

THREE DIMENSIONAL INPUT-OUTPUT ANALYSIS; MAKING SOCIALIST PLANNING ACCURATE.

Neo-liberalism, despite its colonisation of the hallowed halls of learning and the media, is beginning to fray at the edges. This is not happening because it has impoverished the mass of society, not because it has bankrupted numerous governments, but because the economies it organises are themselves sputtering and now failing. For the first time in decades, calls for renationalising industries has grown as has the call for regulating markets and an end to the march of privatisation. What seemed unstoppable and invincible just a few years ago is now seen as vulnerable and obsolete. Politicians opposing neo-liberalism have grown in popularity and stature. From Keynesianism to market socialism a new debate is emerging as the world economy slides into recession. Against those who seek a solution within capitalism, this posting argues that the solution to the growing crisis of capitalism is an end to capitalism itself.

It does so, not through vague exhortation and incantation, but concretely, by showing the actual mechanisms behind democratic planning, beginning with Volume 2 of Das Kapital and the world's first input output analysis, through to its development known as the System of National Accounts and on to the development of three dimensional input output analysis which will make possible the conscious allocation of the labour time of society for the first time.

FROM SIMPLE TO EXPANDED PRODUCTION TO THE SYSTEM OF NATIONAL ACCOUNTING.

In moving from simple reproduction to expanded reproduction we will adopt Marx original figures, (Book 2, Das Kapital. Page 401 Lawrence & Wishart, 1977 printing) but they will be doubled in order to more easily manipulate them. We will also use the methodology developed by Marx in Chapter 21 of Book 2. In this chapter Marx makes it clear that while hoarding makes possible the transformation of production from simple to expanded, the money hoarded itself plays no role as it is not an element of production (page 494). If I were to throw a bag of money into a disused building and come back six months later, the building will not be humming with industry. Rather I would continue to find an empty building containing a dusty bag of money (presuming it was not stolen by then).

Marx is quite clear that the essential condition for the move to expanded production is the “surplus labour of the working class” (page 501). In simple reproduction the entire surplus is consumed by the capitalist class rather than some of it saved and re-invested. In the period of primitive accumulation described in Book 1, Marx debunks the mythical view proposed by the apologists of capitalism; that society split into capitalist and worker because one section of society decided to save while the other spent all its income. In other words the capitalist class were the savers and the workers the spenders. In reality the choice between saving and spending has only ever been open to the capitalist class, for they alone own and control the surplus product while workers had to spend their meagre wages or starve and often did so even then because their wages were so meagre.

To continue. Expanded production only becomes possible when part of the surplus product is invested, that is thrown back into production rather than being unproductively consumed. Structurally, this means converting some of the production hitherto intended for consumption into production for production. In the language of Marx, it entails expanding department 1 production at the expense of department 2 production, or what is the same thing expanding production of means of production (dept. 1) at the expense of production of articles of consumption (dept. 2).

As Marx has detailed and described the exchange relationships between the various departments of production we will dispense with this. Instead we will introduce a simple input output model to

demonstrate the transition to expanded production. Finally, Marx uses only two departments. Department 1 refers to the department producing means of production and Department 2 to producing articles of consumption necessary for life and enjoyment of both the workers and capitalists. We have split Department 2 in two by adding Department 3 to separate out articles of consumption destined for the working class from the articles of consumption (Dept. 3) destined for the consumption of the capitalist class. The articles produced in (2) always return to production as they represent the wages that will re-employ workers, while the articles produced in (3) to begin with are permanently removed from production by the idle consumption of the capitalist.

FROM SIMPLE REPRODUCTION TO EXPANDED REPRODUCTION.

As stated earlier we begin with Marx's original table, only this time the figures have been doubled so that dept. 1 produces 12,000 rather than 6000, dept. 2 produces 6000 rather than 3000. Together Dept. 1 and 2 represents society's entire output which means their combined total of 18,000 represents the annual social product. c = constant capital (means of production) while v = variable capital (the equivalent of wages) and s = the surplus product. $c = 12,000$ which means the annual value of means of production is 12,000. Of this 8000 is employed in Dept. 1 where they are produced and used to produce more means of production and 4000 is employed in Dept. 2 to help produce articles of consumption. Dept. 2 is able to buy this 4000 worth of means of production by exchanging 4000 out of its 6000 articles of consumption for it. And this continues over and over again without change.

Table 1.

DEPT.	c	+	v	+	s	=	total
1	8000		2000		2000		12000
2	4000		1000		1000		6000
	12000		3000		3000		18000

The shaded part of the table needs to be compared to the total. We note it adds up to 18000 and is divided into $12,000c + 3000v + 3000s$. $12,000c$ equates to the total of Dept. 1 while $3000v + 3000s$ representing the articles of consumption for worker and capitalist equates to the total of Dept. 2 or 6000. The shaded part is the input side and the column under the total is the output side. They balance which means production will not expand.

Another way of presenting the annual production of 18000 is to divide it into two. 15000 capital ($12000c + 3000v$) plus 3000 surplus value. The 15000 is continuously returned to production while the 3000 surplus or profit is not. It follows that if production is to increase, some of this 3000 has to be returned to production; that is invested. Let us say that of the 3000 removed from production 500 is to be returned. We will then go on to see how this sacrifice by the capitalist class goes on to enrich them even more.

In order to examine the transition to expanded reproduction, a rearranging of the above table is required. Instead of two departments we will present three. This will be achieved by subdividing department 2 into two distinct departments now called 2 and 3. Both are still producing articles of consumption, but now we distinguish those articles that enter into the consumption of workers and those that enter into the consumption of the capitalists (luxury goods). Dept. 3 now deals exclusively with the articles of consumption destined for the capitalist class.

Table 2.

DEPT.	c	+	v	+	s	=	total
1	8000		2000		2000		12000
2	2000		500		500		3000
3	2000		500		500		3000
	12000		3000		3000		18000

We note immediately that the totals have not changed. The output of 3000 in department 2 is equal to the total of (v) and the output of department 3 is equal to the total of (s), though to be sure the nature of the articles are different, herring in department 2 versus caviar in department 3.

Now of course it is most unusual for the capitalists to consume their entire profit or (s). They don't only want to be rich, they want to be richer. So we can expect that they will not consume all of the proceeds of department 3 but save some of it in order to expand their capital. We have stated earlier the 500 will be set aside for additional investment, raising the amount of capital from 15,000 to 15,500

We will assume there are no technical impediments to doing so. Instead of building yachts the shipwrights now build barges and instead of the builders building mansions they now build factories and warehouses, and instead of carriages they produce machinery. Instead of the courtiers bowing and scraping before their lord making him feel even grander, some of them now bow and scrape before machines in the newly built factories producing useful products for sale.

