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ABSTRACT

This paper was presented to the joint conference of the AFEP, AHE and IIPPE in Paris, July 2012. A more developed and substantially revised version was presented to the conference on 'Marxism: Marx and Beyond' in Calcutta, 22-24 March 2012 and is due to be published.

The paper argues that booms, not depressions, are the exception in capitalist history; this inverts the general approach of economics. I argue that booms are recurrent, but irregular events that arise when certain specific sets of political and economic conditions are met. If we can establish these conditions this will help understand what booms can achieve, what their dangers are, and whether their historical potential is exhausted, shedding light on such intractable problems in political economy as what causes growth, whether it is desirable, what circumstances bring about economic development, and what causes so-called depressions

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Note

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Introduction

This paper argues that booms, not depressions, are the exception in capitalist history; this inverts the general approach of economics. I argue that booms are recurrent, but irregular events that arise when certain specific sets of political and economic conditions are met. If we can establish these conditions this will help understand what booms can achieve, what their dangers are, and whether their historical potential is exhausted, shedding light on such intractable problems in political economy as what causes growth, whether it is desirable, what circumstances bring about economic development, and what causes so-called depressions.

Many writers recognize that much economics relies on ideal models which diverge from reality. Some even acknowledge that this reality does not exist. Far fewer grasp that this theoretical reality is the outward mask of an idealized *empirical* reality: a perceived 'natural' or normal state of capitalism which may have its contradictions and its bad moments, but which for most of the time 'works'. This is the idea I seek to challenge.

This project entails a considerable reformulation of much traditional theory, though few of the individual elements are new. Rather, the aim is to recover a number of key neglected or suppressed ideas, many but not all from Marx, and show why they are needed to understand modern capitalism as it really is, which as the crash and Great Recession of 2008 have graphically shown, is very far from the idealized picture painted by modern theory. This is a large project; this paper is a first speculative exploration.

Booms as an unnatural state of capitalism

The intuitive foundation of most economic thought is that a capitalist economy has a 'natural state' in which everything more or less works, but which is from time to time interrupted by a departure from normality – a crash, a 'downturn' or a recession. The very words we use convey this: 'recovery' for example, suggests a return to a normal state. Such a natural state is canonical for most economists, who dismiss or perceive periods of decline or difficulty as abnormal, defective, or 'unhealthy'. More apologetic theories present this mythical state as an Eden from which we diverge only by accident or through malign Intervention. It is the equilibrium or centre of gravity, the state towards which a true capitalist economy returns of its own accord if left to its own devices.

Smith introduces this hazy mirage into his idea of 'natural' price:

> The natural price … is, as it were, the central price, to which the prices of all commodities are continually gravitating. Different accidents may sometimes keep them suspended a good deal above it, and sometimes force them down even somewhat below it. But whatever may be the obstacles which hinder them from settling in this center of repose and continuance, they are constantly tending towards it. (Smith 1976, I:65)

Schumpeter (1939 I:36-37), who can always be counted on to apply the varnish of common sense to a veneer of expert authority, expounds the modern development of this idea in a book which, if not the most theoretically coherent work on Business Cycles, is surely the most influential:

> [A]nalytic treatment of the facts…begins conveniently with the construction of the model of an unchanging economic process which flows on at constant rates in time and merely reproduces itself. Obviously, such a model will present the fundamental facts and relations of economic life in their simplest form…Implicitly and in a rudimentary form it has always, therefore, been present in the minds of absolutely all economists of all schools at all times, although most of them were not aware of it… there is nothing artificial or unreal about it and it comes naturally to us; the facts indeed impose it on us.

Smith's idea of a 'state of repose' which one can sink below (how?), and Schumpeter's notion that an economy which cannot exist without growing, yet which in its simplest form 'merely reproduces itself' (how?), create problems to which we will return. The key question I ask at this point is: *which* facts impose Schumpeter's expert consensus upon us?

The analogy which Schumpeter develops, following Juglar (1889) and Kitchin (1923), and developed to an empirical fine art by Mitchell (1930) and his coworkers at the US National Bureau of Economic Research (NBER),[1] is a direct descendant of Smith's picture of an oscillation – sometimes above, sometimes below, but always around, a logically coherent 'natural' state.

