent limits to this process, limits that mean that any long-term period of capitalist growth ends in stagnation and recessions. There is a huge Marxist literature on this, which we cannot go into here, but some of the key concepts are relatively simple to understand.

Suppose we have a 'typical' firm in a developing capitalist economy. Let us suppose that the firm makes a 10% profit on turnover. Suppose the owner consumes half of the profit and the other half retained for internal investment. Then ideally the firm should be able to grow at 5% a year. In a rapidly developing capitalist economy like China, this is what happens. The capitalist sector of the economy can show sustained growth rates of this order for a few decades. As the typical firm grows, it takes on more staff, buys additional stocks of raw materials and purchases larger premises. Let us suppose that the number of workers it employs grows in line with its turnover at 5%. Now if something grows at 5% a year, it doubles in size roughly every 14 years. Suppose that in 1990 there were 200 million people employed in such Chinese firms. By 2004 it would have grown to 400 million. Clearly even in the most populous country in the world this kind of growth rate could not continue much longer. Such rapid growth in employment depends upon the existence of a surplus population drawn in from agriculture. Historically peasant populations have had a relatively high birth rate, necessary for survival in the face of severe infant mortality. The first phases of modernisation have typically been accompanied by public health measures that reduced infant mortality, inoculation campaigns, measures to restrict insect pests, provision of clean water supplies. This has, across the world as a whole, created an enormous surplus population that can potentially be drawn into capitalist employment.

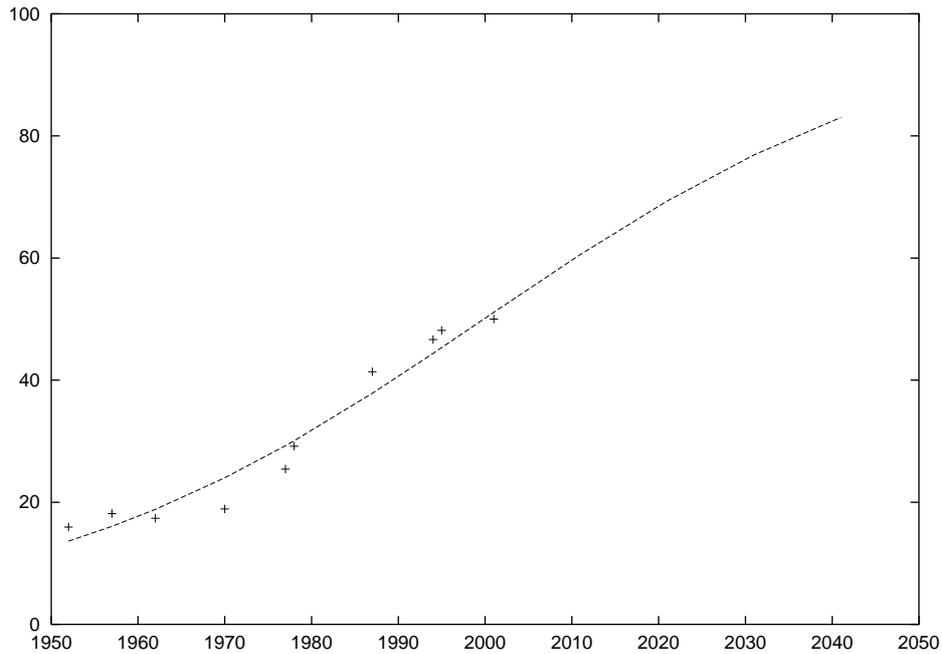


Figure 1: Growth of the non-agricultural percentage of the Chinese working population. Figures after 2001 are projections using a logistic curve. Original data from: http://www.eco.rug.nl/maddison/china_book/chap_3_tables/table3.17.pdf.

As people move into cities and become wageworkers instead of peasants there are changes in the family structure. The family is no longer a unit of production for whom children are additional labour. Industrial society demands that children go to school and be financially supported by their parents. After a generation or so, working-class families end up being smaller, the population growth slows down and migration to the cities becomes less significant. Figure 1 shows how this process is developing in China where the historical shift has been accelerated by the one-child family policy, but if we look at earlier capitalist countries we can see the effects of this demographic transition.

In Britain the migration from country to town was effectively complete 100 years ago. As the proletarian population became more stable and hereditary, trades union organisation spread, strikes disputes became more common. It became harder for employers to expand their

workforce at the old level of wages. The rising cost of labour and the limitations on new employment forces investment to be more capital intensive. Capital accumulation shifts from an extensive to an intensive mode. The capital to labour ratio rose [9].

Suppose that we move our typical firm back a century to England in 1904. On an annual turnover of £100,000 the boss paid out wages of £20,000, paid £60,000 for raw materials and depreciation on his factory, and was left with a profit of £20,000. That gave him a rate of profit of 20% on his turnover and 25% on capital advanced. Being unable to hire more workers he decides that he will invest £10,000 a year in new machinery and buildings. By 1912 he had a capital of £160,000, and much more modern plant, but what had happened to his profitability?

He was still likely to only be earning £20,000. Why?

Because THE PROFIT THAT A FIRM MAKES TENDS TO DEPEND NOT ON THE CAPITAL THAT THEY EMPLOY BUT ON THE NUMBER OF WORKERS THEY EMPLOY. The value added in production comes from employing people not machines. This value added is then divided between wages and profits. The share of value added going as profits fluctuates a bit between firms and from year to year, but the mean share of profits tends to be roughly 50% of value added (see [11]). In consequence as the capital to labour ratio rises firms tend to earn lower percentage profits on their capital. Our capitalist would still have an annual value added of roughly £40,000 split £20,000 profit and £20,000 in wages. Of course he might be lucky and sell his goods at a somewhat higher price, or be able to defeat a strike and pay lower wages. But he might be unlucky and be forced to sell cheap or loose the strike, but if we take a representative firm, these possibilities tend to cancel out.