As a result of this new repositioning of labour and means of production our table looks like this (Table 3). The additional capital of 500 has been applied to departments 1 and 2 in a manner that retains their value composition and their proportions. If we look at the bottom totals we note that we retain the 12,000+3000+3000 as before. But we note the vertical totals have changed. This is the virtual output and it is different. Departments 1 + 2 have expanded, as we expected, while department 3 has contracted, again as we expected. This has occurred because workers and means of production, the elements of production have shifted from department 3 to 1 and 2. Dept. 3 lost 400c while Dept. 1 gained 320 and Dept. 2 gained 80. Likewise Dept. 3 lost 100v while Dept. 1 gained 80 and Dept. 2 gained 20. All the proportions remain unaltered.

Table 3.

DEPT.	c	+	v	+	s	=	total	
1	8320		2080		2080		12480	(+480)
2	2080		520		520		3120	(+120)
3	1600		400		400		2400	(-600)
	12000		3000		3000		18000	(=0)

The social product has not changed, it remains at 18,000 which means we remain on the edge of simple reproduction. But while quantity has not changed there has been a qualitative change. What has changed is the amount of capital available for future production. If we look at the shaded part of the vertical column under total we find the output of Dept. 1 has increased by 480 and that of Dept. 2 by 120. If we compare it to the shaded part at the bottom, the amounts no longer correspond. The input amounts (shaded bottom) amounts to 15,000 and the output amounts (shaded right) amounts to 15,600. Capital has thus increased potentially from 15,000 to 15,600 and increase of 600 or 480c + 120v. There are now more machines and workers than before in departments 1 & 2 and less in

department 3. If this increased capital is reinvested in the next cycle of production as shown in Table 4 we move to expanded production.

Table 4.

DEPT.	c	+	v	+	s	=	total	
1	8704		2176		2176		13056	(+576)
2	2176		544		544		3264	(+144)
3	1600		400		400		2400	(0)
	12480		3120		3120		18720	(+720)

The first point to note that the total is no longer 18,000 but 18,720. In other words the social product has grown for the first time from 18,000 to 18,720. We have thus entered the realm of expanded production. Last year 18,000 this year 18,720 an expansion of 4%. The second point to note is that the bottom shaded figures in Table 4 equate to the right hand column found in Table 3. The output figures for Table 3 (shaded area under total) become the input figures for Table 4. Finally the output of Departments 1 & 2 have expanded yet again. The total capital has increased by 576c + 144 v or by 720 compared to 600 before (Table 4 shaded area in Total column). In other words, not only is production expanding, but it is expanding by larger absolute amounts.

We will take this expanded production further for the last time to Table 5. Up to now we assumed all the increased output is invested, but it is clear that at some point, part of it will be diverted to department 3 and its output will expand beyond 2400. At that point not only will the capitalist class be richer, but their personal consumption will begin to grow again. And all this on the backs of their workers.

Table 5.

DEPT.	c	+	v	+	s	=	total	
1	9165		2291		2291		13747	(+691)
2	2291		573		573		3437	(+173)
3	1600		400		400		2400	(0)
	13056		3264		3264		19584	(+864)

We conclude with a social product which has now expanded to 19,584 and capital (c+v) which has expanded from 15,000 to 17,184 or 15%. And this has happened because the capitalists have reinvested their profits instead of spending it on themselves. We will now proceed to investigate the consequences of expropriating present day capitalists and putting the surplus they enjoyed into production itself.

It is often said by the opponents of socialism that we cannot eliminate unemployment or underemployment. There is simply not enough capital to go around. Let the facts speak for themselves. If we look at the USA where the SNA figures are the most comprehensive and detailed, we find the following: Gross Domestic Product is around \$17 trillion, which yields National Income of around \$15 trillion after depreciation. Of this \$15 trillion in income, the top 10% enjoy just over 50% or \$7.5 trillion. It is actually higher because income is hidden and they enjoy loads of perks paid for by their companies not included in their personal income. As there are 23 million adults in this group the average income per head is over \$325,000 per annum. It is also estimated that the top 10% own 75% of the assets in the USA. This means we are allowed to assume they are responsible for 75% of investment in the USA. Now according to the Federal Reserve of St Louis, or FRED as it is fondly known, net investment in the USA (gross investment less depreciation equals net investment) amounted to \$0.7 trillion or under 5% of National Income. This means the top ten percent of income earners spent

around \$0.5 trillion on fixed investment out of their income of \$7.5, leaving \$7 trillion to spend on themselves.

If, all things being equal, they were expropriated and could only live on the average income amounting to \$1.5 trillion, this would leave \$5.5 trillion to redistribute. Let us say the working class decides to enjoy half of that and invest the other half, gross fixed investment would double from its current \$2.8 trillion to \$5.55 trillion or a third of GDP. A huge increase. And guess what, the remaining 90% of the population would still enjoy an immediate increase in their average standard of living of 40%, even before this avalanche of new investment kicked in. (All figures from the Bureau of Economic Analysis –BEA)

In the language of the working class an additional \$2.75 trillion invested in production would produce 27.5 million jobs annually. If we expropriated the capitalist classes and their senior lieutenants in Europe and Japan as well, that would provide a total approaching 65 million new jobs annually. In less than three months unemployment or underemployment could be eradicated in Japan. In Europe it will take at least 6 months as there are currently around 23 million unemployed in Europe (Europol), though clearly this figure is understated. It will take just over a year to eradicate unemployment in North America (the unemployment rate in the USA is garbage and bears no resemblance to the number of people not working). Africa will take five to six years and Asia up to twenty years. Hence it is conceivable, that unless industrial production is devastated by civil war, unemployment and underemployment can be ended in between twenty and thirty years after a successful revolution. And this assumes we are unable to introduce extra shifts which would reduce this period to well under twenty years.

It is of course the irony of ironies that Book 2 of Das Kapital, the least read of his trilogy, should have turned out to be the book that most influenced bourgeois economics. Without the ground breaking work done by Marx, the innovations he introduced, the corrections he made to Adam Smith and the other great classical economists, modern accounting would not be possible, nor its highest expression, the System of National Accounts (SNA). The continuity between Marx and the SNA took the form of two emigres from the Soviet Union settling in the USA - Kutznets and Leontiev. Grounded in the work done in the 1920s in the USSR based on Marx's methodologies, they transferred this knowledge to the West, without ever divulging its source – Marx.