It is often argued that general equilibrium theory is not obliged to submit to cross-examination in the court of real life. Its ideal prices and profits, it is said, will not be witnessed in the economy, but govern what we can in fact see. I propose to arraign these ideal magnitudes on a charge of bad government. The idea that the economy oscillates like a pendulum around some natural state is empirically testable; it should spend approximately equal times above and below this state. The longer it spends in a depressive state, and the less evenly spaced are the expansions, the less plausible the claim that it its movements are governed by a harmonic process whose natural centre is the mythical state into which it would settle, if only it were left alone.

At this stage, my focus is not on the claim that these variations are regular – this is dealt with in the next section – but on the specific concept that they are movements around a natural state, particularly one which is quiescent, self-reproducing, or constant. A logical nonsense is involved. This becomes clear when we recognise that a recurrent process may be regular or even periodic without having a natural state in the centre of the oscillation.

Geysers are a good example. They exemplify what Goodwin (1983) terms 'relaxation oscillators'. Their quiescence builds up stresses which lead to an eruption followed by a relapse into quiescence. But the geyser has no natural centre. It shifts, more or less violently, between extremes; if anything, the quiescent condition is its natural state. During the exotic postwar development of non-linear and chaotic models of turbulence and oscillation, a vital point has escaped notice: the classical notion of a 'natural state', lurking in the centre of these gyrations, makes no sense within them. Such a state cannot *logically*

[1] Kondratieff (1984:28) cites Werner Sombart as the originator of the modern notion of the cycle but gives the date of Sombart's intervention as the late 1890s. Since Juglar was already well-known by this time, this is a curious attribution. It appears that Kondratieff has in mind the specific idea that 'crisis was only one phase of an entire capitalist cycle' Kondratieff also cites the following precursors in the assimilation of crisis into cycle theory: Tugan-Baranovsky, Hilferding, Pole, Spiethoff, Lescure, Aftalion and Mitchell. There is not space in this article to consider the whole historic evolution of the ideas here criticized. Readers should refer to Kondratieff and Mitchell for references to this original debate. We select from it those interventions that illustrate our central points.

exist, once we depart from the simple harmonic oscillations that informed the metaphors of Smith and Schumpeter, their successors, and their epigones.

My fundamental claim is that capitalism is more like a geyser than a pendulum. The logical starting point of a natural state of capitalism – a state of 'repose', stationarity in the old sense, or 'mere reproduction' as Schumpeter puts it, is not logically compatible with the empirical facts of capitalist history. This rhetorical prop no longer makes the comforting sense that it did to Smith and so many of his epigones. We have to learn to live without it, and this involves the creative destruction of much of what passes for economic theory these days.

Nor is this a problem only for mainstream economics. Behind much supposedly critical and Marxist thought lurks the 'dark secret love' which I term *Capital Worship* (Freeman 2010a). This is the idea that the revolutionary capabilities of capitalism, to which Marx famously alludes in the Communist Manifesto, manifest themselves in real periods of such length in time, and such reach in geographical space, that everything else associated with capitalism is a kind of aberration – perhaps traumatic but even so, rude and exceptional.

Curiously enough, behind even the most extreme millenarian wing of Marxist thinking, the theory of *Zusssamenbruch*, or inevitable breakdown, we find the idea that for most of the time capitalism works. If it ain't fixed, how can it break? The interwar controversy on the reproduction schemas between Luxemburg, Bukharin, Bauer and finally Grossman, is dogged by the preoccupation that capitalism may somehow cease to be 'true capitalism' once it fails to reproduce itself perfectly. But, actually, capitalism never reproduces itself perfectly. Overproduction, underconsumption, overaccumulation, disproportion, and all such evils are part of its normal condition. The real problem is to identify the point at which such persistent failures threaten its *social or political* stability; bringing masses of people into action onto the historical stage either to threaten its continued existence or to shore it up b barbaric means; and to identify the actions those masses of people may take in order to end the misery that capitalism has inflicted on them.