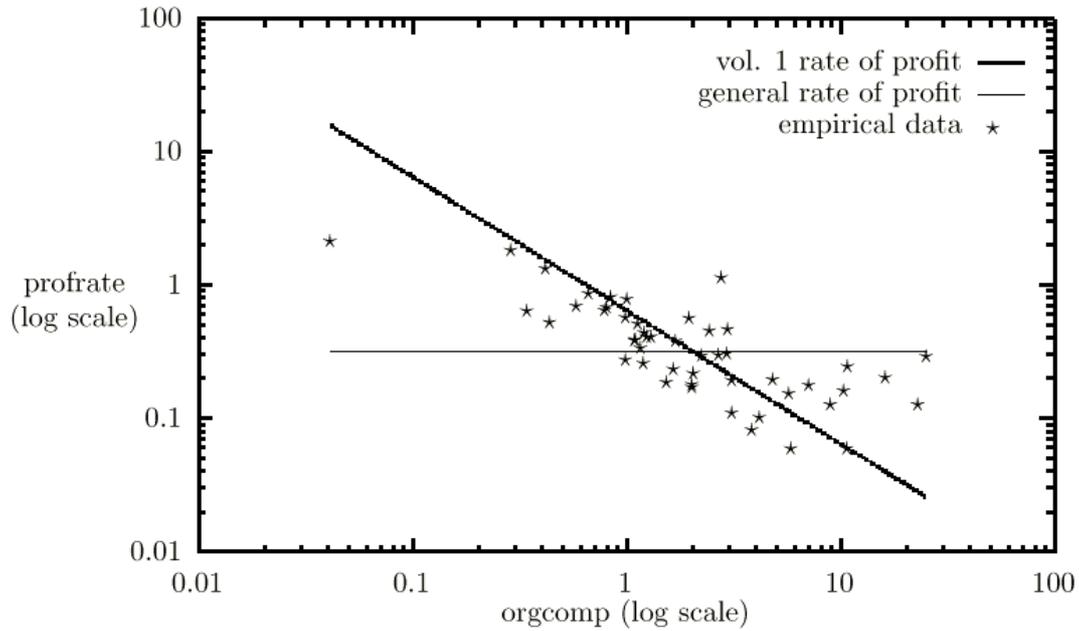


Figure 2: How the rate of profit of 47 United States industries depended on the capital labour ratio (orgcomp) in the year 1987. The broad line is the rate of profit we would expect if industries profits depended only on the labour they employed. The thin horizontal line is what we would expect if all industries earned the same rate of profit on their capital. It is quite clear that the rate of profit is lower for firms with a lower capital to labour ratio. Source [8].

This can clearly be seen by looking at Figure 2. This shows how United States industries with high capital to labour ratio earn low rates of profit. Similar data is available for the UK. This illustrates what Marx termed the law of the falling tendency of the rate of profit. As intensive capital accumulation leads to higher capital labour ratios the rate of profit tends to decline. This holds both across time and across industries. The more capital-intensive industries are less profitable, and, as more and more industries become capital intensive the expected profit rate of a 'typical' firm tends to decline over time (see Figure 3 and Table 1). The decline in the rate of profit with organic composition is an early indicator the incompatibility of private property with the long-term development of technology. It is a reason why 20th century capitalism was so poor at developing highly capital-intensive industries like railways. Their chronic low profitability forced many capitalist states to take these into public ownership. The attempts by British Tory governments in the 80s and 90s to reverse this trend: the privately built channel tunnel and the privatisation of the rail network bear this out. The channel tunnel company repeatedly ran into

insolvency and the project only survived after the original shareholders had lost most of their investment, and public subsidies were provided to complete the project. In the case of the railway industry as a whole in Britain, it is only viable in private hands through the provision of massively increased public subsidies. Without this, the rate of return on the vast sums of capital involved would be too low to attract private capital.

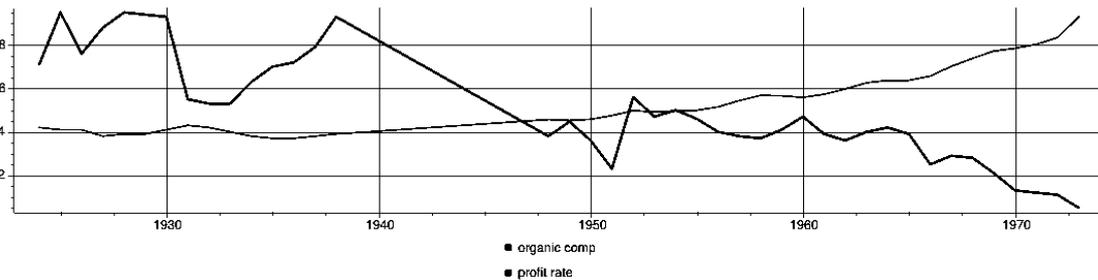


Figure 3: Time series plot of the evolution of the capital labour ratio (bold) and the rate of profit (feint) for UK industry as a whole for 50 years, from [2].

The basis of the law of the declining rate of profit was famously questioned by Okishio (1961). This objection is within the context of arguing about whether a rising organic composition of capital will occur for reasons of technical economy under conditions of profit rate equalisation. We reject the assumption of profit rate equalisation as being directly applicable to real capitalist economies (Cockshott and Cottrell, 2003) and also reject the notion that the mean rate of profit is available as a benchmark to firms making investment decisions. Instead we see the rate of interest playing this role, and argue for falling profit rates purely on the basis of the dynamics of accumulation compared to the dynamics of population growth. We assume that if interest rates are lower than the rate of profit of a significant fraction of capitals, accumulation will continue. The trend terminates when interest rates have to be held close to zero to sustain the economy as in contemporary Japan.

The temporal decline in the rate of profit only occurs during sustained periods of capital accumulation, but at the same time acts as a limiting factor upon the ability of capitalism to sustain accumulation. If accumulation is sustained the rate of profit declines tending to precipitate a long-term recession. This imposes on capitalist social development a long-term cycle

of crisis and prosperity. Periods of economic crisis such as the 20s-30s or the 70s-80s interrupt the continued accumulation of capital and precipitate political and class struggles over the restructuring of the economy. Depending on politics these crises can be resolved in a progressive or reactionary way. Examples of progressive restructurings were the New Deal in the US during the 30s, or the post-war reconstruction of the main Western European economies. Examples of reactionary restructurings would be European Imperialism in the 1890's, National Socialism in Germany in the 30s or Thatcherism in the UK.

Table 1: Rising organic composition of Capital, Swedish data. Figures for Manufacturing and Mining. Source Edvinson 2003, table 7.5.

	1871-1900 average	1971-2000 average	%change
$[c/(s+v)]$	184%	305%	66
$[(s+v)/c]$	54%	33%	-40
$[s/(s+v)]$	34%	21%	-38
$[s/c]$	19%	7%	-61

A progressive re-structuring tends to amend the property relations in against the rentier interest. Reactionary restructurings move things the other way. For instance the neo-liberal policies of the 80s tried to solve the problem of low profit rates by:

1. Raising the share of the population subject to capitalist relations of production by privatising state services. This allowed a period of extensive capital accumulation into activities with a relatively low capital labour ratio.
2. Generally weakening trades unions to hold down wages.
3. Allowing whole capital-intensive industries to close.
4. Changing international trade rules to allow greater international capital mobility.
5. Setting the overthrow of socialism in the East as a major political objective.

The first three of these options are relatively short term in their effects - being effective for perhaps a couple of decades at the most. Points 4 and 5 however, give a longer span to reaction. They effectively opened up a huge scope of extensive capital accumulation, drawing whole new

continental populations under the exploitation of capital. With the globalisation of capitalism the previous national historic processes of capitalist development can no longer constrain accumulation. It does not matter so much to the British or American rulers if their domestic populations are growing slowly if there is an elastic supply of labour in China, India, and Romania etc.

The great political strength of reaction today is based on the fact that whilst in the metropolises capitalism has outlived its progressive historical role, this is not true on a world scale. Unless new socialist revolutions again take continental economies out of the capitalist world system, extensive capital accumulation can continue for a few more decades. But eventually the law of the rising organic composition of capital will impose itself as a world historical constraint. This will occur unevenly. The areas of Eastern Europe now being incorporated into the EU will be affected long before India, for example, since they are already relatively urbanised and industrialised. But even in China one can see from Figure 1, that the point at which capitalist maturity will arrive is only a few decades into the 21st century. It is thus inevitable that a new restructuring crisis will occur. But this time it will occur in without the option of capital export. The objective necessity of the abolition of private property will re-present itself.