Therefore while recognising their huge contribution to 20th century economics, in equal measure they are to be criticised for failing to credit Marx for these theoretical breakthroughs. (In the 1950s the US authorities actually sought to scrap input-output analysis when they belatedly discovered the USSR had been using it all along as the back bone of their 'planning', but they could not do so without abandoning their SNA.) The eulogy to Marx and his input into the SNA is best rendered by the Bureau of Economic Analysis in their primer **Concepts and Methods of the Input-Output Accounts**: *"Without accurate measurements, we are similar to a ship without a compass or chart, steering a course without knowledge of where we are, in which direction we are heading, or under what conditions we are trying to navigate the surrounding seas. Economic statistics provide us with the compass and chart"*. Marx may have sought to remove the head of capitalism, but until that day he has provided them with eyes.

EXPANDED SOCIALIST PRODUCTION.

In our example, there are only three rows of figures, three down and three across. A modern economy contains hundreds of thousands of individual firms and multiple industries. The system of National Accounts is a much more complicated elaboration of Marx's fundamental tables. More industries were added over time, numbering 537 by the 1960s to improve detail. In 1968 the BEA introduced the

“make” and “use” tables both of which reduced the number of fictitious transactions needed to reconcile the input and output tables. Later developments towards the end of the century saw attempts to align the input output tables more closely with industry GDP by classification. In other words the input output tables underwent a continuous development dating from their inception.

There is much to learn from the use of input output tables in the SNA and much to unlearn. Firstly the sources for drawing up the I-O tables are the income and balance sheets of firms (corporations), partnerships and self-employed, tax data and census information. These sources are therefore indirect and subject to the vagaries of creative accounting. They provide only approximate data. Secondly while the techniques are useful the categories used are not, as they express capitalist social relations. In other words they track the movement of capital and the division of the annual product of labour into rents, interest, profit and wages.

Thirdly the SNA cannot cope with the distinction between productive and unproductive labour. Productive labour involves the two exchanges that completes the circuit of capital: the purchase followed by the sale. Unproductive labour involves only one exchange: the purchase. A concrete example will illustrate this. Maggie Smith used to work for McDonalds making burgers. McDonald purchased meat, buns, lettuce, gas, stoves and hired Maggie (purchased her labour power for x hours each week). McDonalds then set Maggie to work producing burgers. These burgers, together with fries, drinks etc. were then sold. McDonalds thus paid out cash for its supplies and workers and received cash back from customers who bought the food produced. It made a profit because the cash paid out was less than the cash coming in, due the hidden and not so hidden underpayment of Maggie and her co-workers.

Now let us say Maggie is fired, but she unexpectedly finds work in a school kitchen, which being in a deprived area provides free school meals. Fortunately this school has not privatised its kitchen. The school like McDonalds buys in its supplies and hires workers. However this time, the burgers Maggie makes, are not sold to the students at lunchtime. Money has gone out but no new money has come in. There has been only one exchange: the purchase. And because no money has come in there is no possibility of surplus money and therefore profits. Hence Marx’s designation of this type of labour as unproductive of profit.

Finally let us follow Maggie home after her toil at school. At her home she now cooks for her family. Let us say it is burgers for dinner tonight. Here Maggie’s domestic labour does not involve even one exchange. There is no cash going out nor cash coming in. Maggie uses her own personal money to buy the ingredients for the evening meal and cooks it for her family whom she hopes will appreciate her efforts. Domestic labour is thus completely private labour provided completely free to capitalism because it does not require the expenditure of capital or revenue.

Now mark this, in all three cases Maggie prepares almost identical burgers. This is her concrete labour – the making of burgers. However, her labour acquires totally different social meaning in McDonalds where it produces profits because her labour is sold bringing money in, while at the school her labour is seen only as a cost (tax) because money goes out but none comes in, and finally at home where it is private because no money goes out and none comes in. The statisticians preparing the SNA are aware of this anomaly which they seek to compensate for, by imputing value to unproductive and sometimes domestic labour especially where it involves caring. They treat this labour as though it was sold by adding back value to compensate for the absence of the sale, and to the degree they do so, they overstate the value added annually to social production. They overinflate the economy.

Of course this presents no problem for socialist accounting as all labour is now directly social and so does not require exchange or its conversion into money to make it social. And with the ending of exchange ends the demarcation between productive, unproductive and domestic labour.

Above we dealt with problems associated with the exchange value of labour. We now turn to its opposite, problems associated with its use value. The division between goods producing industries and service industries is peculiar; that is to say sorting commodities on the basis of how they are produced or how they appear or are used. Marx was always criticised for only considering tangible commodities to be actual commodities. It was claimed he dismissed intangible commodities, like a concert or education. Nothing could be further from the truth. Marx rejected any attempt to focus on the use value or utility of a commodity in order to establish whether or it existed as a commodity.

If anything, it is the capitalists who fall into this error. They employ use values to distinguish between commodities, hence the division of the economy into a goods producing sector and a service sector. This makes no sense. A coffee machine is produced in the goods producing sector. The coffee that this machine helps make in say Starbucks falls into the service sector. Yet the coffee machine and the coffee it produces form a unity. The one could not exist without the other. Another classic example is computer hardware which belongs to the goods producing sector while software belongs to the service sector. Once again each would be useless without the other.

There is no merit in this separation. In fact the real separation that needs to be addressed is that between the value producing side of the economy and the value consuming side which is ignored. Value production occurs when commodities are actually produced. Value consuming is when expenses are occurred in distributing and accounting for them. For example the expenses of administration, selling, advertising and marketing do not increase profits, they reduce them. This is clear when we look at the profit and loss accounts of individual corporations. Here we find gross profit and net profit. Gross profit is the difference between annualised sales and the cost of producing those sales (wages of production workers plus materials and components used up [depreciation is taken separately]). Net Profit is Gross Profit minus expenses, some of which have been detailed above. The SNA makes no distinction between value added in production and value deducted in distribution although it must be noted this does not affect the size of the economy, merely its description.

What does affect the size of the economy are value destroying “industries”. Here we think primarily of the pursuit of fictitious capital to which whole cities are devoted. This encompasses most of what is described as financial services in the SNA and which is involved in the buying and selling of shares, bonds, derivatives, titles in general, speculation of every description, the legal and accounting firms that lubricate this process together with the entire infrastructure which supports it. Despite the fabulous salaries and bonuses, these activities never produce wealth and often destroy it and yet these activities are treated as though they add to GDP and National Income thereby increasing the size of the economy.

Finally over the last few years the SNA measuring most countries’ economies has violated the one rule that underpins all of the national statistics and which makes them valid: no double counting. What Marx showed in volume 2 was that it was necessary to avoid duplication when determining the total value added in the economy. This is due to the fact that most commodities are involved in multiple sales. If we added up the value of all these sales we would arrive at a figure much higher than the actual cost of producing the commodity. In 2013 within US manufacturing, the average commodity sold nearly five times, meaning that the annual sales of \$5940.3 billion exceeded the value of these commodities which amounted to only \$2028.5 billion. Unfortunately by 2012, the world’s statisticians had decided to change the way they presented Research & Development in the national accounts. Instead of treating it as a cost, they treated it as capital, and the resulting double counting led to a

spontaneous increase in GDP. This amounted to 2.8% in the USA when the change was implemented, a considerable sum.