The notion of some perfect state of capitalism from which its normal behaviour can be deduced diametrically contradicts, we should note, Marx's own disgusted dismissal of the capitalism he lived through, as a system endemically and persistently unable to live up to its own promise; as an inherently, and ever-presently, 'failed state' of history. For Marx, the very inability of capitalism to attain or sustain any such mythical stationary state, but yet survive as a social system in such circumstances without so doing, constituted the true foundation both of its historical justification and of its historical transience.

I will show that the capitalist mode of production has been in a stagnant 'ground state' for remarkably large parts of its history. This sheds light on many important problems, not least the relative role of the state, war and colonial conquest, technological change, and other factors in its evolution. Once we accept that 'stagnation' is a ground state of capitalism, we will begin to understand the precise circumstances that lead to something else.

Historical evidence supports Marx against many Marxists. The exceptions are not capitalism's awkward periods, but periods of prolonged, explosive and often destructive growth of enormous, transformative and revolutionary power - booms. We have to shift our focus. Theory needs to explain not the interruption of growth, but the interruption of stagnation.

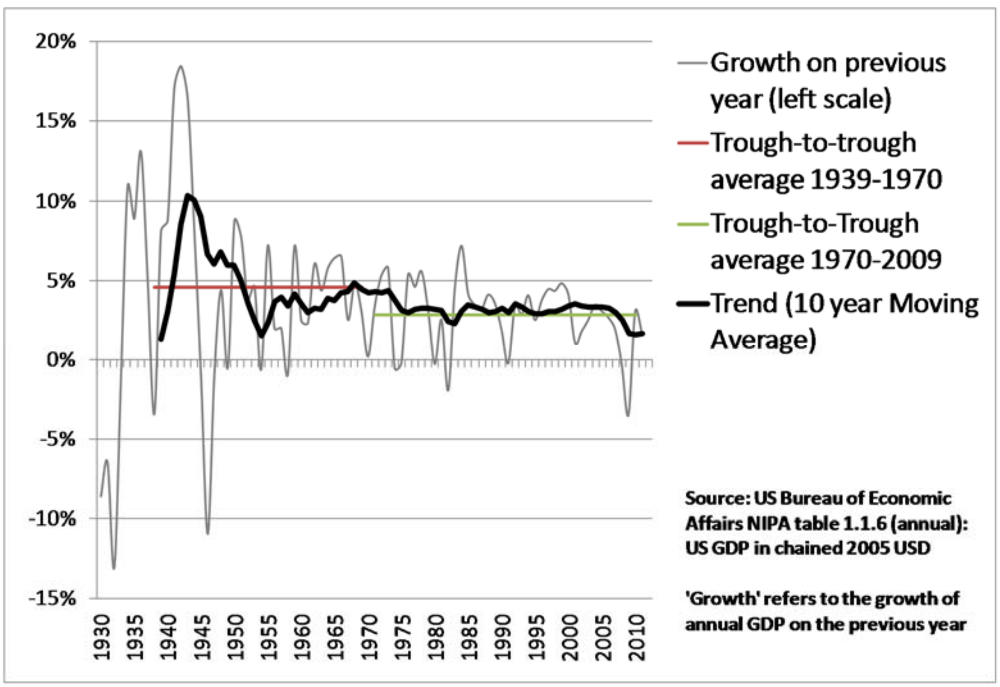
Stagnation as a natural state of capitalism

Let us begin with the empirics. In this section I argue that for most of its existence, for periods measured in decades rather than years, capitalism has wobbled around a persistently depressive state. To illustrate this point we begin with the modern age; which has been in a state of general stagnation and decline since 1968. This is insufficiently recognised because of the blinkered outlook and short span of attention of most quantitative studies. This leads, as in Haimowitz (1998) to a redefinition of ‘expansion’ as a period in which growth rates rise from catastrophic to merely dismal.

If the concept of an expansion is to have any but the most relative meaning, the comparator must be the entire preceding historical period and most importantly the preceding Long Boom of 1942-1968, which definitively ended with the 1974 crash, and which established average growth rates, both worldwide and in the US, systematically higher than anything seen since. The only exception to this rule is an important one to which I will return later; the exceptionally rapid growth of China, and to a lesser extent India and Brasil, that began at the end of the last century.