3 ECONOMIC TRANSITION TO SOCIALISM

A capitalist mode of production would be perfectly possible without any personal ownership of capital. In principle one could have an economy in which all production was carried on by impersonal enterprises that were not themselves owned by anybody. Companies do not in principle need to be owned by any individual to function efficiently, as juridical forms for the accumulation of capital. As we have seen, in the course of capitalist development the objective functions of the individual capitalist are reduced almost to vanishing point. The residual functions of the stock market, as a means for the channelling of capital into new companies in recently established branches of industry, are being progressively replaced by the banks and the big monopolies who can set up directly owned subsidiaries. The accomplishment of such a result

might seem the logical outcome of the present tendencies of capitalist development. For as Marx said:

Success and failure both lead here to a centralisation of capital, and thus to expropriation on the most enormous scale. Expropriation extends here from the direct producers to the small and medium sized capitalists themselves. It is the point of departure for the capitalist mode of production; its accomplishment is the goal of this production. In the last instance it aims at the expropriation of the means of production from all individuals. ([18], p 439)

But as we have argued above this potentiality of capitalism can never in practice be realised under the rule of a bourgeois state power. Its realisation would in the final instance involve a political expropriation of the bourgeoisie as owners of the means of production; it need not of course abolish the bourgeoisie as controllers of the means of production, since the class of managers might persist. The economic process itself can never complete the process of expropriation that it initiates. ``However, this expropriation appears within the capitalist system in a contradictory form, as appropriation of social property by a few; and credit lends the latter more and more the aspect of pure adventurers." ([18], p 440)

Furthermore. Capitalism without a property owning bourgeoisie, would require substantial changes in the juridical categories of capitalism. As we have said earlier, these involve two types of legal personalities; private individuals, and enterprises. Private individuals, citizens, etc, are subjects of property and only subjects of property, they may own but not be owned. Enterprises are both subjects and objects of property, they can both own and be owned. A capitalism without a property owning bourgeoisie would need not two but three categories of legal personalities or subjects.

1. Private individuals: they would remain subjects of certain political rights of citizenship etc, but would no longer remain subjects of property rights in the full sense, since they would no longer retain the right to own the means of production.
2. Enterprises of the classical capitalist type: these remain both subjects and objects of property. As we have already pointed out capitalism for its extended reproduction

demands the existence of objects as well as subjects of property; it needs some level 3 relations.

3. A set of ultimate owners: the members of this set would have to have the following properties: they would be impersonal in the sense that they would not be individuals, so that they (in practice obviously their agents) would not be subject to the same political rights as individuals; they would be subjects but not objects of property rights, they would own but could not be owned.

From these three categories, it can be seen that what is required is that the rights that up to now have inhered in private individuals are now split between them and the set or class (in the logical sense) of ultimate owners. The individuals on the other hand, having lost their rights of private property are in the process of ceasing to be private individuals, and in the process of becoming once more social producers, members of a community. As such, an economy of this sort, though still capitalist in the sense that commodities, money, and enterprises employing wage labour still exist, constitutes a further phase in the dissolution of the capitalist mode of production and its transformation into an economy of associated communal producers.

The most obvious gaps in TOWARDS A NEW SOCIALISM deal with the actual process of transition from capitalist to socialist economy, the transition from an economy regulated by the exchange of commodities for money, and the extraction of surplus as surplus value to one regulated in-natura by the plan, and with a plan-governed extraction of the surplus product. Broadly speaking we see this as happening through the intermediary forms of co-operatives and state owned capitalist enterprises in a three-stage process.

A first stage of transition involves moving from a system of shareholder capitalism to a combination of state-capitalism and worker owned enterprises. A second phase involves a transition to a fully planned economy.

What has to be ensured here is the continuity of material production whilst the property relations change. Since it is commonplace for enterprises to change ownership in a capitalist economy the

mere change in ownership need not directly threaten the continuity of production. There is plenty of history of orderly transitions of enterprises from private to state ownership and back. All that is required for a smooth transition at the level of commodity production is for the staff of the enterprises to remain at work, and for a clear line of state guaranteed credit be provided to pay commercial bills falling due for the supply of raw materials. Having done this the now state owned enterprise can continue in business. A recent example of this was the effective re-nationalisation of the railway network in the UK, where almost overnight and without any special legislation the government had the private company running the railways declared insolvent, and its assets passed to a new 'not for profit' company. In the process, the shareholders found, like the shareholders in any liquidated company, that they were entitled to only a fraction of what they thought they had owned. This was a special case however, since the enterprise being taken over was almost insolvent and dependent on government orders.

Turning to the formation of worker's co-operatives, it would be relatively easy to legislate that the board of limited companies was to be elected either entirely by employees or say 75% by employees. In such circumstances the enterprises remain liquid, retain their assets, but change their board of management.

In the formation both of 'not for profit companies' and employee managed companies, the losers are the original shareholders. In the case of the enactment of a law allowing the formation of worker managed companies the issue is fudged somewhat. The rights of shareholders are restricted without being completely abolished. But it is clear that a board elected by the employees would be likely to pay lower dividends than one elected by shareholders. The inevitable consequence would be a drastic fall in the price of the shares of the companies.

Where the state directly takes companies into its ownership the question of compensation for shareholders inevitably arises. It was the practice of Labour governments in the UK to fund the nationalisation of companies by issuing government bonds to former shareholders. The net cost to the exchequer both on the revenue and capital account can be negligible. On the capital account the increase in state liabilities is offset by the shares acquired, whilst on the revenue side,

the obligation to pay interest on the bonds can be offset against the expected profits of the new state-owned firms. One can envisage an analogous provision in legislation creating worker owned enterprises whereby in compensation for loss of voting rights equity shares were converted to debentures.

Measures like this would enable the transition from rentier owned capitalism to state and employee owned capitalism to be relatively smooth, but would have the disadvantage in the medium term of burdening both the worker owned and state owned firms with annual interest payments to the rentier class. It is clear that very substantial differences in income and wealth would persist in such a scenario.

During the period in which these transitional forms dominate the economy, some alternative would be needed for the limited real role that the stock market continues to play as a source of new investment funds. The obvious recourse here would be an expansion of the role of the banks, perhaps particularly the state bank, as a source of investment funding.

After this phase of transition the economy would still be capitalist, but the ownership role of individual capitalists would be greatly reduced. The most serious economic disruption would have been to the financial sector where the profitability of stock broking and investment banking firms would drastically decline. But this decline would be manageable, being no worse than the structural changes to many heavy industries that occurred during the last 20 years.

A second phase of transition involves the development of the capacity for detailed planning - setting up of the administrative system, establishment of the democratic control mechanisms and construction of the computer networks and software that would be required to carry out the sort of planning we discuss in the book. Initially these plans would be indicative, becoming mandatory as the system bedded down.

