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**The Age of War: From World Market to  
World Conquest (English language  
version)**

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# THE AGE OF WAR: FROM WORLD MARKET TO WORLD CONQUEST

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## *Abstract*

This paper, presented at the Laboratori per la Critica Sociale organised by the Centro Studi Trasformazione Economico-Sociali (CESTES-PROTEO), is the English language version of 'The age of war: From world market to world conquest', and was also presented to the 5<sup>th</sup> Annual Conference of the Association for Heterodox Economics, Nottingham Trent University, 8-10 July, 2003.

It argues that the world is entering a new age of war, a political consequence of globalisation.

Two supplementary documents contains key charts on which the analysis was based, one presented at the 2003 conference of the institute of globalisation studies, Moscow and the second at a 2003 seminar organised by the United Nations Association of the university of Umea, Sweden

Keywords: Imperialism; globalisation; divergence; stagnation; polarisation; inequality; world economy; Kondratieff; development; Europe; US; value; price; TSSI; temporalism; profit rate; deregulation; World Systems Theory; unequal exchange; dependency; North-South relations

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# THE AGE OF WAR: FROM WORLD MARKET TO WORLD CONQUEST

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## 1 INTRODUCTION

### the war to end wars, mark II

What causes war?

To get a useful answer, it is vital to ask the right question. People have used violence to get their way probably since they existed. Nothing very practical will arise from asking why this is so, since when we look at our history we find that though humans are always warlike, they do not always make war. What really matters is: when is this propensity to war brought into action, and when is it suppressed? Our question therefore divides into two: why does war start, and what makes war stop?

But this way of posing the question is still impractical. Following 11<sup>th</sup> September 2001, something new entered the world. The scale of war and its objectives went through a step change as the Bush administration pushed aside every canon of postwar stability to assert its right, and establish its capability, to wage war whenever, wherever, and however it chose.

The question is therefore, why *this kind* of war? What made it start? And what will make it stop?

Since this is our question, it is rather important to be precise about what we mean by 'this kind of war'. Today, at this point in history, war has taken a new form and is being deployed for new ends. War is now waged to *occupy territory*, with zero concessions to legality, and as a first resort. The aim of the United States in Iraq and in Afghanistan was the occupation and subjugation of an entire people and their territory, and the political and economic control of their resources. War is no longer a selective and limited instrument of statecraft but the principal policy of the Bush administration, through which it wants to reshape the world.

This is a new stage of history. The post-1945 world had its conflicts, some of them major. Nevertheless the very phrase 'Cold War' described a threat that was always present but rarely materialised. Mass destruction was on everyone's mind – but it didn't actually happen. Borders and spheres of influence endured, with little change, until the collapse of the Soviet Union.

The last time war served its present function was when the Great Powers drew the map of the modern world in blood and iron. Ironically, the Middle East war – whose stated goal is to disarm a dictator – is the first 'War to end Wars' since 1914. The self-contradictory idea of making war in order to stop war gives the game away. The restraints on the deployment of war have fallen so low that it has become its own justification.

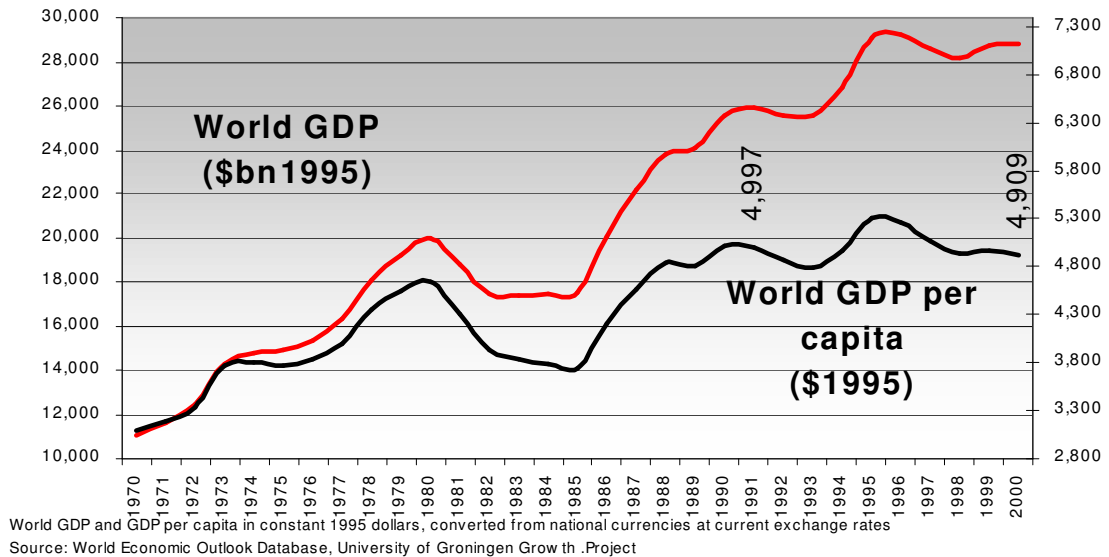
The final form of our question is, therefore, why *now*? What is it about the modern world that has taken the world back to an earlier stage of history, with weapons that can not merely defeat nations but annihilate them?

This paper argues that this new age of war is a political consequence of globalisation. It is a new stage of history, happening at a particular time – at the end of a thirty-year expansion of the market in capital. The war is therefore the outcome of this expansion, and the expression of its most fundamental limits.

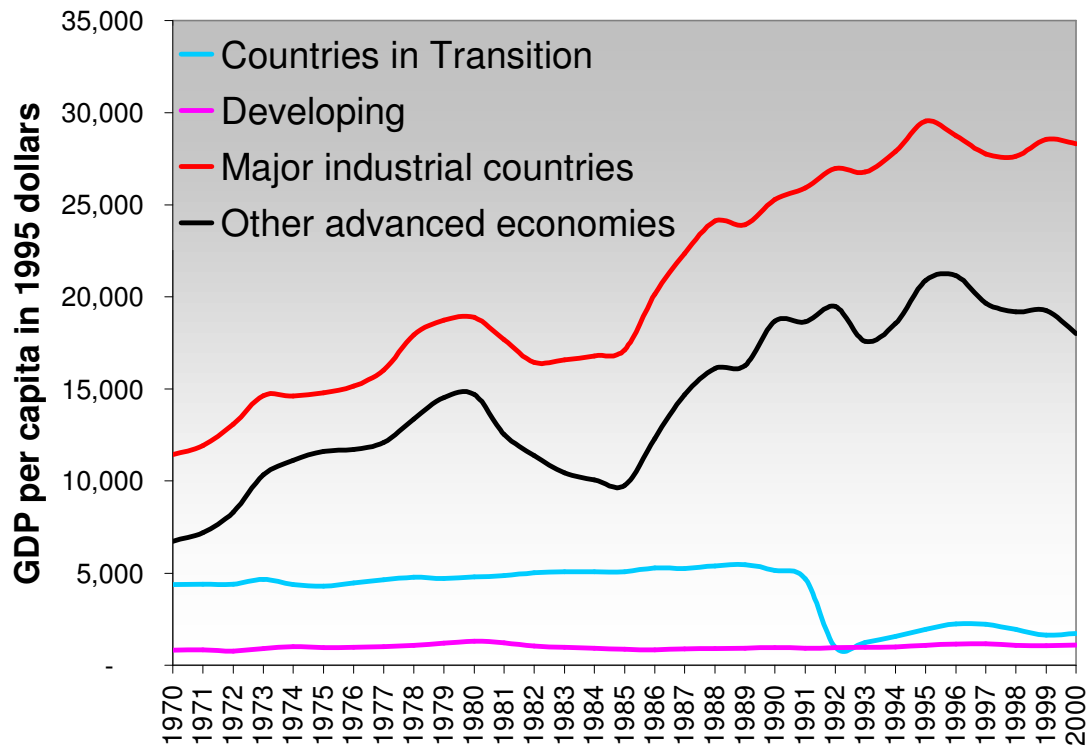
The paper therefore aims to understand how twentieth century globalisation led to twenty-first century war, and where twenty-first century war will lead.