In the rest of the world, the previous 50 years have been dominated by sluggish or negative growth, persistent high unemployment, low productive investment, falling average profit rates, and dogged by intractable and often rising world poverty and inequality. Deep troughs alternate with increasingly bubble-like bursts of feverish growth which, combine to yield average growth well below the postwar boom.

Chart 2: Annual growth of real GDP, USA,1929-2011



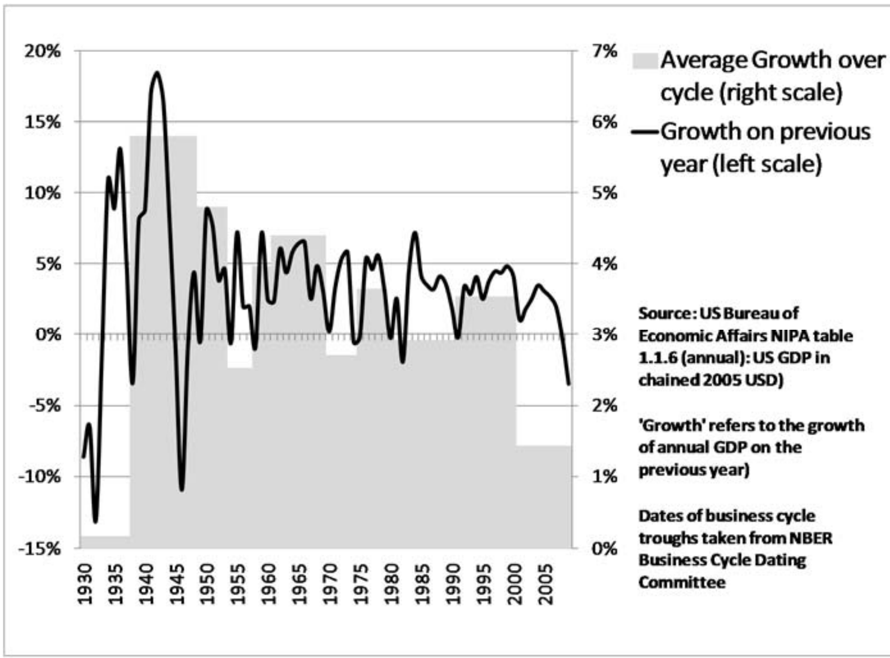
As chart 2 shows, postwar US history divides into two halves. If we take averages from trough to trough, we find that the average growth from 1939 to 1970 was 4.61%; from 1970 until 2009 it was 2.8%. For fifteen of the thirty years from 1939 to 1970, growth was higher than the long-run average of 4.6%; this was achieved in only six of the 39 years from 1970 to 2009.

This becomes yet clearer if we look at the average growth over the period of the business cycle, as determined by the enticingly-named NBER Business Cycle Dating Committee. This is show in chart 3. In only four years did the average growth rate fall below 5% from 1939 until 1968. In *no* cycle after 1968 did the average growth rate rise above 5% and for 26 of these 52 years, average growth was below zero.

The situation is even clearer when we turn to world GDP. Chart 4 shows the growth of world GDP, calculated at current exchange rates and deflated using the US GDP deflator. This method of calculation (see Freeman 2010b) eliminates the distortions arising from the PPP method used to weight GDP that is used by the World Bank and IMF.

The comparison is instructive. Between 1960 and 1970, in no year did world GDP grow more slowly than 4%: since 1991, in no year has it grown more than 4%.

Chart 3: Annual growth of real GDP over the business cycle (trough-to-trough), USA,1929-2011



Even in the rocky seventies, world growth fell below 4% in only two years: 1974 when it dropped to 1.1%, and 1975 when it reached 1.0%. At the time, such growth rates were regarded as catastrophic, and the 1974 downturn is generally held not only to be the world's worst since the 1930s but a major reason for the economic policies of the 1980s, with their intense concentration on financial and trade liberalisation. Yet, twenty years later, world growth in 2001 was only 0.4 percentage points above the worst of these two years.