Having detailed many of the short comings of the SNA, the single most important virtue of the I-O analysis of capitalist economies is that it is dynamic. It registers and uses current prices. In this very important sense it differs from the I-O analysis in the USSR which used constant prices. Why the difference? In a capitalist economy, the labour produced by workers in the form of new commodities ready for sale, assumes the property of the capitalist class. No employer, having hired workers, supervised their exploitation and stored the resulting commodities carefully, will accept less money than the market price of these commodities. They will never voluntarily under sell their commodities, for to do so would be to rob themselves of money.

Market prices are therefore real. They may differ from actual costs of production due to the movement of capital, but they retain a relationship to costs of production albeit an elastic one. Hence the NSA is measuring something real though distorted and because it measures the whole economy, these distortions between price and social cost tend to be averaged out. It therefore gives a conditional approximation of the annual labour expended nationally in monetary terms. Here we refer to Net Domestic Product and National Income.

Matters stood differently in the USSR where the system of material balances was key. Input output calculations were primarily physical. For example it takes 1500kg of iron ore and 450kg of coking coal to make 1000kg of basic iron (pig iron). Therefore in order to make an output of 1000kg of iron requires inputs of 1500kg of iron ore and 450kg of coking coal. What applies to kilograms applies to litres (oil) or metres (cloth) in the same way. Hence GosPlan's main statistical task was to organise production in such a way as to ensure there were sufficient physical inputs to guarantee planned outputs.

Pricing was secondary. Prices were not real. They were an administrative aid and an accounting surrogate. Which is why constant prices sufficed. It made calculation easier, it was a lazy way to run an economy and above all it allowed a tyrant to boast how much the economy was expanding because it ignored falling production costs. By assigning constant prices, the plan could distil the quantity of products produced. For example if 1 metric ton of standard pig iron was priced at R1500 in the 1940s, then the national output in a typical year of 10 million tons would be priced at R1.5 billion. If in later years the total output was priced at say R1.8 billion, a 20% increase, we could correctly assume that physical production had increased to 12 million tons as the price of iron remained constant. In fact it took nearly 30 years for the first revision in the base year to take place in the mid-1950s. During this long period the economy of the USSR was transformed, bi-planes had given way to jet planes, chemical bombs to nuclear bombs, mechanical calculators to electronic machines and so on. During these three decades, production costs had changed dramatically either due to productivity changes, education, technical advances or changes in natural conditions. This ossification of price was responsible for the culture of waste that erupted as effort became disconnected from price. In other words, if workers worked efficiently or inefficiently it had no effect on price and therefore their ability to consume. It was nothing short of an economic crime.

Constant prices therefore have no part to play in a dynamically planned economy. To the extent that the SNA in the west deals with current prices, it provides a much deeper insight into the workings of the capitalist economies, compared to the ossified prices in the USSR, though both used the same input output techniques with variations. Indeed, western governments, employing some of the brightest economists and statisticians tried to make sense of pricing in the USSR and their wasted efforts are lucidly detailed in William Jeffries seminal work: *Measuring National Income in the Centrally Planned Economies* (Routledge).

In a consciously planned socialist economy input output tables for the first time will be three dimensional. Firstly they will be based on physical quantities, secondly and in parallel they will connect to the weighted average labour times needed to produce these physical quantities and thirdly will be found the price derived from the interaction of the physical quantity and labour times, in other words the composite of the first two variables. The first two dimensions are therefore determining while the third, the price, is determined by them. Price per unit reflects quantity divided by time. (For a more detailed explanation of weighted average labour times please refer to Part 2 of the posting *Moving from Value to Prices via the Repricing of Capital* November 2014).

We need to pause in order to deal with money which is not to be confused with money under capitalism which reflects abstract labour. In a socialist society money will be based directly on labour time. A unit of money will be a unit of labour time, a fraction of the total labour time of society adjusted for variation of skill. We called this unit of labour time the UNILAT for short. We would derive it from world GDP divided by the total number of hours worked producing it. In short we would use the end of capitalism SNA figures to define it. Once done it will be a fixed unit of account, just as the metre, litre or Celsius is. Workers will be paid with this UNILAT, the total of which will be equal to the total prices of the products produced at any time. It will therefore act as a receipt for the contribution of their labour time measured in units of universal labour time.

This will allow all the products destined for consumption to be claimed. The proof is given in the following way. The units of labour time in our three dimensional table are units of universal labour time. This corresponds to the receipts (money) which is also in denominations of universal labour time. It therefore follows that total prices exiting production will equal the total receipts (money) of those waiting to consume it resulting from their contribution to production (or indirectly from the social fund).

Returning to our input output series. In the sphere of production we have these three distinct but inter-connected input series forming sequential outputs until the product achieves its final form, ready for consumption. This mimics the makes and uses section of the input output tables in the SNA. Only now everything occurs in real time. Real time turns out to be nothing other than Marx's reproduced labour times. As materials are transformed into finished products they accumulate labour time, at the same time the quantity may change as components turn into sub-components and sub-components turn into assembled components. A car contains thousands of components, a plane tens of thousands. As labour time accumulates and as quantity changes so price is forever in motion and it is this that makes planning dynamic. Prices will be like a pedometer on a walker, clicking up with every movement.

It may of course be argued that this involves a huge amount of computing. But so does weather modelling, modelling a nuclear explosion or flow dynamics all of which are more 'chaotic'. In any case this is what super computers are designed for. Certainly the modelling is less complicated than the cited examples though the quantitative computations may be more in number. It is too early to cost this activity in a socialist society, but it will be insignificant compared to the labour wasted within capitalism on accounting, auditing, selling, advertising, marketing, bribes including entertaining and excess packaging.

When these products are fully formed they move from the realm of production to that of consumption. When they enter the realm of consumption they bear a price that reflects the actual labour time that went into their production. The sum of these products multiplied by their individual price equals the labour time of society expended on their production.

In the sphere of consumption these products are greeted by their consumers. These consumers now possess money which is the direct measure of the labour time they contributed to production or for social ends. Those who have contributed more labour possess more money than those who have contributed less. By spending their money they receive back from production what they have contributed. When all the money has been spent, there remains no more goods to consume.