## 2 THE GLOBALISATION OF POVERTY the political triumph of economic disaster

The conventional view is that globalisation has been an economic success, but a political failure. Actually, completely the reverse is true. It has been a political triumph and an economic disaster.



**Chart 1: GDP and GDP per capita of the world constant \$1995**



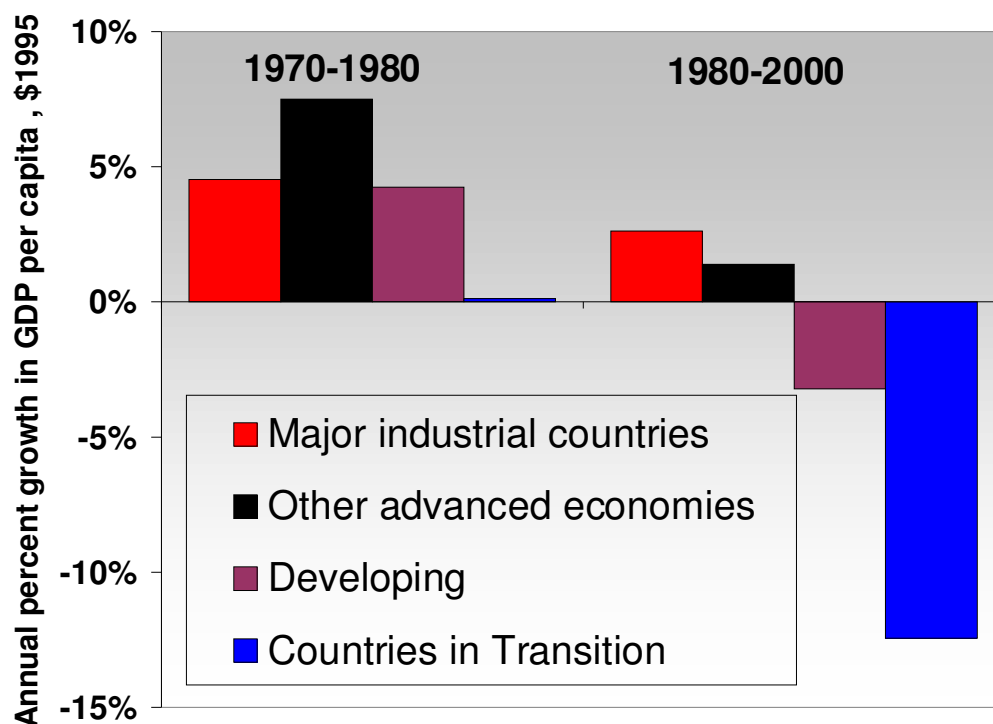
**Chart 2: GDP per capita of the principal world sectors**

As chart 1 shows, the absolute GDP per capita of the world, measured according to the IMF's own figures in constant 1995 dollars, having risen throughout the

whole of the postwar period, has since 1992 gone down. That is, the world has got poorer.

As chart 2 shows, this has affected the world differentially. One quarter of the world's population, in the advanced countries and so-called 'advanced industrial' countries, has got richer; the remainder has become relatively poorer and in particular, the bottom quarter of the world has become absolutely and dramatically poorer.

The current stage of globalisation thus brings together two fundamental processes: stagnation and divergence. *Stagnation*, or *decline* is the slowdown in the rate of *growth*, or *accumulation* of the world, which began in the early seventies. *Divergence* is a long-term growth in *inequality*, a separation of rich from poor nations.



**Chart 3: rates of growth before and after globalisation**

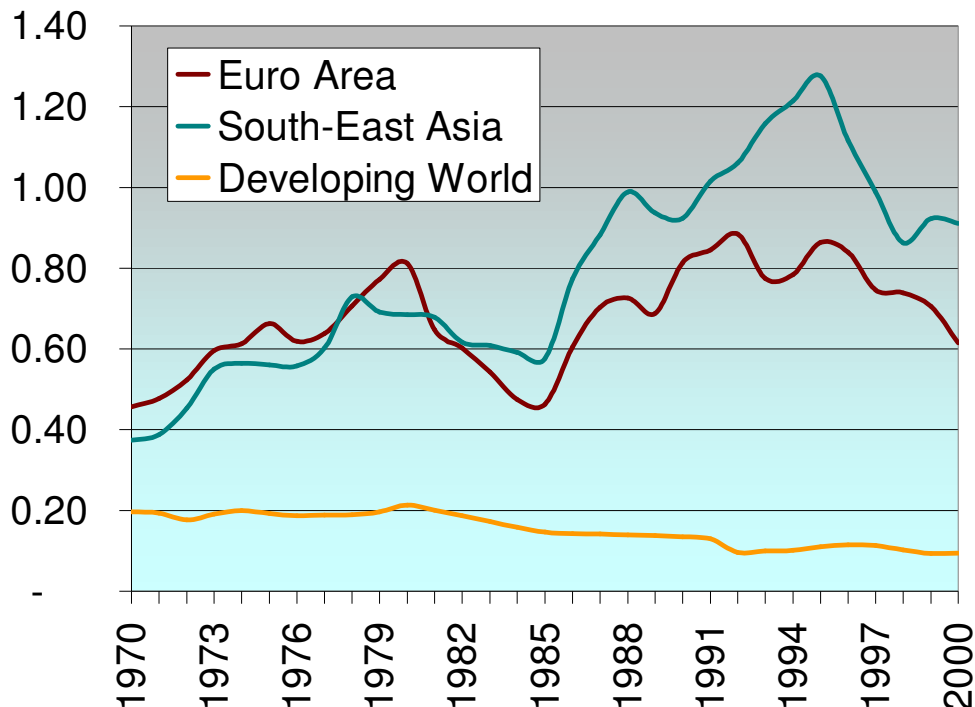
Stagnation is a repeating process; it has taken place four times so far since capitalism began: roughly, 1825-1848, 1873:1893, 1929-1947, 1968-today. Divergence is a secular or permanent process: it has been going on since capitalism began.

Thus the most striking factual result from a detailed examination of the world statistics produce by the IMF is that economic production or GDP per person, in real dollar terms, has slowed down throughout the last two decades and, in the nineties, has begun to decline absolutely. This is a very set trend encompassing larger and larger regions. The number of people whose income has fallen over the previous ten years has risen from 10 million in 1980, to 1.2 billion in 2000.

Not everyone gets poorer: world output has diverged and a small group of nations has continued to grow at the expense of the rest, whose growth rate has decline precipitately.