Moreover annual growth is only a part of the full picture. During the 1970s, as noted, growth overall was generally above 4%. In consequence, average growth over this decade was a relatively healthy 3.5%. What about average growth in the period of financial liberalisation? This is shown, and compared with previous years, in the trend line in chart 5, which shows annualised growth over the previous ten years, for each of the years since 1970. Throughout the 1980s, average world growth has never risen above 3.1 per cent in any ten-year period. Before 1981, it never sank below this level. And by 1970, it was already sinking towards its post-1980 bottom.

Chart 4: Growth of world GDP 1961-2005

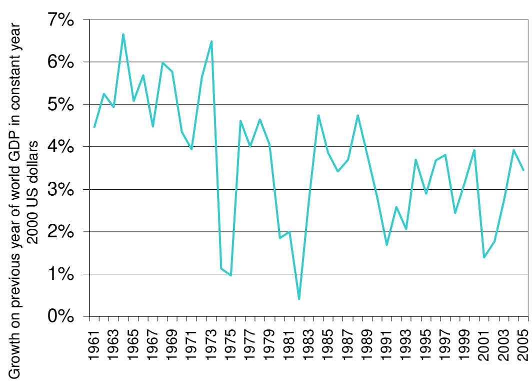
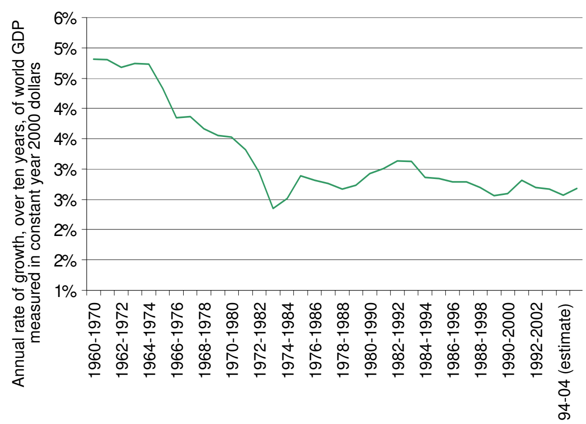


Chart 5: 10-year average growth of world real GDP



Notes: Throughout this report, transition countries are omitted from world totals
Sources: before 2002: World Bank World Development Indicators, after 2002: IMF World Economic Outlook; Charts will be updated to 2011 before publication. Please do not cite before this time.

How often do booms happen?

The previous section yields two conclusions. First, the world economy, particularly its advanced countries and most notably the USA, have been in a semi-stagnant state for the last fifty years; secondly, the twenty-five preceding years produced average growth rates nearly double what has been achieved since. The 1942-1968 'Long Boom' stands out from all the rest. Is this then a completely exceptional event, or does it have precedents? And if so, how often do we see them?

Booms are infrequent, but they do recur. Their impact, especially when viewed historically, is spectacular. They give rise to most popular descriptions of capitalism's revolutionary capabilities. The very notion of 'development' is informed by them. Yet they account for a surprisingly small part of capitalist history.

The most contemporary is the postwar Long Boom just discussed. As we have seen, it covered less than a third of the years between two Great Depressions. Turning back the pages, the best- known boom in economic history is the Industrial Revolution itself. But almost all commentators (see for example Kondratieff 1984, Schumpeter 1939, C. Freeman 1996) accept that this petered out not long after the Napoleonic Wars began. A generous 30 years, then. The 'Age of Iron and Steam', an expansion generally dated from 1848, gave way to the first 'Great Depression' in 1873 – again 25 years. The remaining recognized, if contested, boom is the 'Second Industrial Revolution' which took off somewhere between 1893 and 1896 and was already on the ropes by 1914.

The striking thing, once such a list is assembled, is that although treated as archetypal of true capitalism, genuine capitalist booms account for at most 100 of the 250 years in the life of modern machine-based capitalism, and moreover they spent up to half those 100 years in declining mode. Yet more significant is the size of the gaps between them, above all the last and greatest boom, which ended fifty years ago – close to a lifetime. Two whole generations, at least in the West, have never seen full employment growth.