A third phase involves the actual abolition of monetary exchanges and the movement to payment in labour tokens. At this point the class interests of the residual rentier class and the mass of the

employed population come into sharp conflict. The installation of a system of payment by labour tokens is incompatible with paying interest, as the money in which the interest payments were made will cease to be legal tender. By this point, the essentially parasitic nature of the rentier class will be generally evident, since they would have lost any remaining productive function. The major complication that arises here is the extent to which the pensions system of a country depends upon financial assets - stocks and shares. If a large part of the population are dependent upon pensions schemes whose assets might suddenly become worthless, then the political opposition to a movement to labour tokens would be serious. However, pension schemes based on the stock market are encountering serious liquidity problems anyway. It should be possible to make a transfer to a non-stock market based public pension scheme attractive provided that prospective pensioners can transfer pro-rata. Were this done prior to the transition to labour tokens, then the prospective losers would be limited to the capitalist class properly speaking.

The political appeal of the final abolition of money among the bulk of the population would have to be based on two prospects: the fact that it would simultaneously abolish all debts. Since a very large part of the population are net debtors - whether on credit cards, or on house mortgages, this would create a strong constituency of gainers to outvote the minority who would loose under the scheme. Secondly that transition to an egalitarian payment system would, for the majority of the population, represent a significant improvement in their income.

4 HISTORICAL FAILINGS

The collapse of previously existing socialism was due to identifiable causes embedded in its economic mechanism, but which are not inherent in all possible socialisms.

We will examine some of the well-known contradictions within the economics of previously existing socialism.

In the latter period of the USSR the mechanism for the extraction of a surplus product progressively collapsed resulting in inadequate investment. Marxist economics views the method of extracting a surplus product as being the distinguishing feature of a mode of production.

The specific economic form, in which unpaid surplus labour is pumped out of the direct producers determines the relationship of rulers and ruled, as it grows directly out of production itself and, in turn, reacts upon it as a determining element. Upon this, however, is founded the entire formation of the economic community which grows up out of the production relations themselves, thereby simultaneously its specific political form. It is always the direct relationship of the owners of the conditions of production to the direct producers - a relation naturally corresponding to a definite stage in the development of the methods of labour and thereby its social productivity, - which reveals the innermost secret, the hidden basis of the entire social structure, and with it the political form of the relation of sovereignty and dependence, in short, the corresponding specific form of state. SEE MARX 1972,P 791

In a socialist economy the extraction of a surplus product takes place by means of **a politically determined division of the material product between consumer goods and other products in the state plan**. This is socialism's "innermost secret, the hidden basis of the entire social structure".

Its system of extracting a surplus is quite different from under capitalism in the following respects:

- The division of the product is determined directly in material terms rather than indirectly as a result of exchange relations.
- The division is determined centrally rather than through numerous local bargains over the price of labour power, hours worked etc.
- The actual level of money wages is irrelevant because the supplies of consumer goods are predetermined in the plan. Higher money wages do not necessarily result in increased real wages. Besides which a large part of the real wage is in the form of free or subsidised goods.

This form of extraction rises out of the highly integrated and socialised character of production under socialism. From it is developed the absolute necessity of individual factories being subordinated to the centre, and the comparative irrelevance of their individual profitability.

Following on it determines the centralised character of the state and the impossibility of local

authorities having an autonomous disposition over resources. All these are invariant characteristics of socialism.

This innermost secret determines the relationship of rulers and ruled as follows; consider two possibilities, either the rulers and the ruled are distinct groups, or they are one and the same.

If, as in hitherto existing socialism, they are distinct, then whoever controls the planning authority is both the effective owner of the means of production, and a ruler. These rulers (in practice have the central committee of the communist party), though often venal, cannot fulfil their social function by the shameless bourgeois pursuit of self-interest. They are compelled instead, to take on the highly social and public role, of so organising the political and ideological life of the society, as to ensure compliance with the plan. One of the most effective ways of doing this is through the cult of a charismatic leader, backed to a greater or lesser extent by state terror.

Personality cults, in which the leader is presented as the General Will incarnate, are no accident, but an efficient adaptation to the contradictory demands of a socialist mode of production (which dictates the dominance of political over civil society), combined with institutions of representative government.

Some readers may protest at this point: it is bad enough that we unblushingly characterize the Leninist system as socialist, but how can we say that it had a representative government?

Representative government selects certain humans, commonly called politicians, to stand in for, or represent, others in the process of political decision-making. This is just what the Leninist party does in power. It acts as a representative of the working class and takes political decisions on its behalf. As such it is no less representative a form of government than parliamentary government, there are differences over who is represented and how they are represented, but the representative principle remains the same: decisions are not taken by those affected but are monopolized by a group of professional rulers, whose edicts are legitimated in terms of some

representative function. Selection of such rulers by multiple party elections cannot diminish their representative character nor abolish the distinction between rulers and ruled.

The contradictory character of socialist representative government is banally evident. The representatives of the proletariat, through their control of the plan, and thus the method by which unpaid surplus labour is pumped out of the direct producers, become effective controllers, PRO TEM, of the means of production. As such their individual class position is transformed and their ability to go on representing the proletariat, compromised.

Only if the distinction between ruler and ruled is abolished, when the masses themselves decide all major questions through institutions of participatory democracy does the totalitarian inner secret at the heart of socialism cease to be contradictory. Only when the masses in referenda decide the disposition of their collective social labour: how much is to go on defence, how much on health, how much on consumer goods etc, can the political life of socialism cease to be a fraud.

But to return to the question of surplus extraction. Under socialism this is an inherently totalitarian process, a subordination of the parts to the whole, the factory to the plan, the individual to the collective. Production is not for private gain but for the totality of society. Under a system of participatory democracy, this totalitarian conformism might take on a Swiss democratic rather than German fascist air, but it would be no less real.

Gorbachov undermined the whole surplus extraction process by attacking the totalitarian principle. One of his first measures was to allow factories to retain the greater part of their profit. At a stroke, he introduced an antagonistic bourgeois principle of surplus extraction: the pursuit of profit by individual enterprises. He threw the whole system into chaos. 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 "night watchman" 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.

After Gorbachov had undermined the tax base, the state, deprived of its main form of revenue, resorted to the printing press. The result was hyperinflation.

The factories had extra money, but, since the division of the social product was still determined by the plan, could not act as private firms would and convert this new money into productive capital. The socialist system of surplus extraction was sabotaged without a bourgeois one to replace it, and the economy spiralled into an inflationary decline.

Previously existing socialism was limited by a deficient system of economic calculation. All right wing critics make this point. They point out, with justification, that the price system operating in the USSR made rational economic calculation impossible. Numerous anecdotes tell of this:

Here is one of many examples. Some time ago it was decided to adjust the prices of cotton and grain in the interests of cotton growing, to establish more accurate prices for grain sold to the cotton growers, and to raise the prices of cotton delivered to the state. Our business executives and planners submitted a proposal on this score which could not but astound members of the Central Committee, since it suggested fixing the price of a ton of grain at practically the same level as a ton of cotton, and, moreover, the price of a ton of grain was taken as equivalent to that of a ton of baked bread. In reply to the remarks of the members of the Central Committee that the price of a ton of bread must be much higher than that of a ton of grain, because of the additional expense of milling and baking, and that cotton was generally much dearer than grain was also borne out by their prices in the world market, the authors of the proposal could find nothing coherent to say.