In the nineties a new phase arose, as chart 3 shows: the rich nations began to differentiate among themselves. The stagnation of Europe throughout the 90s, the financial crash of 1997, and the South East Asian crisis signalled the end of a prolonged period, beginning in the early fifties, in which the chief rivals of the

US caught up with, and in decisive cases overtook it, in terms of the ability to produce wealth. From the mid-1950s until the beginning of the 1980s their rate of growth, their rate of investment, and their rate of productivity growth, all decisive indicators of economic performance and competitiveness, by the beginning of the 1980s all exceeded that of the USA.



**Chart 4: GDP per capita relative to the USA (1 = equal, <1 = less, > 1 = greater)**

By the end of the last decade, the USA had resumed its position as the fastest-growing nation in the West. It did so, however, not by accelerating its own growth but by driving down that of all its chief competitors. US growth in the 90s was no larger than in the 1980s or 1970s; everyone else's was lower.

There is one exception which literally proves the rule. China, whose centrality in the United States' war strategy is clear, escaped impoverishment altogether by successfully obtaining access to world markets without surrendering economic sovereignty, keeping the bulk of its economy outwith the influence of world capital markets.

Outside of China the poor nations were increasingly divided into *spheres of influence* of the rich nations defined by economic interest and mercantile (trade) integration, hence NAFTA, Europe and APEC. Within all poor nations, the separation of rich from poor developed and took a new form: a transnational rentier class emerged, whose material wellbeing derives not from the success of their own country but from its dependency on world capital.

Beginning in the seventies with the succession of GATT rounds, escalating in the eighties with the emergence of debt as a major instrument of political control, the generalisation of deregulation and privatisation and the establishment of the WTO, and culminating in the nineties with the dissolution of the Soviet Union, the rich nations successfully re-established a world market in capital, accompanied by international financial institutions tightly tied to the governing institutions of the United States, which could police a world order organised around access to markets, above all capital markets.

Political stability, such as it was, was cemented by securing pro-globalisation governments in the majority of nations on the basis of compliance with the rules set out by the IMF, GATT and WTO, and on the conscious surrender of economic sovereignty to these bodies.

Globalisation was thus driven forward, not by a general advancement of the wealth of humanity, but by the enrichment of a specific *political bloc* dominated by the rich nations and hegemonised by the USA, whose social base was the bulk of the population of the wealthy countries, a majority in their more successful clients, and a minority but governing class in the poorest countries.

The paper by Guglielmo Carchedi to this conference documents this in much more detail and so here I will only summarise in order to establish my main point about the reason for the current age of war.

The immediate clients (Mexico, the Westernmost countries in transition, the four tigers) were offered direct and privileged access to capital and markets. This propelled the four tigers into the ranks of the advanced nations, which in the case of Taiwan and South Korea was in any case politically essential. For the rest it fostered expansion at a lower rate than the advanced nations but faster than the generality of poor nations.

Those nations whose people represent the majority of humanity, but who were absolutely impoverished by globalisation, were held in line by threat rather than benefit; *debt* became the practical instrument of their rule, as access to capital became conditional on their governing classes subordinating domestic economic policy to the overriding requirement of paying back the debt at all costs. These governing classes were able to enrich themselves at a rapid rate, separating their personal fate from that of the nations they ruled and cementing their commitment to the world order.

*The age of war has arrived because this governing bloc can no longer govern.* Its ability to do so has been undermined precisely because the economic processes on which it was founded have remorselessly eroded its social support to the point where its own continuity is impossible without force.

Entire regions of the world are thus becoming either ungovernable, or governable only in and through defiance of the governing bloc. For many parts of Africa, civil war is almost a normal state of existence. Afghanistan was not a barbaric country before it was torn apart by US-sponsored civil war: it was barbarised. Finding no new point of insertion into the world market which could provide for any stable economic life it became incapable of supporting stable government of any but the most extreme form; it became home to Al-Quaida and the Taliban. Its instability was only one expression of the instability of a region in which two nuclear powers face each other over a border that has never been drawn to the agreement of either. The crisis of the Middle East, the intractability of the Palestine question, the succession of dictatorial regimes and bellicose confrontations, is the political expression of a fundamental economic fact: GDP per capita in this region under globalisation has halved in twenty years. Under market relations the only way a minority can retain its wealth is through the forcible suppression, up to and including elimination, of everyone else. In Latin America countries such as Ecuador, Venezuela or Argentina are passing through political crises expressed in a prolonged failure to comply with the requirements of the world financial order. In South-East Asia where China and Vietnam have never accepted IMF-style regulation of their domestic economies, old-style autocrats like Mahathir were not only the first to break from IMF orthodoxy but the first to recover an economic balance by doing so.

To put it at its simplest, the writ of the IMF, increasingly, no longer runs. As the social base of globalisation erodes – as the number of people that can actually draw any benefit from it goes into decline – it is decreasingly possible to put together stable coalitions that can secure sufficient support to govern, at least on a pro-globalisation platform, that is, on the basis of unrestrained access for world capital. Coercion is less and less dispensable, and violence is an ever more regular instrument of government. Local conflicts whether civil or directly confrontational have escalated exponentially (figures from UN)

A second consequence is however even more decisive. The USA is no longer *hegemonic*. It has itself, increasingly, been using the political coalition to maintain its own economy at the expense not just of the world's poor but of its own rivals among the rich countries. Prolonged stagnation in Japan and Europe are the consequence of a structural instability in the system. The US's lead in productivity was bypassed, somewhere in the late 1960s, by Japan, by South East Asia and by Germany, all of whom invested at a decisively higher rate and therefore drew ever more benefit from world trade, as evidenced by the large, and growing, US deficit in trade (which is not going away). The US has therefore used its dominance and management of the world financial and commercial system to win back on the financial stage what it could not secure in the level playing field of 'normal' trade. It has become a vacuum cleaner for the world's savings, depriving an ever-growing swathe of countries of the means to maintain their own economic growth.

But in consequence, it is not just the writ of the international institutions that has been called into question: the writ of the USA itself is under threat, even among its chief partners and beneficiaries of the globalisation process. This was most clearly evidenced in its difficulties in putting together a 'coalition of the willing' This was not driven by any humanitarian motive on the part of the French political leadership who were, by all the evidence, instrumental in the slaughters of Rwanda and whose record in Algeria is hardly a gentle one. It arises because the economic benefits of the pro-globalisation coalition no longer extend beyond the United States. The US's rivals now have to consider a completely alternative way of meeting their economic needs, namely as in 1873-1918, by establishing their own, private sphere of influence.

The Bush administration represents a fundamentally new approach to world governance in the light of this situation. It has opted for the only rational solution for US capitalism; direct political intervention. It seeks direct political control of territory which is strategically necessary for it to retain control over the central sources of *superprofit* – profit over and above the world average – which it must use, in order to maintain itself at the expense of its rivals.

This is the cause of the age war.

### **3 WHEN THINGS GO WRONG** **the need for a theory of market breakdown**

Political Economy is when people ask themselves why they have no money  
– Kurt Tucholsky

There is another way of describing what has just been documented above: the market has *broken down*. By this, I mean that it has failed to reproduce conditions that are essential for its own existence.

What happens when markets break down? The answer which any theory gives



to this question depends on its implicit, or explicit, concept of value.

I begin with arguably the most basic question in economics: are breakdown and recovery endogenous or exogenous? Do markets fall or are they pushed? Conversely, do they mend themselves, or does someone have to stick them back together?