I propose a Spenglerian paradigm shift. The idea that heightened revolutionary expansion is the 'natural behaviour' of the capitalist mode of production has occasioned a fruitless and wasteful search for holy grail causes of low growth, unemployment, underdevelopment, inequality, or crisis. These are simply the normal products of capitalism's true 'natural' state We will not gain any new knowledge about their causes until and unless we can contextualize, and inform, this knowledge, by developing a science of the specific circumstances and mechanisms of capitalism's *exceptional* state – boom.

What is a boom?

I do not deny that crises, as such, occur. There are specific moments, like the crash of 2008, when key market institutions, notably credit and payment mechanisms, suddenly become dysfunctional. But such events – credit panics, domino bankruptcies, disruptive capital flights – are abnormal not just because of their impact but because of their timescale; they last days rather than decades, so unless they become frequent or protracted – which does happen,[2] but is quite unusual – they do not really qualify as periods of history. Their 'disaster movie' character makes them spectacular but can obscure a proper historical judgment; Booms, as we shall see, typically last 20-30 years. A different comparator is required, namely, non-booms, the average performance of the economy over two or more decades or, otherwise put, its real 'natural state'.

When the context of time-specific outbreaks is studied, they turn out to be earthquake moments; they release accumulated stresses and tensions which have built up over years and maybe decades. This itself leads to elasticity in the term 'crisis', which is sometimes used to describe a specific event as in 'the 2008 financial crisis', and sometimes to describe an extended agony as when people speak of the 'Greek Crisis' or the 'crisis of the Euro'. This in turn emphasizes that the word is ill-defined in economics, although for Marx its meaning is quite specific. We will not use it here.[3] Our time-frame, in assessing the relative frequency of growth and stagnation in the history of capitalism, is the medium term. For now, to fix ideas, we define the medium term as a period spanning at least two peaks or two troughs of the business cycle, that is to say 10-20 years.

On such a timescale, all-out 'long' booms, like the golden age of 1946-68, are surprisingly infrequent. I will distinguish such long booms from the normal upturn that occurs between the troughs of the business cycle . These may be expansive if part of a long boom, but are otherwise either short or shallow and bubble-ridden, fitful, and usually end in a significant malfunction in capital or credit markets. In fact, the only feature of many such upturns that justifies the term 'boom' is the fact of coming between two crashes. For this reason I am wary of such terms as the 'dot-com boom', which is a simple misnomer.

We can tentatively advance certain common features of real historical booms as follows: growth is investment-led. It generates new modes of consumption which retrospectively justify large outlays in productive capacity, sustaining the expansion over several cycles; average growth rates except for short blips are persistently above the average rate for the decades either preceding or following; the workforce expands more than proportionally to demographic growth. This generates both exceptional investment demand and exceptional consumption demand. Entirely new forms of mass consumption arise such as cotton clothing, travel, electrical power, radio, film, the gadget, and the car. Entirely new systems for producing things arise such as the factory, the production line, the film studio and the modern city. Both are associated with entirely new industries: manufacture, transport, energy,

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[2] Most infamously in the interwar German hyperinflation

[3] Not because 'crisis' is inherently ill-defined. In Freeman (2010c) I attempt to give it a precise meaning, as a point at which the blind workings of the commodity form cease adequately to reproduce the society in which they are embedded, and the conscious or explicit actions of states and classes come to the fore and override them. I will not use that in this article, because in capitalist history such moments are brief in time, and here, our focus is the medium and long-term.

communications, white and hi-tech goods, the auto industry, the office. Average productivity at the end of a boom is 2-3 times higher than at its outset.

Booms have a geographical focus. They take off in a particular country or closely-associated group of countries, but draw the rest of the world in such a way as to divide it. Some parts of the world are drawn into the boom and take part in the growth it creates; others are devastated by it – or left behind by it, depending on the economic theory used to explain the misery.