Money here is different to money under capitalism, and not because it no longer functions as capital. It was Marx who first identified money to be the universal commodity, the most suitable commodity that could be set aside against which all the others could exchange, the last incarnations of which were silver then gold. As the physical embodiment of social labour, the value of gold and the value of money associated with it, could vary. If the actual cost of producing gold changed, so too would its value as its production costs changed. More expensive gold would reduce prices and cheaper gold would increase prices. Later, tokens representing gold, namely paper money and metallic coin, was substituted and as its relation to gold became increasingly detached so prices changed more abruptly even though the costs of the commodities circulated by symbolic money did not necessarily change. The result was inflation as each commodity was now priced in more Dollars, Pounds or Euros because this paper money had become increasingly worthless. Whatever the case, whether gold or symbolic, money under capitalism is always indirect money.

Money under socialism is not only a standard of price, but it is now directly attached to universal labour time, making it invariable. It becomes a fixed standard no different to a metre or a litre. It cannot be measured indirectly by gold because gold is not an invariable source of value and because there is barely enough gold in existence now, never mind in the future, when the total labour time of society grows exponentially as socialism mobilises the unemployed or underemployed. (The total value of gold held by central banks and as investments totals 52 million kilos, yielding a value of approximately \$2 trillion, which in turn is currently equal to just over a week's worth of global economic output.)

Next we distinguish between multi-use money (notes, coins) and single-use money (labour certificates or credits) which once used, cease to exist. Again let us pause to briefly examine why money rather than single-use money will be needed initially. Firstly familiarity. Secondly the economy will not be socialised instantaneously and even when it is, there will be pockets of private production requiring exchange, for example small farmers and hairdressers. (And here we are thinking internationally). Thirdly security (forgeries) at a time when the socialist economy has not convinced all its enemies of its superiority. Fourthly it will take time to set up structures including databases to facilitate single use money. Fifthly we need to unravel the prices inherited from capitalism and overcome the unevenness within industries. All this speaks in favour of permanent money at the outset. However the time will surely come when this money is pulped and melted to be used for other things, with each worker now having her or his own electronic labour account which will record their contribution to the labour of society and their withdrawals from it.

We can now move on to examine the realm of consumption more closely. We will see it bears no resemblance to the sphere of consumption under capitalism, with its rents, interest, profit, wages and taxes and its preoccupation with capital.

THE THREE GREAT SPHERES OF CONSUMPTION.

We follow Marx in his *Critique of the Gotha Programme*, where in a socialist society, the entire output is owned by the working class who produce it. However, not all of society's product can be consumed

in its entirety by its producers. Otherwise there will be no resources for administration, for education, for health care, for looking after those unable to look after themselves (which not only includes the elderly but infants and the young), for insurance which includes reversing global warming, additional investment to name but a few. Accordingly it follows that a part of the social product unavoidably has to be set aside, deducted by its producers for these purposes. We may define this sphere of consumption the social sphere.

Agreeing how much of the social product is to be set aside or contributed and for what purposes requires the highest and most developed forms of democracy, discussion, agreement and supervision. We will not dwell on this as it has been discussed in other postings. Suffice to say the process of arriving at the agreed contribution is the epitome of working class democracy. Hence in the “uses” side of the input output tables there appears three great spheres of consumption with the first being that of social consumption. Let us say it amounts to 40% of which 10% is for additional investment to expand production. Of course this social consumption does not mean shared consumption. It means those working in or being supported in this sphere are paid individually and in proportions commensurate with those in production.

This leaves 60% which are paid directly to the producers. Hence all that distinguishes the producers from those involved outside production is that the former are paid directly from production and the latter indirectly out of the social fund. We may refer to this sphere of consumption as the sphere of the individual producer (rather than the individual as labelled in earlier postings). In all cases, whether it is consumers directly paid or indirectly paid, consumer choice is inviolable. No one can tell another what they can or cannot consume. In addition, consumer led planning ensures that each worker receives the products they requested and which in there mass, constitutes the basis of planning.

But there is a third sphere which has not been discussed yet on this site – housing. Housing is an article of consumption, it is not a means of production. Its cost and durability is inconsequential in arriving at such a determination. In common with every other article of consumption, it is individually owned. It is only vulgar socialism or barrack socialism that considers the state as the ultimate owner of housing. Unlike the means of production which ultimately ceases to be property, housing never ceases to be owned by its occupier.

Under capitalism occupiers fall into three camps. We ignore the distinction between leasehold and freehold here. The first is owner occupiers, the second is occupiers paying off a mortgage and thirdly those who rent, either from the private or social sector. After the revolution these distinctions are dissolved. The occupier of any house owns it regardless of whether they owned it before the revolution, inherited it or rented it. No one may own more than one home. All second homes are therefore confiscated and redistributed. Over-large houses will be sub-divided.

It may be argued that there is a difference between owner occupiers and renters. The former paid for their home while the latter did not. This is a capitalist illusion. Renters, particularly those in the private sector who rent their whole life, end up paying more towards the cost of their home than did the person next door who managed to raise a deposit thereby securing a mortgage. All that has happened is that the renter has paid off the mortgage of her or his landlord. There is thus no problem decreeing that every occupier now owns their own home.

This is not the problem. The real problem is that the housing stock is uneven and unequal. Housing is differentiated by age, upkeep, quality of build, size and location. One person may have a better home another a larger home. How then to bring equality to this inequality. The answer; the one and only tax that will appear in the epoch of socialism: a housing tax. This tax will be levied in proportion to the

quality and size of each property as part of a complex criteria. Houses of below average size and quality will pay a below average tax and vice versa for houses above average.

The purpose of this tax will be to improve below average homes, expand the housing stock and it will concern itself with the space between homes and the infrastructure needed to make every village, town and city communal and homely thereby rendering all locations desirable. This tax is best raised locally and spent locally. Hence this tax and the consumption it makes possible forms the third and final sphere of consumption.

We are now ready to discuss a hypothetical input output table to take into account the new socialist reality. A world where profits no longer exist and where there is no capital to be appreciated or depreciated. Instead it is replaced by social consumption, individual consumption and housing.

Up to now we have stated that the labour produced each year is consumed. This is not strictly true. Because we are talking of a fixed period, 365 days, while production is continuous, there is clearly an overlap. For example a ship may take 18 months to construct which is longer than 365 days. If construction begins on the 2nd of January, it means that on the 31st December it will be only be partly built. Another example are the elements of production which may be in storage or en route. If say Australia is mining iron ore to be used in the Congo to make steel because electricity is cheaper there, then some of the iron will be on ships heading for the Congo.