The primary 'finding' of all dominant economic theories is that the market works. This rarely appears so crudely as the statement that it is infallible. Instead, such theories predict that it fails only when not permitted to work properly, and that it will always correct itself, left to its own devices: that is, breakdown is exogenous and recovery is endogenous.

This finding arises from the shared starting point of these theories, the *equilibrium* or comparative static paradigm.<sup>1</sup> The variables of which they speak are assumed, for the purpose of calculating them, to be constant. This is only possible if, and is equivalent to assuming that, the market works so perfectly that nothing needs to change.

This is not a neutral assumption. It makes it impossible to deduce endogenous market failure. To put it another way: if in fact, markets do fail of their own accord, equilibrium theories are intrinsically incapable of knowing, because they will always attribute the failure to something outside the market. Hence their primary finding tells us nothing about reality, because it is the only finding they can produce.

Scientifically, they must therefore be tested against independent evidence. This comes from what I term the four 'big' facts of modern capitalism which are the most universally recognised, the most persistent and regular, and the clearest expressions, of endogenous market failure:

- (1) recurrent structural crisis – prolonged 30-50 year periods of falling profits and low growth, such as the one we are now living through, as just documented;
- (2) the growth without limit of inequality between nations, as evidenced above;
- (3) the regularity of cyclical crisis;
- (4) the persistence of class struggle.

Each of these either directly prevents the market regulating the social and political relations required for its survival, or brings into being forces that so act. Each occurs persistently or recurs regularly, under a wide variety of circumstances. And each is more persistent, and more marked, the greater the extent of the market.

History matters. When an event happens once, surrounded by a maze of complex circumstances, a case can be made for any theory relating it to any of these circumstances. But when something happens repeatedly, or persists for a very long time, under circumstances that vary very widely, then we must discard any theory that relies on any circumstance not always present. The only circumstance persistently present, through two hundred years of the capitalist market, is the capitalist market itself. It is scientifically highly questionable to treat its repeated and persistent failures as produced by anything other than itself.

Is there a theory that can account for this? Yes – but it is treated as heresy. The

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<sup>1</sup> It may seem that my use of the word 'paradigm', differs from Kuhn (1962), because I define it to mean the method by which an economic approach determines its variables. I will argue that the equilibrium method imposes a meaning on concepts, and dictates procedures shared by all practitioners; this constitutes it as a paradigm in Kuhn's sense.

equilibrium paradigm finds that the principal theory of endogenous breakdown, that of Marx, is incoherent. However this 'finding' itself rests on the same paradigmatic principle: it rests on the supposition that Marx himself was an equilibrium theorist.

An alternative, *Temporal Single System* (TSSI) Interpretation of Marx's value theory offers a coherent explanation of the major observable manifestations of market breakdown. This capacity resides in two features of the interpretation:

- (1) Values and prices are non-equilibrium magnitudes, defined without presupposing the market keeps them constant.
- (2) The magnitude of value of every commodity is given by the total labour time spent producing it.

The evidence this was Marx's theory will not be restated here and the reader is referred to the copious literature. She should note that whereas the standard interpretation is attributed to Marx on the basis of simple assertion, the attributions in this article are supported by evidence which she may accept or reject.

## **4 WHEN THINGS GO RIGHT**

### **the need for political economy**

The converse view, that breakdown is inevitable, is equally questionable. Market breakdown does not happen all the time, and is not a simple descent into the void but a definite dynamic process from which recovery is sometimes automatic, seldom impossible, and always costs lives. When the market fails it does not collapse but brings politics into play. It makes the invisible hand visible, and summons conscious forces into action as governments, peoples, and classes intervene to restore the means to reproduce themselves which the market now fails to deliver.

We must try to transcend the crude polarisation between infallible market success, and inevitable market breakdown, by establishing a proper boundary between what is actually endogenous and what is actually exogenous; between automatic processes of which individuals are only indirectly conscious, and exogenous acts which they know about, initiate, and take part in.

The requirement of a valid value theory is thus that it should be able to explain, and quantitatively account for, the relation between the market and society: specifically, its relation to the social forces summoned into existence by the regular and persistent failures which are intrinsic to it.

How can this be achieved? the essential starting point is a paradigm which is absolutely independent of the assumption of market perfection: the *temporal*, or non-equilibrium paradigm, which this article will explain. Its magnitudes are determinate whether or not the market is static.

This starting point is required because breakdown is produced by motion. All theories that begin by suppressing this motion end up attributing its effects to something external to the market: be it government, monetary regulation, trade unions, communism, terrorism, war, historical backwardness, exhaustion of the entrepreneurial spirit or, in left versions, a special régime of accumulation, anomalous business behaviour, the course of technological progress ... in this way, breakdown is produced by anything and everything except the economy itself.

Only a concept that permits the market to move can account for the effects of its

movement. To put it another way, stasis is a special case of motion, and not the other way around. A waterfall is not a curved lake: a lake is a flat waterfall. The waterfall's curvature is caused by the motion; if we constructed a theory of water from which motion was suppressed, we would conclude that all bodies of water are necessarily flat and that waterfalls must be a supernatural creation. This is, effectively, the position in which the equilibrium paradigm places those economic theories unfortunate enough to adopt it.

The second requirement is that this temporal theory must explain *competition*. The market is the organiser of competition, a struggle for a *share* of something. When oil doubles in price, it does not just modify the relation between one car and one pump; it reallocates access to the whole of a key world resource, on which depends everything in the world economy from the power and wealth of nations to the progress of the business cycle. It takes resources from those who purchase oil and gives it to those who sell it. This is why people go to war about it.

The visible expression of this mode of organisation is money, to be precise, the money price of commodities. The idea of value arises because although money organises things other than itself – above all, production – and although it provides a quantitative measure of the results, it does not do so directly. Money price can be increased by fiat or a printing press, regardless of the resources which gave rise to it or the results which it pays for. We cannot therefore know, when prices or profits rise or fall, what produced the change. The decisive requirement of a value theory is to distinguish those variations in money output which arise from production, from those variations that do not.

At least two aspects of production affect the money price of its results, namely the physical size or use-value of the produced commodities, and the social resources that produced them. There is therefore a choice of value concepts. Can we better explain the market's insertion into society by conceiving of money as representing physical, or social, resources?

## **5 THE LIMITS TO GROWTH – SOCIAL OR PHYSICAL?**

The market achieves the organisation of society through competition. Competition arises because the resources allocated by the market are limited; what one person gains, another loses. The question we have just asked therefore boils down to this: from where do these limits come: from things, or people? Money organises society, not nature, and mediates between producers, not products. A theory that makes it appear as if the market mediates between things will make heavy weather of explaining its insertion into society.

Furthermore if capitalism's limits are imposed by physical resources, it is hard to see where the present phase of market breakdown comes from. Physical limits may well be important in the future, but right now now physical output is around \$5,000 per person at 1995 prices, having doubled in the last thirty years. This is absolutely enough for food, clothing, education, health care, a dignified old age, and quite a lot of fun, for everyone on the planet. The fact that these are denied to over three-quarters of the planet can only be possible if these physical resources are distributed by a social and not a natural law.

This law can be understood only through a value concept that recognises output as it really is, as a magnitude fixed by the human resources actually at society's disposal – its labour time.