So wrote Stalin in April 1952 [Stalin 1952], but some 40 years later, pricing policy had improved so little that Gorbachov could cite the example of pigs being fed bread by collective farmers, because the price of bread was lower than that of grain.

When the relative price of things differs systematically from their relative costs of production, it becomes impossible for people to choose cost effective methods of production. This produces a general decline in economic efficiency.

Unlike capitalism, previously existing socialism lacked an inbuilt mechanism to economise on the use of labour, and thus to raise its productivity.

The fundamental economic justification of any new production technology has to be its ability to produce things with less effort than before. Only by the constant application of such inventions throughout the economy can we gain more free time to devote either to leisure or to the satisfaction of new and more sophisticated tastes. This implies that in socialist production

workers must seek always to economise on time. Time is, as Adam Smith said, our original currency by which we purchase from nature all our wants and necessities, a moment of it needlessly squandered is lost for ever. A socialist system will only be historically superior to capitalism if it proves better at husbanding time.

The wealth of capitalist societies is of course unevenly divided, but its inbuilt tendency to advance the productivity of labour underpins the continuing progressive role of capitalist economic relations. Had capitalism lost this potential, as some Marxists believed in the 1930's then it would long ago have lost out in competition with the Soviet block.

In a capitalist economy, manufacturers are driven by the desire for profit to try to minimise costs. These costs include wages. Firms often introduce new technology in order to cut the workforce and reduce labour costs. It is a very naive form of socialism that criticises technical change under the pretext that it causes unemployment. The real criticism that can be levied at capitalist economies in this regard is that they are too slow to adopt labour saving devices because labour is artificially cheap.

But in this respect the USSR was even worse.

The USSR subsidised food, rent, children's clothes and other necessities. The subsidy on basic goods compensated for low money wages. But subsidies, and social services had to be paid for out of the profits of nationalised industries (which formerly met most of the Soviet budget). For these to make a profit, wages had to be kept low, and low wages meant that the subsidies had to be retained!

The worst aspect of all this was that enterprises were encouraged by the cheapness of labour to be profligate with it. Why introduce modern automated machinery if labour was so cheap?

Our argument is that the Soviets, for reasons both ideological and technical, did not come close to building the sort of systems we have identified as essential. Of course the Soviet planning system was quite effective at first. The Soviets were able to build a heavy industrial base, and in particular an armaments industry capable of defeating the Nazi war machine, in a much shorter

time than any capitalist economy, albeit at a very high cost. At that stage of development, crude planning methods were adequate: the economy was, of course, much less technologically complex than at present, and the plans specified relatively few key targets. Even so, there are many tales of gross mismatches between supply and demand during the period of the early 5-year plans; a huge expansion of the inputs of labour and materials meant that the key targets could be met despite such imbalances.

It should be noted that the early Soviet plans were not drawn up according to the schema described in the book. Working backwards from a target list of final outputs to the required list of gross outputs, consistently and in detail, 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 bumper outputs of key intermediate industrial products came to be seen as an end in itself.² In fact, 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.

At any rate, it became increasingly evident after the period of post-war reconstruction 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; indeed, 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 this outcome? In the light of the arguments given above, one point that suggests itself immediately is the state of Soviet computing and telecommunications facilities at the time. That is, while we have argued that effective, detailed planning is possible using current Western computing technology, the technology available to Soviet planners in the 1970s was very primitive by comparison. This point is important, and we shall return to it, but it is only part of the story, and some other considerations deserve emphasis.

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 those that had nothing to do with the introduction of market relations. As regards the input-output method, Augustinovic (1975: 137) has pointed out the double 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: 104) also 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'. Similarly, 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 1959. Tretyakova and Birman (1976: 161) cite 1959 as the year by which input-output had become officially respectable; this was also the year in which Kantorovich's *Best Utilization of Economic Resources*, written in 1943, was finally published. Nonetheless, even after Kantorovich was awarded the Lenin prize in 1965 (along with Nemchinov and Novozhilov) his ideas still attracted uninformed criticism from the orthodox.³ And 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 computational problems alluded to 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 (which was itself only a relatively small subset of the complete list of goods produced).⁴ Some other reasons are noted below.

We refer here to the bifurcation between the routine activities of Gosplan and Gosstab (lacking an adequate theoretical basis, and driven by ad hoc political pressures from the Politburo) and the hypertrophy of high-mathematical theorization of planning in the research institutes. This disjunction 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 for this 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, Kushnirsky sees the introduction of the Automated Planning Calculations System (ASPR) in the late 1960s 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 disjunction lies in the abstracted nature of at least some 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'.² While making little headway on this quixotic task, the 'optimal planning' theorists contributed to the 'cooling of interest' in input-output methods described by Tretyakova and Birman (1976: 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 goods.

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, *inter alia*, 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: 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.

Consider the sort of planning scheme we outlined in section above, in which 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 effectively 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 any methods that 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.

Following on from the point above, one has to consider why the classical socialist idea of using labour time as a unit of account was abandoned—a step which, we would argue, vitiated any rational economic calculation at the micro level. We have shown (Cottrell and Cockshott 1993a) that the idea of using labour-time accounting had already been abandoned by the influential German Social Democracy prior to the Russian Revolution. But the idea was lying around to be rediscovered by anyone who was familiar with Marx or Ricardo. That it 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 incomes differentials it would have threatened.

Having once 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.⁶ 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 economic 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.

As noted above, we have argued for the feasibility of our planning proposals by reference to the latest generation of Western supercomputers, and there is no doubt that the computing technology available to the Soviets was primitive by comparison. Goodman and McHenry (1986: 329) describe the state of the Soviet computer industry as of the mid-1980s, noting that the substantial lag behind the West was in part the result of that industry's isolation: "no computing community, including that of the United States, would be able to move at its current pace if it were to have its contacts with the rest of the world severely restricted".

Nonetheless, although we have found it convenient to take current supercomputers as a benchmark in our calculations, we have argued elsewhere (Cockshott and Cottrell, 1989, appendix) that the same object could be achieved-more slowly, but still on a time scale useful for practical planning purposes-by means of a distributed network of personal computers at enterprise level, in communication with a relatively modest central computer. From this perspective, perhaps the most serious technical limitation in the Soviet case was the backwardness of the 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 are good enough for data transmission. They also quote the striking statistic that in 1985; only 23 per cent of urban families had phones.

Once again, however, we do not 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. In fact, of course, it would seem that Soviet economists-or at any rate, those who had the ear of the political leadership under Gorbachev-were little interested in developing the sorts of algorithms and computer systems that we have discussed. By the mid-1980s they had apparently lost their belief in the potential of efficient planning, and many had jumped on the bandwagon of resurgent free market economics epitomized by the Reagan and Thatcher administrations.

5 DEFENDING DIRECT DEMOCRACY

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. The process of struggle between these classes is characterised by a complex dynamics in which tendencies towards capitalist restoration are constantly generated. 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.

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. 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.

Against these forms reformers and revolutionary enthusiasts have advanced two alternatives.