So at the beginning of the year, elements of production which include, raw materials, components, semi-fabricated products etc. are brought forward from the previous year into the current year where they will be finished off and be finally consumed. We may refer to these elements of production as past labour. There is also another component of past labour and that is the machinery, equipment and structures that were built in previous years, but which are being used to produce articles this year. They transfer their labour to current production in the form of wear and tear (depreciation). This depreciation adds to the prices of current production as this past labour is added to current labour in action. For clarity let us assume that these means of production last on average 12 years so that each year about 8% of their cost are added to the current cost of production. If the labour represented by these means of production are twice that of annual output, then depreciation will increase prices by 16% (200% x 8%) in the current year.

In a similar but inverse way, the same thing happens at the end of the year. We are left with elements of production (inventory) still needing to be worked up. These have to be carried forward to the next year. The labour they represent will not be consumed this year but next year. Therefore just as the elements of production brought forward from last year add to the labour to be consumed this year, so the elements of production carried forward to next year have to be deducted from the labour that can be consumed this year. Finally, if society decides to increase investment it will increase the labour carried forward to the following years in the form of machines or equipment or structures built this year but which will be used up in following years. This part of the labour of society expended this year has to also be deducted. If 10% is set aside for investment, then in total 28% is to be used for producing new machines, 18% from the past in the form of depreciation (the using up of older machines) and an additional 10% set aside this year.

We can sum up these additions and subtractions thus:

$$(\text{Inventory b/f} + \text{depreciation}) + \text{LABOUR EXPENDED THIS YEAR} - (\text{inventory c/f} + \text{additional investment*})$$

(* if any additional machine or piece of equipment is put into use this year, because it took only months to produce, then some of it will be depreciated this year reducing the cost of the machine that is carried forward to the following years.)

If for argument sake we assume that the inventory b/f and the inventory c/f cancel each other out, then this leaves only the labour expended this year, plus depreciation, less new investment. In this case the price of production for the current year will be 100% plus 18% making 118%. Of course no society wants to consume the entire 118% as that means there is no money to replace the machines, equipment and structures wearing out. It would be like a farmer eating her or his seed, leaving nothing for planting, for next year's harvest. Instead that 18% should be reinvested to replace what is worn out plus the additional 10% of new investment. The result is 118% less 28% equals 90%. Of the 100% of expended labour this year, there is 90% to be consumed, in the form of 30% for social consumption and 60% for individual producer consumption, less the housing tax on both sides.

It is not our intention to provide an actual input output table in this posting. There are many laudable examples of the methodology around including the BEA *Concepts and Methods of the US Inputs and Outputs Accounts*. (Updated 2009). We may leave the matter on this point. A socialist input output analysis will be based on direct information. Secondly the amount of labour expended in any industry in any department will be known immediately. Under capitalism it requires the deduction of prior sales from total sales to abstract this figure. Thirdly labour times will be tracked continuously. Production will be seamless in the absence of the need to first exchange commodities. The economy will be treated, and by this we mean the entire international economy, as a single production entity for the purposes of tracking the labour time of society. Whether it will be useful to keep the categories of industries and to expand on them lies outside the scope of this posting.

Finally each (spreadsheet) cell in the input output analysis in whatever part of the economy, located anywhere in the world at every specific stage of production will contain three sets of data. Labour time, quantity of product and the resulting price. As prices change in one cell representing one moment in the cycle of production so too will the prices in connected cells. For example if the price of steel alters so too will the cells of all the industries it acts as an input to. Here we think of the car industry, the pipe industry, the building industry, the pot and pan industry.

It follows that prices will always be current, allowing consumers to decide on what their consumer preferences are. It will be possible for everyone to access prices in real time, thus enabling accurate and conscious decisions to be made. This means not only the right products being produced but produced in an efficient and timely way.

MARKET SOCIALISM.

Neo-liberalism, capitalism's preferred modus operandi, survived the 2008 financial collapse. It will not survive the deepening industrial recession which is unfolding worldwide. Accordingly we can expect alternatives to the free market emerging, which will range from Keynesianism through to market socialism.

It is to be expected that under-consumptionist solutions will abound, they are after all so simple, so elegant, so attractive and so enticing. Fingers are increasingly being pointed at austerity (reduced government spending), low wages and inequality as the cause of the economic crisis and deflation. The solution offered is obvious; inject cash into the pockets of consumers in order to increase consumption. First there was John Maynard Keynes who suggested burying cash and then having workers dig it up, followed by Milton Friedman suggesting money be dropped from helicopters and

now the modern version, quantitative easing paid directly to workers and the poor on a sliding scale. This shot of adrenalin it is suggested will get the patient moving again.

But adrenalin, like any powerful drug, can only be used sparingly and selectively. Therefore alongside this proposed injection of cash we can expect a more fundamental discussion about the future of capitalism itself, including longer term solutions. As always, this discussion will focus on whether or not to regulate markets and secondly the extent to which industry and the banks should be brought into public ownership. In other words the antithesis of neo-liberalism with its free markets and privatisation of every aspect of the economy.

The extent and intensity of this debate will be informed by the depth of the economic crisis, the severity of the political crisis it provokes and the degree to which the international working class is aroused. On the margins of this debate will be found debates regarding socialism itself, and given the history of the USSR we can expect it to focus on market socialism at first. Market socialism is almost forgotten, but it was the dominant economic discussion in the middle of the twentieth century, from the 1930s to the 1960s, and if we include Gorbachev's initial proposals we can extend this to 1992, the point at which its nemesis, the IMF's shock therapy, known as the Big Bang, ended the debate, at least in Europe and the USA.

This debate will undoubtedly be informed by the earlier debates. The original debate started in 1920 against the backdrop of the Russian revolution when the Austrian economist Ludwig von Mises theorised that economic calculation was impossible without markets. Markets he proposed represented a process of price discovery whereby resources were directed towards their highest valued ends while competition minimised costs of production. He therefore dismissed planning suggesting socialism was bound to fail in the end. The following article is a succinct precise of his ideas. (<http://www.forbes.com/sites/artcarden/2012/09/29/the-greatest-thinker-youve-never-read-ludwig-von-mises/>)

The most popular response to Von Mises appeared ten years later when Oskar Lange, himself a neo-classical economists proposed simulated markets to inform and guide the decisions of the planners in a socialist society. Lange accepted the logic and indispensability of markets even in a fully-fledged socialist economy. Simulated markets would enable price discovery allowing planners to regulate production in the most efficient manner. If the price set by planners did not clear a particular good from the market, its price would be reduced until this happened and provided this price did not fall below its marginal cost of production that product would be produced in a quantity that maintained that price. Of course if the opposite happened and the price was set too low resulting in all the products being snapped up, then output would be increased until the falling price coincided with the marginal cost of producing it. Through trial and error the planners would arrive at a price and output guided by marginal cost theory. This was not dissimilar to the process involved in a capitalist economy. This solution came to be known as the Lange-Lenner solution and later as the Lange-Lenner-Taylor solution and it became the cornerstone of what came to be known as the socialist calculation debate in the 1930s.