This explains why there are winners and losers, why whenever one social

function is augmented and one social class, class fraction, or nation is rewarded with additional value, another social function is threatened and another nation, class or class fraction loses out. It explains why growth sets limits on itself, by reducing the profit rate and hence the investment in production. It explains why the diversion of investment capital to financial and speculative ends is an alternative to, and not a complement of, productive investment. It explains why when one nation gets richer, others get poorer.

It also explains class struggle, which is by no means the same thing as exploitation. Marxists spend a disproportionate time accounting for the obvious fact that workers do not receive everything they produce. The real question is: why fight it? Why is their wage not regulated like other prices by market forces but by organised bodies of people, by laws, by strikes, and by force? Throughout most history and in all nations, capitalist accumulation generates opposition to itself. It is hundreds of times higher in some countries than others and varies enormously over history. It is determined as Marx puts it 'morally and historically', in short, exogenously.

At the end of the day, the argument for a labour value concept is that there is no other basis on which these regularly and persistently observed phenomena can be explained. If every price rise is simultaneously an increase in output, why has no nation ever discovered the means both to accumulate and speculate, simply allocating the extra output as required? If profit is reducible to physical output, why does it fall most persistently during protracted periods of accelerated growth? If either monetary or physical growth can genuinely raise social output without limit, then why don't the rich nations simply raise the poor ones up to their standard? And if there really is no intrinsic social limit on output it is an impenetrable mystery why wage-workers and property-owners cannot live in harmony. Over two hundred years of the capitalist market, no-one found a means to distribute the extra output peaceably. Either class struggle is the most phenomenal worldwide stupidity, or it is time to question any theory which predicts that the market can create value without work.

## **6 EQUILIBRIUM , PHYSICALISM AND DOGMATISM**

Two excuses are offered for not treating value as quantified productive activity. The first is that price and quantity (use-value), being visible on the surface, are the only magnitudes economics need deal with. Value is 'not necessary'. The second is that productive activity cannot be independently quantified, because Marx's attempt to do so ended up in incoherence.

The claim that 'quantity' of output is visible on the surface is however trivially fraudulent. How much 'food' does a restaurant sell? Where is it measured? Where is it recorded? A unique quantitative measure of a collection of heterogeneous goods, as is well known, does not exist.

Conceptually, however, it is perfectly reasonable to suppose that 'behind' price lies not the produced thing but the process that produced it. The issue is whether this concept is consistently quantifiable. What has to be proved, therefore, is not that value is a necessary category but that production can in fact be quantified and that no contradiction arises. Once this is achieved then value can legitimately be conceived as the amount of 'production' contained in a commodity, and a straightforward scientific test between competing concepts of commodity value can be applied: namely, to see which best explains reality.

To fix ideas, suppose at a given point in time which we will call  $t$ , a capitalist

buys 100 units of some use-value – let us say corn, since this has become conventional – and, during production, creates 160 of the same use-value.

$$100 \rightarrow 160 \quad (1)$$

If we think that the ‘value’ of output is really its physical size, we will say that the capitalist made a surplus of  $160-100 = 60$ , on an initial outlay of 100, so that the profit rate is 60 per cent.

Of course, the capitalist does not actually care what her sales are when measured in corn but how much money is received, and how much is paid. If we suppose that initially the price of corn was £1, then the outlay is £100.

Price changes now do clearly affect profits. Suppose that when the output is sold, it fetches £180 (which would mean that the price of corn has fallen to  $£^{18/16}$ ). In that case the money profit rate would be £80 and the profit rate not 60 per cent but 80 per cent. Why? Because while production was in process, prices rose. This is an effect of motion.

However in the equilibrium framework, this is impossible. The price *cannot* change while production is in process. Therefore, the corn must sell for £160 and the profit rate must be 60 per cent.

Moreover this result would be true, no matter what the initial price. If it started at £3 then the outlay would be £300, sales would be  $£3 \times 160 = £480$ , profits would be £180 and the profit rate  $180/300 = 60$  per cent.

The equilibrium paradigm therefore *produces* the physicalist result. Moreover, it can produce no other. Actually, any and every price can occur and there is any number of profit rates that might actually be recorded. The profit rate cannot be determined in this way: reality is too *complex* for the simplistic view of the equilibrium paradigm. Faced with this conflict, Sraffian theory takes the classically dogmatic position: the theory is right, and reality is wrong.

Van Parijs (1980:1) can thus write

It cannot be shown in general that a rise in the organic composition of capital leads to a fall in the rate of profit...A falling-rate-of-profit crisis is not a theoretical *necessity*; indeed, it is not even a *possibility* under conditions of competitive capitalism

without pausing to consider that this applies *only* to the equilibrium, physical profit rate. Since the observed profit rate does indeed fall with rises in the organic composition, there is at least some basis to question an approach which says this is logically impossible.

This gives rise to what I call the *intrinsic dogmatism* of the equilibrium paradigm; it leaves no discursive space for any other concept. Physicalism emerges not as one concept among many, but as the only possible concept. The equilibrium paradigm not only makes it impossible to conceive of the possibility of temporalism; it makes it impossible to conceive of the possibility of any other meaning to the words it uses.

This dogmatism extends to Marx, whose views are tested not against reality but against logic. His equilibrium interpreters seem unable to conceive that the inconsistencies they claim to find in his theory might flow from their own interpretation, and not from the theory itself. They mostly do not even consider it necessary to examine the evidence of Marx’s own writings. Marx *must* have shared these conceptions: why? Because no others are possible.

The paradigm inhabits a sealed world of its own conceptions. It does not merely reject the alternative as absurd and impossible; it cannot even understand what it is. In the same way, the anti-Galileans could not comprehend how the earth

could be other than the centre of the universe, because as Kuhn explains, 'centre of the universe' was what they meant by 'earth'.

## 7 HOW PRICE CHANGES AFFECT PROFITS

The problem is that even a cursory inspection reveals the physicalist profit rate cannot possibly govern the money rate. 70-90 per cent of fluctuations in reported rates of return on capital arise directly from changes in the organic composition of capital; but as van Parijs notes above, this is logically impossible within the equilibrium paradigm

Where does the error arise? From the abstraction employed, which does away with changes in price – the actual cause of the variations. Equilibrium abstracts from the most important determinant of all – motion.

The equilibrium paradigm supposes, to be precise, that prices not change during production. Consequently, price changes have no impact on the profits. In point of fact, prices at the start of production never equal prices at the end. This is not just a random difference: technical progress drives down prices. This has been obscured by systematically inflationary policies, but is evident in the relative prices of commodities in which technical progress is most rapid, such as computer chips, which fall fastest.

If the price falls while production proceeds, then this will result in losses to the capitalist which diminish her profits. If a capitalist lays out £1,000,000 on a brand new factory, then this money sum must be found before any surplus can be realised as profit. If, while the process is going on, the price of a new factory sinks to £500,000 then the capitalist is not entitled to write this £500,000 off on the books without paying it. £500,000 is deducted from the realised profit which is substantially lower than the hypothetical physical equilibrium rate.

## 8 THE TEMPORAL DETERMINATION OF THE MAGNITUDE OF VALUE BY THE TIME OF LABOUR

The problem is, however, that money itself does not tell us what is going on in society. The money price can be set quite arbitrarily and if inflation is high enough, it will produce the appearance of profit which is, however, really just speculative. It arises simply because goods are going up in price. If inflation runs at 100 per cent, and if I have an item of jewellery in January worth £100 then, even if I produce nothing new, by December it will be worth £200 and I will have a money profit of £100. But I am no better off. *Behind* price there lies something else, which explains how society really behaves.