Finally, booms wreak both political and social transitions. They bring immense geopolitical transformations, accompanied by the *Stürm und Drang* of those huge upheavals wrought by changes like the railways, telecommunication, the motor car, or the household gadget: new modes of social existence which Perez (2003) describes as 'socio-technological paradigms'. The industrial revolution gave birth to the capitalist mode of production, and catapulted Britain, a small if piratical group of islands off the coast of Europe, into the role of the political and economic centre of the world, the 'act to follow' for all other aspiring nations. In bringing into existence the modern mass consumer goods industry, it launched both 'factory' and 'manufacturing' on a world that in 1760 did not even know what these words meant. The 1848-73 expansion ushered in the age of machines and gave birth to the modern proletariat, the trade union movement and the Second International. It brought together fossil energy, iron construction and steam power to create rail transport, the age of machines, mass-produced consumer goods, and the age of modern war. It created two new major nations: Germany and the USA, which it also elevated to the status of industrial and world powers.

Significantly for this paper, it began with a revolution n and ended with a war. The *Belle Époque* was described by C. Freeman (2992) as the age of 'electricity, concrete, steel and imperialism'. It gave birth to the skyscraper and the modern city, the recorded music industry and the film industry. It rewrote the map and the economy of the world, culminating in a war and a revolutionary wave that swept away all the old empires of the Holy Alliance and gave birth to the Soviet Union. And finally the prodigious worldwide expansion that followed the Second World War confirmed the USA as the undisputed economic leader of the capitalist world, all but finished the old colonial empires (though as we shall discuss, the ties of economic dependency were by no means similarly dissolved), and ushered in the age of oil, motors, gadgets, nuclear power, and mass destruction.

The mechanism of booms

We now turn to the precise mechanisms that lead to capitalist booms. This will turn around the much-neglected concept of surplus-profit, a central category of Marx's analysis which lies buried beneath the dust kicked up by the equilibrium interpretation of Marx that has dominated academic Marxism for the past seventy years. I will argue that booms begin when surplus profit from the world as a whole comes to be concentrated, and applied to accumulation, in a particular geographical territory. On this foundation, I will seek to lay bare the mechanisms that lead to this concentration and will conclude that they require the conscious action of states, often forceful. Finally I will specify the actions which, historically, have allowed states to launch booms including both malign and benign actions as well as successful and unsuccessful ones, and draw some conclusions for future policy.

My central argument is that booms cause depressions, but depressions do not cause booms. Contrary to all received neoliberal or Austrian opinion, a depression plays no necessary function in the course of human existence and is a complete waste of lives, effort, and sacrifice. A depression is not required to purge capital stocks of their inflated values, and no depression has ever done so. A depression is not required to impose bankruptcy on imprudent lenders, and there are other and better means to liquidate them. Above all, a depression is not required to launch a boom, and no depression has ever in the course of history succeeded in doing so. Booms are launched by the conscious political actions of humans, acting through their political agencies, above all, their national states.

Nevertheless, it is only in the capitalist era proper that states have found at their disposal the means to launch sustainable, expansive, and transformational booms of the type we have been discussing. Booms are a phenomenon of capitalist history; there are no parallels from any other period. Consequently, the mechanisms through which the boom sustains itself are to be sought not in the actions of states, but in the process of accumulation, as classically analysed by Marx.

Finally, the process of decline which brings all booms to an end two or three decades later, is a consequence of these same mechanisms of accumulation. The forces driving decline are of such power that no state or group of states has yet succeeded in forestalling or overcoming them.

The underlying theoretical issue is this: which mechanisms are *automatic* for capitalism? Behind that question lies a deeper one: what possible meaning attaches to the idea of an automatic or 'internal' response of the capitalist system? We begin our assault on this question by distinguishing between recurrence, regularity, and periodicity. The business cycle writers take pains to distinguish regularity from periodicity, observing that the length of the business cycle itself varies from seven to eleven years. However, they tend – wrongly – to use recurrent as a synonym for regular. This omits a necessary distinction. Booms, I will argue, are recurrent but not regular. This is because they are not the product of an oscillatory process of any kind. This distinguishes them from the business cycle, whose troughs and peaks are not only both recurrent and regular, but even show significant evidence of periodicity.