1. 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.
2. 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 that 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 QUANON 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 that must be quickly resolved in favour of parliament or councils. If a revolutionary party dominates the councils and there are simultaneous 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.

6 NOTES ON RELATION OF OUR WORK TO COMMUNISM

Our work had title *Towards a New Socialism*, however what we defended in the book was essentially an elaboration of what Marx called the first stage of communism. The title of the book, referring to socialism rather than communism was an accommodation to the political climate of the year it was published. The English edition came out at a nadir for socialism. In the decade since then the advance of neo-liberalism has slowed down. An international anti-capitalist movement has come into being - though not yet a new international socialist movement. It is inevitable that there will be a growing readership for a coherent alternative to capitalism. But it was difficult enough in 1992 to get a publisher willing to print a book advocating socialism. Verso, the leading left wing publisher in Britain had originally agreed to publish it in an earlier draft. With the collapse of the USSR they became increasingly reticent, saying that it no longer fitted with the commercial plans of the publishing house. It was only with a delay of a couple of years that the Bertrand Russell press, a publisher associated with the far left of the Labour Party agreed to take the book. We judged that a title explicitly advocating communism would have made it impossible to place or would have reduced the readership. Socialism was a sheepskin for our communist wolf. But this now leaves us with an obligation now to explain what we understand by socialism and communism.

To repeat, what we advocated in the book was the first stage of communism. We only called it socialism for political expediency. We reject the orthodox Soviet strategy in which socialism is seen as a prolonged period during which the productive forces are built up in preparation for an eventual communism. Our objection is not to the idea that the Soviet system was socialist, nor to the attempt to rapidly develop the productive forces, but rather to the conceptualisation of communism that is involved in this. Both the CPSU and western Trotskyist parties shared

common problematic when it came to thinking of communism. Communism is seen as being a stage following socialism that is predicated upon material plenty with the free distribution of consumer goods. The sequence of development here is seen as capitalism → socialism → communism. This is not the same as the formulation put forward by Marx, which was capitalism → dictatorship of the proletariat → first stage of communism → second stage of communism. In 'The State and Revolution', Lenin equated the first stage of communism with socialism ([15], p 471), and treated both as being synonymous with the public ownership of the means of production. This formulation of Lenin was then adopted by all the traditions that base themselves on Leninism. However, in our opinion this is unfortunate since it represents an oversimplification of what Marx was saying.

Socialism, defined as public ownership of the means of production, is not equivalent to Marx's first phase of communism, because the latter presupposed the elimination of money and a movement to calculation in labour time. Socialism, as defined by Lenin, can be quite compatible with the continued existence of money. The USSR post collectivisation, and the CSSR was socialist in the sense defined by Lenin, but money persisted, as did wages and the commodity form. This continuation of money was not seen as a short-term phenomenon lasting perhaps 5 or 10 years, but something that was to persist for decades, and did indeed persist for half a century. The effect of Lenin's formulation was to make the specific features of Marx's first phase of communism invisible. The notion of calculation and payment in terms of labour time vanished, and with it, any programmatic concept of achieving the first phase of communism as a distinct task.

It should be clear that payment in money terms allowed for significant disparities in hourly pay. These could all be ideologically presented as 'payment according to labour', being differentiated by the quality of the labour etc. While it is clear that these economies did not have forms of property income such as interest, rent or dividends, the notion that such different money wages were all 'payments according to labour' was just as much an ideological fiction as the idea in

bourgeois economics that wages, prices and profits are all equivalent as payments to 'factors of production'.

What remained of communism was Marx's second phase 'from each according to their ability to each according to their need. The path to this was seen as being through the provision of free or subsidized consumer goods, moving eventually to a situation where all distribution would be free and unlimited.

We strongly disagree with this conception. We think that it:

1. Rests on a misunderstanding of distribution according to need.
2. When combined with monetary payment for labour it installed a system of economic calculation that systematically held back the productivity of labour.
3. It made communism an ever-receding mirage, since however much the productivity of labour did rise; it was never sufficient to allow the free distribution of all goods.

Distribution according to need is not the same thing as unlimited free distribution. In the British National Health Service, medical treatment^z is free at the time of need. But this free distribution only works because there is some relatively objective assessment of need by doctors combined with privatisation and waiting lists for treatments. This is quite different from saying that free distribution of clothes for example, would be equivalent to 'each according to their need'. If consumer goods in general were distributed free this would lead either to profligate waste, or alternatively to a military style uniformity of consumption if waste were curtailed.

Marx does not talk about free distribution; he talks about 'to each according to their need'. This is more compatible with the model followed by social-democratic welfare states of making supplementary payments to those with disabilities, to students, to large families etc. Payment according to need presupposes some procedure for socially assessing need. In this, welfare state capitalism prefigures communism, but does so in a monetary economy with wide income differentials. The difference between the first and second phases of communism is now much

less than in Marx's day when no welfare state existed. The principle of some distribution according to need has already been accepted in Canada and most European capitalist countries, and much of this would be carried over into communism. Those with special needs would either receive specific goods and services for which they had a need free, or would be credited with additional labour time to acquire what they needed from the social stores.

7 WHY LABOUR?

At a conference in 1992 organised at the instigation of Waclaw Klaus at Pareto Institute in Lausanne we were only economists defending the idea of a planned economy. Our use of the labour theory of value was criticised as a form of 'naturalism'. It was argued that it made no more sense to say labour was the basis of value than it did to say oil was the basis of value. One element of our research program over the last decade has been to contribute to re-establishing the scientific validity of the labour theory of value. There is now an increasing body of empirical research that validates the labour theory of value [20,21,23,24,7,9,8], and we are more confident than ever of the soundness of this approach.

Another issue that has been raised, this time by left wing economists, is whether it is valid to use the category labour value in a socialist economy. Should we not see value, and the abstract labour on which it is based, as something specific to capitalism. This is an initially appealing idea, since one does not want to make the mistake of classical and neo-classical economics and see what are transient historical forms like wages and capital into eternal features of all economies. With the abolition of commodity production under socialism, will value itself not disappear?

We think this idea confuses trans-historical categories with their historical form of appearance. Instruments of production are a transhistorical category; capital is a historically specific form in which these are can be represented. We see abstract human labour as a similar trans-historic category. It is the adaptability of human labour that distinguishes us from other animals. Unlike worker ants or bees, we are not born to a task. We learn our roles in life and can learn to move between roles. It is this abstract, polymorphous potentiality of human labour that makes human

society possible. All societies are constrained by the hours in the day and the size of the population. They differ in the means by which human individuals are taken from being undifferentiated infants to being productive agents fulfilling concrete roles. In caste based societies the abstract potentiality of each individual may not be realised but that abstract potentiality is there. There is no significant genetic difference between an untouchable infant and a Brahmin one, but the fixed nature of social customs may make it appear to the actors in such a society that such differences exist. Christianity and Islam could preach human equality but on the abstract level of equality of souls - the religious abstraction of humanity, but in the absence of the appropriate social conditions it was an equality realised by the soul after death.