This 'something' has a fundamental property which was central for Marx: the *total value produced by society cannot be altered by a change in prices*. Therefore exchange is a zero-sum game. If one capitalist successfully appropriates 100 hours more than was added in production, other capitalists somewhere else lose, and the total losses equal the total gains.

The sum of values in circulation clearly cannot be augmented by any change in their distribution...the capitalist class of a given country, taken as a whole, cannot defraud itself. However much we twist and turn, the final conclusion remains the same, if equivalents are exchanged, no surplus-value results, and if non-equivalents are exchanged, we still have no surplus-value. Circulation, or the exchange of commodities, creates no

value (Marx 1977:265-6)

The price system, for Marx, is therefore *the means by which* past social labour is appropriated by one capitalist instead of another. Prices are simply disguised past labour. The money measure of this social resources may vary, but the resource itself – past labour – is not so altered. Therefore, whatever one gains, another loses. This is the core which underlies the mechanisms of unequal exchange, periodic crisis, structural crisis, and class struggle.

Money thus *allocates* some resource to those that hold it. It gives them power over something, permits them to acquire ownership of something. What is this ‘something’? What is it that gets allocated when money prices change? In other words, what is the substance of value?

As previously explained, the theories on offer give two basic answers to this question: use-value, and labour-time. Moreover as we now seen, on the basis of equilibrium, value can *only* be conceived of as use-value, which is why the standard interpretations of Marx cannot actually make sense of his most basic ideas on how the world works.

Temporal determination allows us to correct this; the value of any commodity can indeed be represented as the total magnitude of socially necessary past labour involved in producing it.

To fix ideas, suppose at the start of our example production process that goods containing 100 days of past labour are consumed in production, and that 20 days of living labour transform them into an output. Just as Laplace did not need to know where God put the planets in order to calculate their subsequent motion, we do not need to enquire why this past labour was 100. The value of the output is

$$100 + 20 = 120 \tag{8}$$

Provided we can calculate how much of the produced 120 units of value remain unconsumed and pass into the next period of production, we may repeat this calculation by adding in the living labour of this next period, and so on indefinitely.

This is temporal determination. Its conceptual basis is a sound technique known as mathematical induction, which underlies much foundational mathematics. Its method of calculation is behind virtually all modern physics.

## 9 THREE MAGNITUDES, THREE PROFIT RATES

Now consider the physicalist proposition that profit cannot be determined independent of prices. I will bring together the three numerical accounts of our system scattered around the text.

	Used	Produced
Use-value	100	160
Value	100	120
Money	100	180

There are three profit rates and they can be calculated without reference to unit values or prices, being simply the surplus divided by what is advanced. These rates are thus *dependent on the unit* – in essence, on the value concept. Thus the value rate is 20/100, the physical rate is 160/100 and the money rate is 180/100. The money profit rate is above the physical rate and the value rate is below it.

Now consider unit values and unit prices. The unit value of the commodity in

each period is simply the total labour time embodied in the output, divided by the size of the output, and the unit price is simply total price likewise divided by the size of the output.

	Time t	Time t+1
Use-value	100	160
Value	100	120
Money	100	180
Unit price	1.00	1.12
Unit value	1.00	0.75

We thus have falling unit values and rising unit prices.

## 10 MONEY, REPRESENTATIVE OF SOCIAL LABOUR

A third ratio can be calculated, which unlike unit value and price which apply to individual commodities, applies to the whole of society. This is the quantity which, following Ramos (1995), TSSI authors term the Monetary Equivalent of Labour Time or MELT.

In the example above, the value in society is initially 100 and its price is £100. Consequently the 100 hours are represented, in exchange, by £100. Anyone who owns £1 can purchase a share of society's stored-up labour equal to  $100/£100 = 1$  hour. One hour is *equivalent* to one pound.

This is a direct relation between money and labour, independent of the physical medium. This magnitude, just like unit value and unit price, is variable. Its variation is the decisive link between the money and value profit rates.

	Initial	Final
Value	100	120
Money	100	180
MELT	1.00	1.50

The money profit rate is affected by three independent factors: the value profit rate, the rate of productivity growth, and the rate of money inflation relative to goods. Each factor has a bearing on the actual course of accumulation and each must be independently analysed. In general, the *money* rate of profit is equal to the labour time rate of profit, plus the rate of change of the MELT.

Both the movement of the value rate, and the relation between it and the money rate, can thus be expressed independently of physical quantities.

The value-price distinction has two, completely operational and quantitative aspects. In the first place, every money price expresses a quantity of labour. If the MELT is for example £52,000 per year, and the price of a computer is £2,000, then this represents two weeks' labour on the market. But this price will be higher or lower than the labour time required to produce the computer. If, for example, the manufacturer spent £500 on parts and machinery and if half a week's labour was expended on it, then its value is one week or, in money terms, £1,000. It is hence overpriced; its price is above its value. The quantitative distinction between value and price is not abolished, as in the value-form school approach.

What happens when the price of a computer rises above its value? From a monetary standpoint, £2,000 now acquires £1,000 worth of goods, From a social standpoint, two weeks of social labour acquire one week in return.

The exchange is unequal. This is what really 'lies behind' the price mechanism –



the competitive appropriation of social resources through the constant rise and fall of prices.

## 11 SUPER-PROFIT: AGENT OF CAPITAL MOVEMENT

Were this the only function of the price mechanism, production would probably not occur. The difference between capitalism and precapitalist trading societies is that production is itself organised by past labour in the form of capital. The 'interest taken by the capitalist' is not a quick bargain but a long-term high profit which arises from placing capital where it can make more money than elsewhere.

The laws of motion of capital arise because this individual placement reacts back on general social conditions. Market breakdown arises when these general social conditions fail to maintain the conditions necessary for individual capitals to function.

All capitalists seek to appropriate labour as much in excess of the labour they part with as possible, in proportion to the labour they advanced. The average profit rate is an ideal never attained: in Marx's words

Between these spheres that approximate more or less to the social average, there is again a tendency to equalization, which seeks the 'ideal' mean position, i.e. a position which does not exist in reality. (Marx 1981:273)

The average rate has occupied the attention of most theory, again driven by the equilibrium obsession with equal profit rates. But capital as such is concerned only with excess, super or *surplus* profit:

In fact the direct interest taken by the capitalist, or the capital, of any individual sphere of production in the exploitation of the labourers who are directly employed is confined to making an extra gain, a profit above the average Marx (1972:197)

This difference is also more important than price-value deviations:

The tendency of price of production is only to tolerate such surplus profits as arise, under whatever circumstances, not from the difference between the values of commodities and their prices of production, but rather from the general price of production governing the market and the individual production prices differing from this; surplus profits which therefore do not arise between two different spheres of production but rather within each sphere of production. (Marx 1981:895)

The market reconciles these divergent individual actions to produce social results by averaging them, not by forcing them into uniformity. General conditions are established in the market which regulate all producers: a single price for each commodity, an average rate of profit, and so on.

The market exists because these social results are also the social conditions that sustain it. However it can, and does, produce social results that act in a quite contrary direction, and remove conditions essential for its own existence. The function of value analysis is to uncover how these failures happen.