The foremost critic of this solution was Hayek whose book *The Road to Serfdom* was published in the spring of 1944. This book was located in the tradition of Von Mises who had been a mentor to Hayek. Though Von Mises never stopped elaborating on his ideas, it was Hayek's book that propelled him to the fore. Hayek's views were informed by the rise of Hitler, Stalin's Russia and the growth of state intervention in Britain during the Second World War. In all three cases he hypothesised that the road to tyranny was created by state intervention in the economy. Secondly he dismissed the simulated market hypothesis proposed by Lange as it could never hope to replicate a real market with its entrepreneurial freedoms to innovate and invest. It would lack the dynamism of a real market.

Hayek's proposals constituted the theoretical basis for what came to be known as neo-liberalism - which is a small state and unregulated markets. His ideas finally triumphed in the 1980s under Margaret Thatcher and Ronald Reagan. However, what this champion of individual liberty ignored is that in order to free the market you have to imprison society. In order to free up labour markets (flexible labour markets) requires anti-union laws. The freedom to invest requires a reduction in environmental and consumer protection and standards. Free markets and a small ineffective state promotes inequality. Ultimately Hayek's great project turns out to be nothing more than the unintended blueprint for "The Casino Economy", where the rich are given back the chips they lose, as happened in 2008, while the heavily supervised workers in the casino have their wages cut to pay for these losses. Far from knowing best, 2008 showed just how dangerous and destructive unregulated markets really were. Far from increasing individual liberty, the only liberty it enabled was liberty for the capitalists including their liberty to exploit with impunity, to invest without responsibility and to consume without conscience.

Hence just as the collapse of the USSR undermined the case for market socialism, so the financial crash of 2008 and the growing recession of 2015 will undermine the case for free markets. It would be in the interest of the international working class if the debate ended here. But this is unlikely. History has a habit of repeating itself.

Times have moved on since Lange and Hayek crossed intellectual swords. Though Lange lived to see the development of the computer, which he saw as an aid to simulating markets, he did not live to see the advent of the internet and the inter-connectivity of society. Hence just as the material conditions for conscious planning has improved, so too has the material underpinning for simulated markets.

In addition, as society has discovered, much of the privatisation promoted by the neo-liberals has turned out to be a robber's charter. Profits have grown in inverse proportion to the quality of services. House prices have soared while house sizes have shrunk. This rip off has popularised the call for renationalisation of parts of the economy and more social investment.

Hence the case for market socialism will be based on removing the excesses of capitalism and socialism, for the merging of the best of capitalism with the best of socialism. On the one side, it is claimed benevolent public ownership will end the business cycle, the lack of investment and irrational behaviour, while on the other, markets will ensure choice and efficiency. Social relations of production combined with private relations of distribution all held together by parliamentary democracy.

Marx never stopped making the point that it is the relations of production that determines the relations of distribution. Market socialism thus presents a *prima facie* contradiction. Socialism contradicted by the market. Production to be socialised but distribution to remain privatised. In the end it is a nonsense, an attempt to straddle two modes of production. But it is an attractive fiction for those who fear revolution and seek an accommodation within capitalism though it is now engorged with socialism.

The market is held up to be mankind's ultimate salvation, not because it is, but because it proved superior to the USSR and its command economy. But this has to do with the nature of planning in the USSR, not the merits of the market. What is seldom addressed is why the market exists in the first place? The short answer is that a market will always exist in any society fragmented by production.

Production fragments society when it is conducted by thousands of disassociated and independent producers, from the smallest firms to the largest corporations. These firms and corporations only connect through the sale of their products. In other words, a society divided by production is only

reunited by the market. That is why the market not only dominates such a society but perception itself. And it is why civilisations began to emerge thousands of years ago and developed alongside the great arteries of trade.

The market is the temporary resolution of an insoluble and developing contradiction, the contradiction between private production and socialised consumption. For while the individual produces but a single item, he or she consumes diverse items produced by hundreds if not thousands of different producers, both local and far removed. The more capitalism develops the more consumption is socialised, the more mass markets emerge.

This contradiction is recognised by the large corporations who spend much money and time on market research in order to see what sells and what does not, and how big the potential market is. As the corporations grow so the need to extend their research and planning grows as markets are now world sized and failure would involve a substantial loss of capital. In the sphere of new technology it is more a question of trial and error as there are no established norms, or as Silicon Valley notes, many failures finally breeds a single profitable success.

The contradiction between privatised production and increasingly socialised consumption cries out to be resolved. It can only be resolved by socialising production. And when it does there is no longer the separation of production and consumption, the producer and the consumer. There is thus no need for the market, the arena where demand and supply interact to reconnect disassociated producers and consumers. In a post market society it is no longer a question of producers seeking out consumers, but of consumers informing producers: in other words, whereas the former relation was speculative the latter is now instructive, whereas the former was reactive the latter is now pro-active, and finally whereas the former belongs to a lower mode of production the latter now belongs to a higher mode of production.

Lange was a neo-classical economist. Neo-classicism meant a break with the conclusions of the classical economists like Smith and Ricardo who preceded Marx. They held to the labour theory of value, albeit a partial and superficial understanding which Marx later corrected and completed. It was not difficult to embrace the labour theory of value at the time. The role, in the late 18th and early 19th century, of labour in the production process was undeniable and the diversity of commodities calculable. A century later labour had become dwarfed by the means of production, commodities now circulated as products of capital and the variety of commodities was dazzling. This was the material basis for the emergence of neo-classicism or as it should be known, vulgar economics, which distinguished itself by abandoning the labour theory of value in favour of the use value of a commodity as the source of the commodities real value. The view of the consumer of commodities had replaced the view of the producer of commodities.

Hence Lange could not offer a solution to the crisis of planning in the USSR other than simulated markets based on variable costs and revenues. His debates with Hayek was really a debate within capitalism rather than over capitalism. The solution to the crisis of planning in the USSR was not the market, it was democratic and conscious planning.

This was impossible in the Soviet Union based as it was on exploitation. The one mechanism it needed to implement was the very thing it could not do. It could not replace the profit motive with objective prices, prices based on weighted average labour times without exposing its parasitic role. Instead it implemented fictitious prices, firstly by under-pricing labour, then assigning prices to products, often multiple prices, based on the needs of the plan. In short the plan produced prices, rather than real prices producing the plan. But fictitious pricing always exacts a terrible price: inefficiency and waste.