Capitalist society, which in principle allows any person to be hired for any job they can be trained to do, brings out the abstract polymorphism of human labour more clearly than previous modes of production. Of course we know that discrimination on grounds of skin colour, religion or gender exist in such countries, but such discrimination is visible as a contradiction with the underlying principle of labour mobility, and the tendency in capitalist society is towards reducing such discrimination. This abstract fluidity of human labour is further held back in capitalist society by class divisions, which restrict education and training to working class families. But it is just these remaining restrictions on abstract labour that socialism will abolish allowing all children the same choices of occupations. This is an essential feature of socialism: that it transforms the abstraction of human equality into a social reality.

Having rejected the possibility of planning in kind, von Mises considered the possibility that the socialist planners might be able to make use of an 'objectively recognizable unit of value', i.e. some measurable property of goods, in performing their economic calculations. The only candidate Mises can see for such a unit is labour content, as in the theories of value of Ricardo and Marx.⁸ Mises ends up rejecting labour as a value unit; he has two relevant arguments, each purporting to show that labour content cannot provide an adequate measure of the cost of production. These arguments concern the neglect of natural resource costs implicit in the use of labour values, and the in homogeneity of labour.

It is worth making the general point that Mises' critique of labour values is very brief and sketchy. Two pages or so of substantive argument appear in Mises (1935) and are reproduced in Mises (1951). In *Human Action* (Mises, 1949) the topic is dismissed in two sentences. This doubtless reflects the fact that although Marx and Engels had laid great stress on planning as an allocation of labour time, this conception had been more or less abandoned by Western socialists by the time Mises was writing.

In Mises' words, "the second defect in calculation in terms of labour is the ignoring of the different qualities of labour" (1935: 114). Mises notes Marx's claim that skilled labour counts as a multiple of, and hence may be reduced to, 'simple labour', but argues that there is no way to effect this reduction short of the comparison of the products of different labours in the process of market exchange. As he poses the problem:

What must be conclusive in deciding the question whether reckoning in terms of labour is applicable or not, is whether it is or is not possible to bring different kinds of labour under a common denominator without the mediation of the economic subject's valuation of their products (*ibid.*).

Mises maintains that this is not possible. Wage differentials might appear to offer a solution, but the equalizing process in this case "is a result of market transactions and not its antecedent." Mises assumes that the socialist society will operate an egalitarian incomes policy, so that market-determined wage rates will not be available as a guide to calculation. The conclusion is then that "calculation in terms of labour would have to set up an arbitrary proportion for the substitution of complex by simple labour, which excludes its employment for purposes of economic administration" (1935: 115).

True, labour is not homogeneous, but there is no warrant for the claim that the reduction factor for complex labour has to be arbitrary under socialism. Skilled labour may be treated in the same way that Marx treats the means of production in *Capital*, namely as a produced input which 'transfers' embodied labour to its product over time. Given the labour time required to *produce* skills and a depreciation horizon for those skills, one may calculate an implied 'rate of transfer' of the labour time embodied in the skills. If we call this rate, for skill i , r_i , then labour of this type should be counted as a multiple $(1+r_i)$ of simple labour, for the purpose of 'costing' its products.

Of course the labour input required for the production of skills is likely to be a mixture of skilled and simple, which complicates the calculation of the skill multipliers. An iterative procedure is needed: first calculate the transfer rates as if all inputs were simple labour, then use those first-round transfer rates to re-evaluate the skilled labour inputs, on this basis recompute the transfer rates, and so on, until convergence is reached.²

Aside from the issue of skills which require labour for their production, we also recognize that not all workers of a given skill level accomplish the same work in an hour. In cases where it is possible to assess individual productivity with some degree of accuracy, labour of a given skill level might be graded into different productivity categories (say, above-average, average and below-average) and appropriate multipliers could be determined empirically for these grades. Workers might, for instance, be evaluated periodically (by themselves and their peers) and assigned a productivity grade. Unlike the case of skilled versus simple labour, the multipliers in this case might reasonably be used for determining differential rates of pay. Not every worker need be a *stakhanovite*; one might choose an easier pace of work while accepting a somewhat lower rate of pay.

Mises' two specific objections to the use of labour-time accounting are less than compelling. We should also note the marked asymmetry in Mises' treatments of market prices and labour-time calculation. When discussing market prices, he is quite willing to concede that "monetary calculation has its inconveniences and serious defects"-he even discusses some of these at length- yet he concludes that "for the practical purposes of life", such calculation "always suffices" (1935: 109). When discussing labour-time calculation, he draws attention to two defects, but instead of concluding that such calculation is then only approximately valid, or that there is a need for further thought on how the issues he raises might be dealt with in the context of labour-time accounting, he takes these defects as grounds for complete dismissal of the idea, and claims that the socialists therefore have no means of economic calculation whatever. In the light of these arguments from Mises we have devoted considerable space (Cockshott and Cottrell 1992)

to demonstrating that labour values were rationally and feasibly computable and that their use would provide an effective alternative to market prices.

It has been objected that Marx was a strong critic of ideas of 'labour money', are we not guilty of introducing just what he criticised. Let us briefly consider the Marxian critique of 'labour money' schemes; for there may appear to be a tension between the latter critique and Marx's own proposals. Indeed, the 'critique of labour money' is open to a (mis)reading that takes it as critical of any attempt to *depart from* the market system, towards a direct calculus of labour time. As we shall see, it appears that writers have made this reading as far apart as Karl Kautsky and Terence Hutchison.

The basic object of Marx and Engel's critique might be described as a 'naïve socialist' appropriation of the Ricardian theory of value. If only, the reformers argue, we could impose the condition that all commodities really exchange according to the labour embodied in them, then surely exploitation would be ruled out. Hence the schemes, from John Gray in England, through a long list of English 'Ricardian socialists', to Proudhon in France, to Rodbertus in Germany, for enforcing exchange in accordance with labour values.¹⁰ From the standpoint of Marx and Engels, such schemes, however honourable the intentions of their propagators, represent a Utopian and indeed reactionary attempt to turn back the clock to a world of 'simple commodity production' and exchange between independent producers owning their own means of production. The labour-money utopians fail to recognize two vital points. First, capitalist exploitation occurs though the exchange of commodities in accordance with their labour values (with the value of the special commodity labour-power determined by the labour content of the workers' means of subsistence). Second, although labour content governs the *long-run equilibrium* exchange ratios of commodities under capitalism, the mechanism whereby production is continually adjusted in line with changing demand, and in the light of changing technologies, under the market system, relies on the *divergence* of market prices from their long-run equilibrium values. Such divergences generate differential rates of profit, which in turn guide capital into branches of production where supply is inadequate, and push capital out of branches where supply is excessive, in the

classic Smith/Ricardo manner. If such divergence is ruled out by fiat, and the signalling mechanism of market prices is hence disabled, there will be chaos, with shortages and surpluses of specific commodities arising everywhere.¹¹

One point that emerges repeatedly in the Marxian critique is this: according to the labour theory of value, it is *socially necessary* labour time, which governs equilibrium prices, and not just 'raw' labour content (Marx, 1963: 20-21, 66, 204-5). But in commodity-producing society, what is socially necessary labour emerges only through market competition. Labour is first of all 'private' (carried out in independent workshops and enterprises), and it is validated or constituted as social only through commodity exchange. The social necessity of labour has two dimensions. First of all, we are referred to the technical conditions of production and the physical productivity of labour. Inefficient or lazy producers, or those using outmoded technology, will fail to realize a market price in line with their actual labour input, but only with the lesser amount, which is defined as 'necessary' (with respect to either average productivity or best-practice technique-Marx is not always consistent on precisely which). Secondly, as the passages quoted from *Capital* III above testify, there is a sense in which the social necessity of labour is relative to the prevailing structure of demand. If a certain commodity is over-produced relative to demand, it will fail to realize a price in line with its labour value-even if it is produced with average or better technical efficiency. The proponents of labour money want to short-circuit this process, to act as if all labour were *immediately* social. The effects within commodity-producing society cannot but be disastrous.