The explanation of modern war, and of imperialism, arises naturally when we understand that capitalist competition *takes the form of competition for superprofit*. The advanced nations have secured a monopoly on one particular form of superprofit, the most specifically capitalist: superprofit, as Guglielmo Carchedi explains, which arises from *technical superiority*. This explains divergence: it is why they get richer, while most of the world gets poorer.

It also explains the *differences between them*; why countries such as Japan and

Korea have been steadily overtaking the USA in terms of productivity.

However, technical superprofit is not the only kind of profit possible under capitalism. Profit in particular can be made from the ownership and control of money, credit and finance; or from manipulation of the trading and price system to produce special advantages.

These last forms of superprofit require *political control* in the form of colonies or special spheres of interest such as trading zones. They have become the specialty of the USA; just as, in the last century (and still in this one), Britain became their master. The USA and the UK use these sources to offset their lack of productive competitiveness; as a means of competing with their rivals such as France, Germany and Japan. This is the source of the increasingly open political struggle between these countries over the control of the world: *imperialism*, which is a competitive struggle for control over sources of superprofit.

## **12 BONSAI CAPITALISM: THE MYTH OF THE STATIC ECONOMY**

All this is a complete mystery to equilibrium theory, whose focus is to explain how the market stabilises. The most fundamental mistake of this approach is that a stable market cannot exist. Like any organic entity, the market maintain itself by moving. As Marx (1978:199) notes:

This assumption [simple reproduction - AF] is equivalent to assuming the non-existence of capitalist production and therefore the non-existence of the industrial capitalist himself. For capitalism is already essentially abolished once we assume that it is enjoyment that is the driving motive and not enrichment itself...It is moreover technically impossible.

The most general two laws of capitalism are therefore technical progress and accumulation. When either slows, an essential function of capitalism is removed.

Technical progress is the quintessentially capitalist source of superprofit. Market value is an average which is normally well below the individual value of the most advanced producer. If, say, a computer chip manufacturer doubles her output then until the industry as a whole catches up, she gets twice as much money. Without technical advances, there is therefore no motor driving force behind capitalist investment.

Without accumulation the individual capitalist cannot benefit from superprofit. No matter how high the profit rate, the volume of returns depends on how much capital is invested. A profit rate of five hundred percent will still yield only five pounds, if only a pound is invested. Each capitalist therefore strives to increase the total invested and, aside from mutual swindling, the only stable way to achieve this is to invest the surplus.

Accumulation and technical change are not, therefore, just by-products of the market but a condition of its existence. Breakdown occurs when either ceases or is interrupted. The key to understanding breakdown is, therefore, to understand how these processes themselves bring about their own cessation.

## **13 WHY ACCUMULATION FAILS**

### **Crisis and the falling rate of profit**

The rate of profit is the most general variable governing the historical evolution of capitalism. However it is easy to misunderstand why. Its level as such is not

the source of breakdown, since monetary inflation can raise it arbitrarily. It is however the average of a distribution. Individual producers compare their rates with other options. Breakdown arises, therefore, because price movements create alternative sources of superprofit to production.

Were production the only possible destination for capital seeking to expand, the absolute profit rate would make little difference, since surplus profit would compete only with private consumption. But in fact, price movement brings into existence non-productive destinations for capital which, when the rate sinks beyond a certain point, become dominant and throw accumulation into reverse.

The absolute level of the profit rate therefore, fixes what proportion of total capital is thrown into production, and what proportion into unproductive speculation.

To see what drives, it, I extend the illustration to three periods. To study the effect of accumulation alone, isolated from distribution, I suppose the whole of the product re-enters production but that in each period, 20 days are still employed, which implies some technical progress. I also suppose the entire product is invested, and study the maximum rate of profit, assuming the wage is zero. Technical progress is assumed and the physical product rises relative to both labour and physical inputs. Inflation is assumed and the money rate of profit rises faster than the physical rate. Profit rates, unit prices, and unit values are calculated as before.

Period	1			2			3		
	In	Out	<i>r</i>	In	Out	<i>r</i>	In	Out	<i>r</i>
Use-value	100	160	60%	160	300	87.5%	300	600	100%
Value	100	120	20%	120	140	16.7%	140	160	14.3%
Money	100	180	80%	180	360	100%	320	800	150%

The value profit rate will continue to fall as long as value is invested. This law proceeds independent of technical progress. Because and as long as value is accumulating, the invested value sum will rise until and unless the capitalists stop ploughing value into the system and start taking it out – disinvesting in value terms.

Does this mean that the profit rate necessarily declines for ever? No – it continues as long as, and to the extent that, accumulation proceeds in value terms. This is not identical to physical accumulation and Marxist authors look in vain for a recovery mechanism expressed in terms of the physical liquidation of stock. The profit rate is not about physical stock. A capitalist who loses a factory has lost her *money*; destroying the factory does not make things better.

Nor is bankruptcy or debt default an adequate mechanism for the reduction of accumulated value although it certainly is one of the means by which accumulation itself is brought to a halt. The non-payment of a debt simply transfers the problem of payment from the debtor to the creditor, whose money worth is reduced by the amount of the loss but who still has to pay her own creditors.

There is only one permanently effective mechanism for stably restoring profitability, which is to run down the value of stocks by using up the accumulated value – by disinvesting. In short, the only definitive way for capitalism to offset accumulation is to stop accumulating.

This can happen while physical accumulation proceeds, albeit at a slower rate. A slump is, in effect, the slowing down of physical accumulation to the point where the decline in the value of existing investment proceeds faster than the

physical additions to investment. This is the mechanism that permits a recovery in the profit rate and the reason that the rate varies rhythmically over the period of the business cycle. It is possible only to the extent that a degree of technical innovation persists; if to take the extreme case there is no innovation and therefore no general decline in values, then the slump can succeed in restoring profits only by running down physical accumulation itself, and disinvesting in physical terms.

## **14 DIVERGENCE AND UNEQUAL EXCHANGE** **the limits of technical change**

This explains, in broad outline, the cause of stagnation. What about divergence? Perhaps the two most striking facts of contemporary capitalism are that, in the age of space travel, the internet, and global communication, the majority of the world's population do not have a telephone; and that while medical science challenges mortality, hundreds of millions are dying of curable diseases. The second great limit that capital sets on itself is hence that it *distributes technology unevenly*. To the degree that it develops human capacities by the boundless advance of science, it denies access to these advances to an ever growing part of humanity.

The secular divergence of wealth is in a certain sense the most decisive tendency in capitalism because unlike the falling profit rate, it never stops. The difference between the richest and poorest nation at the end of the Twentieth Century is seven times bigger than it was at the beginning.

The neglected process of unequal exchange has been explored by writers such as Amin, Palloix, Emmanuel, and Dos Santos, but its workings do not make sense outside of the temporal paradigm. Mandel stands alone in having attempted a serious temporal analysis. This inadequacy is further testimony to the crippling legacy of the equilibrium paradigm.

Secular divergence arises from the coexistence in the market of many producers of the same product employing different technologies. It is the outcome of a self-reinforcing process – in technical terms, a positive feedback loop.