In one sense and one sense only do the bourgeois critics of the Soviet Union have a point, there was no price discovery in the USSR. As confirmation, one only has to look at the multi-billion dollar effort, mounted in post war years by the IMF, the CIA, the UN and other bodies to unravel pricing in the USSR. Actual costs remained shrouded in bureaucratic fog. In the end this nonsense toppled the economy.

The very word economy comes from the concept to “economise on” which is to minimise labour time and materials or in short inputs. This is impossible without a system which accurately records these inputs. Capitalism does not. It would do so only if all exchanges were equal. But because of the role of capital they are not. The norm is unequal exchange. This means that prices tend to deviate from their value or what is the same thing their actual cost of production. It means this relatively efficient economy functions on the basis of prices regularly deviating from values.

But these deviations are not random, nor influenced by the whim of the bureaucrat, but are the product of underlying laws. Otherwise the capitalist system would also be dysfunctional. These deviations arise from the need to harmonise the average rate of profit, and so these deviations occur within strict limits. Hence far from the market providing accurate prices, all it does is to ensure that profitable production expands while unprofitable production contracts and it is this movement in the end that sets the prices which clears markets by adjusting production.

Prices are indeed experienced by the capitalists as marginal prices. Marginal prices and marginal revenues represent the action and reaction in a system where the extent of the response to any economic decision is not known with any certainty beforehand and which is essentially unpredictable. It is the way independent producers feel their way in a chaotic world. It is the tip tipping of the white stick on an uneven pavement.

But the word marginal pricing is a misnomer. It is not about incremental increases in prices and costs. Rather, when viewed objectively, it is the movement of prices within a margin. All prices move within a margin. The absolute bottom limit is set by the cost price of the commodity, the amount of paid labour needed to produce that commodity. Any price above that yields a profit, any price below that yields a loss. No capitalist producer would ever produce below cost, for to do so is to squander their capital rather than to add to it. The price of a Rolls Royce car is much greater than Mini, not because it is more desirable but because its cost price is so much higher. If a Rolls Royce sold for the price of a Mini it would be no less desirable but BMW would stop production immediately because each Rolls Royce lost it money.

But what about the absolute upper limit. This limit is set by the amount of current unpaid labour that has been produced (in contrast to the paid labour which constitutes the mass of cost prices). This upper limit is more ephemeral, more difficult to define and hence the source of much confusion. It is conceivable that a single commodity could monopolise the entirety of this unpaid labour. For example if a new plague befalls the planet and a cure is found, without which death is imminent, its price could be so high that it absorbs all the unpaid labour on the planet. If that was the case, then the prices of all other commodities would fall such that none could be sold at a price that yielded a profit because the monetary demand would be so curtailed. A more likely scenario we could imagine is one where the pioneers of the internet and the World Wide Web decided to patent their discoveries rather than offering them to society for free. Had that happened then every user, every provider, every search engine, every app, every order, every corporate terminal would have had to pay a toll to use the web. The result would have been a gigantic diversion of profits from the Googles, the Amstrads, the Microsofts, the Apples, the Alibabas of this world to these inventors who would have become the richest men on the planet in no time. An endless monetary gusher that would have lowered the pools of profit everywhere. The above mentioned companies would not have grown as fast or as large (if at

all), were they forced by patent law to share a significant portion of the unpaid labour produced by their workers with these selfless inventors.

Notwithstanding these two examples, an absolute upper limit cannot be reached despite the sea of unpaid labour being finite, because this pool of unpaid labour has to be shared across production and between the capitalists in order to cement their class. Instead, there is to be found, between the absolute lower level and a hypothetical upper limit, what may be called a relative level between the two - what the capitalists call equilibrium prices or what Marx called the market price of production. It is the price where the unpaid labour realised in a price, yields the average rate of profit. It is the cost price plus average profit. This is the price where each capitalist in each industry receives a share of the profits equal to their share of the capital invested. Hence if the current market price is above this relative price, more profits are made, capital flows in, production expands and prices fall. If the current market price is below this relative price, then capital flows out, production contracts and prices rise.

Accordingly, the quantities each product will be produced in, is set by profit, or more precisely the rate of profit. It is a price, which in the majority of cases resides above or below the actual cost of producing that product. Hence the price discovery so important to capitalist decision makers turns out to be deeply flawed.

From the point of view of socialism, market prices are crude and inaccurate. Why then should emancipated and economically literate workers be satisfied with a price that does not measure or account for their expenditure of labour precisely. Which therefore prevents them from knowing what things actually cost to produce thus acting as a barrier to making informed decisions about what to produce, how much to produce and where to produce. Clearly they would be dissatisfied with such a system. Market prices belong to a lower mode of production and not to the higher mode of socialist production. Market prices may have been superior to the prices used in the USSR but they are inferior to the prices that will be used in a socialist society.

THE CASE FOR SOCIALISM.

An objective pricing system replaces the profit motive. Such a pricing system recognises only one cost of production, the labour time needed to produce a useful object. In a socialist society this would not be disputed. After all there will now be only one class - the working class. There will no longer be a class that owns the means of production and the land and extracts a cost for its use, thus earning profits, rent and interest. 'National Income' now consists exclusively of 'wages'.

But there is more. As prices are now tied directly and indissolubly to labour times, they fall in line with the fall in labour times. This fall in prices rewards every workers equally by their fall, a fall which allows for increased consumption. Every worker thus has an interest to work efficiently and collectively. Hence just as the profit drove capitalism and rewarded a minority, so falling prices drives a socialist society, but this time rewarding everyone.

Falling prices however does not answer the question: what is to be produced? This challenge is answered by consumer led planning. Consumers, knowing what everything costs in real time, what is available and what is possible, can make informed decisions about what they want. Here we are not thinking of planning every loaf of bread or every ice cream, but the larger more durable items. Nor are we thinking of taking the fun out of shopping by confining everyone to a computer screen in their home ordering and having it delivered. Data mining and reserves of product will enable flexibility. But what will be gone will the world's largest dominant religion; consumerism, which compensates for the hell of existence, and which offers salvation to those acquiring the latest *must have product* first.

People will no longer be manipulated, used by the corporations. There is more to life than shopping and what a life it will be. Fulfilled, empowered and caring. When we all look after each other, look out for each other, when everyone feels safe, what hope is there for religions past and present. There is none. Consumption will be reunited with production which has now become life giving not life sucking. It is worth fighting for because it is possible.

An objective pricing system based on weighted average labour times, expressed by a fixed standard of price, described through three dimensional input output analysis, will make our economy dynamic. And when it does, and there will be stumbles, human kind will finally emerge from its ten thousand year march through the wilderness of private property, redolent with economic crises and bloody class war, into a world now made economically secure and abundant. And when it does human kind will have been freed from its past to build a future beyond imagination.