Now the lessons which Marx and Engels read to the labour-money socialists, concerning the beauties of the supply/demand mechanism under capitalism and the foolishness of the arbitrary fixing of prices in line with actual labour content, are obviously rather pleasing to the critics of socialism. Terence Hutchison (1981: 14-16), for instance, lauds Engels for his recognition of "the essential role of the competitive market mechanism" as displayed in his critique of Rodbertus. "Mises and Hayek," writes Hutchison, "could hardly have made the point more forcefully." But as Hutchison's praise is merely a preface to his denunciation of Engels for failing

to realize that the very same critique cuts the ground from under his and Marx's own proposals for socialist planning, we must be careful to define the limits of the Marxian critique of labour money. Of greater importance for the history of the debate, it appears that Kautsky also read the critique of labour money as casting doubt on the Marxian objective of direct calculation in terms of labour content, so that by the 1920s the figure widely regarded as the authoritative guardian of the Marxian legacy in the West had effectively abandoned this central tenet of classical Marxism.¹² Against this background, one can appreciate why Mises was able to get away with a brief and rather offhand dismissal of planning by means of labour values.

From the account of the critique of labour money we have given above, the limits of that critique should be apparent. What Marx and Engels are rejecting is the notion of fixing prices according to actual labour content *in the context of a commodity-producing economy* where production is private. In an economy where the means of production are under communal control, on the other hand, labour *does* become 'directly social'; in the sense that it is subordinated to a pre-established central plan. Here the calculation of the labour content of goods is an important element in the planning process. And here the reshuffling of resources in line with changing social needs and priorities does not proceed via the response of profit-seeking firms to divergences between market prices and long-run equilibrium values, so the critique of labour money is simply irrelevant. This is the context for Marx's suggestion for the distribution of consumer goods through 'labour certificates'.

This suggestion appears in its fullest form among Marx's critical comments on the Gotha Programme of the German Social Democratic Workers' Party of 1875 (Marx, 1974: 343-8). First, against the claim that each worker should receive 'the undiminished proceeds of labour', Marx points out that a socialist society must allocate a substantial part of the total product to cover depreciation, accumulation of means of production, social insurance, administration, the communal satisfaction of needs (schools, health services, etc.), and for the needs of those unable to work. Nonetheless, this leaves a portion of the total product for distribution as means of personal consumption. As to the nature of this distribution, Marx talks of two stages in the

development of communism. At some future point, when 'all the springs of cooperative wealth flow more abundantly' it will become possible to 'cross the narrow horizon of bourgeois right' and institute the famous principle of 'from each according to his abilities, to each according to his needs,' but in the first stage of communism Marx envisages a situation in which the individual gets back-after the deductions noted above-what he has given to society.

What he has given it is his individual quantum of labour. For instance, the social working day consists of the sum of the individual hours of work. The individual labour time of the individual producer thus constitutes his contribution to the social working day, his share of it. Society gives him a certificate stating that he has done such and such an amount of work (after the labour done for the communal fund has been deducted), and with this certificate he can withdraw from the social supply of means of consumption as much as costs an equivalent amount of labour (346).

The labour certificates Marx talks of here are quite different from money. They do not circulate; rather they are cancelled against the acquisition of consumer goods of equivalent labour content. And they may be used for consumer goods alone; they cannot purchase means of production or labour power, and hence cannot function as capital.

The *logic* of the Marxian position is clear: 'labour money' in a commodity-producing society is a utopian and economically illiterate notion, but the allocation of consumer goods via labour certificates under socialism is quite a different matter; it is one possible mode of distribution of (a certain portion of) the social product in a system where the mode of production has itself been changed through the socialization of the means of production and the institution of planning. Whether this conception is *persuasive*, however, depends on whether it is possible to elaborate convincingly the notion of the planned mode of production.

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FOOTNOTES:

¹Whether the crisis leads to revolution, in the sense of the forcible overthrow of the state power, is a relatively independent question relating to the balance of political and military forces in the state.

²It is noteworthy that Stalin (1952) felt obliged to take issue with the idea that the basic purpose of economic activity under socialism was production itself (see his criticisms of Comrade Yaroshenko). As with his criticism of the 'excesses' of forced collectivization in agriculture in 'Dizzy with Success' (1930; reprinted in Stalin, 1955), this may be a case of Stalin belatedly attacking a view or practice that he had earlier encouraged.

³As discussed in the Introduction to Smolinski (1977); see also Nove (1977, chapter 12).

⁴For 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).

⁵Besides 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: 124).

⁶See Marx (1976: 515-7), and for further discussion of the point, Cockshott and Cottrell (1993).

⁷With the exception of charges for medical prescriptions outside of hospital. These are levied at a flat rate unrelated to the commodity value of the drugs dispensed.

⁸From a modern, formal-mathematical point of view the singling out of labour for such a role may seem arbitrary. Wouldn't any basic commodity, which enters either directly or indirectly into the production of all others, do just as well as the value basis? Farjoun and Machover (1983) provide a trenchant discussion of this point, and an effective defence of the choice of labour as basis.

⁹This procedure is discussed at greater length in Cockshott and Cottrell (in press).

¹⁰Marx criticizes Proudhon's scheme in his *Poverty of Philosophy* ([1847] 1963), and deals with John Gray in his 1859 *Contribution to the Critique of Political Economy* (the relevant section of which is reprinted as an Appendix to Marx, 1963), while Engels tackles Rodbertus's variant in his 1884 Preface to the first German edition of *The Poverty of Philosophy* (again, in Marx, 1963). Between Marx in 1847 and Engels in 1884 we find a consistent line of attack on such proposals.

¹¹Direct quotation is hardly necessary to establish these points. See for instance Marx (1963: 17-20, 60-61, 66-9, 203-6).

¹²In his book *The Social Revolution* (1902: 129-33), Kautsky offers a brief and rather ambiguous discussion of the 'law of value' and socialism, which combines statements of the classical Marxian theses with strangely incongruous comments on the 'indispensability' of money. In his later work, *The Labour Revolution* (1925: 261-70) the formulations of Marx and Engels are dropped in favour of a general argument for the necessity of money and prices. This argument appears to owe something to the 'critique of labour money' discussed above; it also draws on the idea that the measurement of labour content is impracticable-it "could not be achieved by the most complicated State machinery imaginable" (267). Incidentally, Kautsky (1925) is highly critical of Neurath's 'planning in kind' on very much the same grounds as Mises and Hayek.

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