There are two basic mechanisms. First, superprofit arising from technical superiority never vanishes. As fast as it is reduced to zero in one branch, a new source of superprofit emerges in another and the capital always pursues the highest rate around. To this must be added a distinctive mechanism which is very characteristic of modern globalisation. Consider what happens if the price of the computer considered above falls from £2,000 to, say, £1,500 – as happens all the time. The difference is pocketed by the sellers of the computers, who thereby transfer the costs of technological change entirely to the purchasers.

The mechanism is dynamically self-reinforcing. There is no long-term steady state; the excess profits of the advanced producers are invested in even more advanced technology, sustaining and extending their lead. The 'development of underdevelopment' as Andrew Gunder-Frank so accurately designated it, is a product of the market itself and not of any special historical circumstance.

## **15 LONG WAVES**

What, then, is the actual historical course of events unleashed by these

processes? It is empirically clear that once a certain organic composition of capital has been reached, each successive cycle restores profit rates at a lower level than before. The cyclic process is therefore accompanied by a long-run, secular decline of the profit rate over a 30-50 year period – the Kondratieff or long wave. Unlike the business cycle, there is no endogenous mechanism of recovery from this decline and it therefore brings into play exogenous, social forces on a vast scale that seek to re-organise the entire organisation of world production so that one *particular fraction* of capital can rise above all the rest, by extracting an exceptional share of world value production.

The scale is vast. Endogenous recovery from the business cycle ruins individual capitalists and businesses. Exogenous recovery from long declines lays waste peoples and nations. The fractions that gain and lose in the short cycle are banks, corporations, and industrial sectors; in long waves the winners are the the charmed circle of dominant nations and their retinues in the third world, and the losers everyone else. This is why the recovery, if and when it happens, only follows an intrusion of rude politics into the smooth flow of the market; war, revolution, and barbarity. It is why, and how, technology has become the fifth horseman.

The particular form in which divergence now irrupts into politics is war. War is nothing more than the ultimate form of economic competition, which arises when the purely economic mechanisms described above render countries ungovernable or threaten them with economic destruction.

Such exogenous interventions have, in the past, however, achieved the launch of a new phase of expansion and this has been the clear and even stated goal of US economic policy in the last two decades. Essentially, the US has functioned, through financial deregulation, as a vacuum-cleaner for the world's savings. Importing several hundred billion dollars annually, it has sought to re-establish its productive lead of the fifties by a focussed drive for world domination in Information and Communications Technology.

This is rational – for the USA. The endogenous process behind a long wave of expansion, once launched, has been documented by researchers (see for example Perez 2003) and arises because technology revolutionises a *core branch* of the world economy; an industry which is an input to all others. 1848-73 was the age of steam and the railway; 1893-1914 the age of steel and electricity; 1947-65 the age of oil and cars. This becomes the target of a prolonged wave of investment, but also revolutionises all other branches of industry, providing the basis for an investment surge throughout the economy. Any nation producing this core technology rises up the pecking order.

The contradiction is, first, that accumulation itself leads to a declining profit rate for the reasons already discussed, choking off the expansion and, second, the process is phenomenally uneven. It divides the world ever more sharply between producers of the new technology, whose domination is at each stage further reinforced, and consumers of it who become dependent. The world market does not spread the technology; it concentrates it. The phenomenon of capital export, observed by Hilferding, Hobson and Lenin, and still a vital part of advanced country operations today, is only one aspect of an overall pattern which *organises the world labour market* on a world scale under the direction of the new technology. The typical structure of the world corporation, repeated in each phase of expansion, is a core in the centre, serviced by outsourced labour-intensive activities in the periphery. This is no different today when the core technology is service-driven and the tributaries are mass industrial production, than a hundred years ago when the core technology was industrial

and the tributaries were agricultural.

Inevitably therefore, nations and corporations strive to convert the source of superprofit of the core technology into a monopoly and to extract from it a rent, a stable superprofit. Rail cartels in the 1870s, the steel and electricity cartels of the early part of the last century, the oil cartels in the modern age, and the rise and rise of Microsoft are all classic manifestations of this process.<sup>2</sup> Governments and nations are only too conscious of the benefits to their own capitalists, and the regulatory régimes surrounding core products are the focus of much international politics.

Today the most vivid, and advanced, expression of the process is the legal formalisation of intellectual property rights via the TRIPS agreement of the WTO. Effectively, this serves to convert technical advantage *as a whole* into a source of rent. The role of technology in dividing the world to haves and have-nots is nowhere clearer than in the conflicts over this new commodity form. Yet the contradictions of the form highlight the reasons that capitalism cannot generalise the gains from technical progress; for the first time, 'free trade' in a commodity depends on the restraint of trade in all other commodities. The pharmaceutical and agricultural companies rushing to patent genes, drugs, seeds and animals are battling not to provide them to the third world, but to prevent the third world making them.

## 16 THE AGE OF WAR

We do not yet know if Greenspan will achieve his lifelong objective of launching the fifth Kondratieff. The evidence, overwhelmingly, is that it has not started yet. Not only is world growth at its lowest in thirty years, but US growth is no higher than twenty years ago, and still well below golden-age levels. It has outstripped the rest of the world only by driving all others down. More decisively still, the telltale sign of a productive lack of competitiveness – a huge and growing trade deficit – shows no signs of going away.

In consequence the US's relation to the rest of the world bears a far stronger resemblance to the relation which the UK held in the 1890s, than that of the US in the 1950s or the UK in the 1850s. Does this rule out a new Kondratieff? No: despite the structural instability imposed by the UK's weakness, the period 1890-1914 saw the 'Belle Epoque', a prolonged phase of technical revolution and expanded growth.

The problem is that the Belle Epoque ushered in World War I. This highlights a crucial difference in modes of super-power domination. In the first type, seen in 1848-1873 with Britain, and 1947-65 with the USA, one power establishes exceptional productive dominance providing it with exceptional technical super-profits. It runs a trade surplus and finances the expansion of capital outside its borders, which is why the USA could build a new Germany in 1945 where Europe signally failed in 1918. The second type, however, arises when a power that has lost productive dominance nevertheless organises the commercial, financial and military system of world capitalism to recapture on this terrain what it can no longer appropriate technically. It monopolises, in short, the non-productive sources of superprofit to its exclusive advantage, leading to a hypertrophy of finance capital and all the other phenomena associated with

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<sup>2</sup> The relation between monopoly rent and profit has often been mistakenly reversed because from an equilibrium standpoint, any deviation of profits from the average must be caused by something exogenous. Rent is tribute exacted from stream of surplus profit, and monopoly is the fixation of the right to this rent in a particular form of property. No-one exacts rent from an unused building. The profit causes the rent, which brings about the monopoly, not the other way around. Baran and Sweezy's account of 'State Monopoly Capitalism' inverts this essential causative relation.

classical imperialism.

As the Belle Epoque demonstrates, a system of great-power relations based on such economic relations is structurally unstable even if a phase of expansion ensues. The dominant power cannot hegemonise its partners because it cannot offer them anything, and competition between dominant powers becomes the highest form in which economic competition is organised.

A Kondratieff expansion, whether or not it occurs, is not therefore a solution to the current fairly tendencies towards market failure. The solution lies in a different quarter, to which Marx would of course have turned: the conscious forces flung into movement by this failure and their capacity to replace the market by something better. Whether or not they succeed will depend on whether or not they understand the tasks facing them; theoretical clarity, in this situation, is not an optional extra but a militant duty.

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