Periodicity itself looms large in the history of economic thought. It is largely inspired by an urge to account for capitalism's failures as nothing worse than evidence of deeper design, evidenced by conformity to a natural world that, in fact, is idealized and mythologized. This expresses itself in a belief, at times obsessive, that the regularity of the heavens with their period orbits provide the key to the chaotic motion of the economy. Toulmin (1998:340) provides a vivid account of the comical misunderstandings between Walras, with his preconceived notion that the heavens were a model of economic order, and Poincaré, founder of modern chaos theory, whose had found the heavens so intrinsically chaotic that he founded an entirely new branch of mathematics to account for them:

> The most revealing case is that of Léon Walras , a French academic who (to his regret) spent his career at Lausanne in Switzerland, where his colleagues included Vilfredo Pareto. Walras was a more single-minded economist than Cournot or Jevons; yet, like them, he is preoccupied with method, notably with analogies between "equilibrium" in planetary theory and economic affairs. During his last ten years, he kept writing to Poincaré, hoping to win the great mathematician's approval for a parallel he thought he had established, between the laws of economic equilibrium and those that supposedly ensured the stability of the planets: Walras's last paper, in fact, was entitled Économique et Mécanique. By this time, Poincaré himself, of course, no longer believed that the planetary orbits had any essential stability - let alone that dynamics give a mechanical guarantee of that stability - so it was embarrassing for Poincaré to answer Walras's pressing letters candidly, and the letter that is printed as an annex to Walras's paper reads, in retrospect, more like a diplomatic brushoff than an endorsement.

Twentieth-Century Economics inherited a positivist Victorian *zeitgeist* which not only required Reason to be present in everything, but to manifest itself in the regular repetition of everything, from the orbits of the heavenly bodies to the morning appearance of the workers. *Ordnung muss sein!* What could appear more sensible than the idea that there is not only a season for harvests and planting, a time for an engine to rotate, a time for the heart to beat and the lungs to breathe, and a time for work to start, but also a time for the natural business of the economy to work through its rhythms of expansion and contraction?

The ultimate purpose of this article is a radical critique of this general notion. The idea the capitalist economy is regulated by an *Horologerie* of automatic cycles carries an ideological payload that has not been sufficiently acknowledged. Most important, it writes crisis itself out of the account: it implies that crisis is just nature's way of making things better again. It pins on capitalism a virtue that trumps all its vices: *self-regulation* – the magical ability to put right anything which it accidentally makes wrong. To set the critique of this plainly apologetic idea on a sound footing, the distinction needed is between *recurrent* and *regular* events.

Recurrence, regularity and the myth of self-regulation

In history, things often recur. For example, empires of the old type occur regularly in antiquity in many parts of the world and may even be regarded as successions – Egypt followed by Greece, followed by Alexander, followed by Rome, or as alternations, as with those periods of stable pan-Chinese empires that alternate with periods of warring states. The course of such recurrent events is not identical but they have enough features in common that useful abstraction can be made of their differences. So it is with booms. They have happened more than once. They have many common features. When history repeats, we need an explanation for it.

However we cannot assume that alternation or succession are automatic processes. A drunk wanders home; every so often he collapses, and sometimes gets up. This is a recurrent event. But it is not evidence of anything cyclic. It simply shows that drunks have a tendency to fall down, and that when a drunk is on the ground, no alternative state is possible except to die, fall into the hands of the police, or get up. One cannot conclude that the drunks will inevitably get up, any more than one may conclude that the natural state of an inebriate is semi-sobriety. Everybody knows that what goes up, must come down. But no law, either physical or economic, tells us that what falls down, must get up again.

With this in mind I will make my distinction as follows: a *recurrent* event is, as its name states, simply something that happens more than once. A 'regular' event is a recurrent event which starts because it has stopped: whose cessation creates all the conditions required for its re-initiation, and forces it to do so; there is an unavoidable and necessary causal link between the two. As an example, consider the Lotka-Volterra equations which govern the numbers of rabbits and foxes in a territory. When the foxes get too many, they eat up all the rabbits. Their food supply has gone and the fox population falls. In response, the rabbit population recovers and the whole cycle repeats. This is regular: each successive phase is *caused by* the circumstances created by the previous one, and no *other* outcome is possible. If the rise of the rabbits let to an incursion of large eagles, preying on foxes and rabbits alike, this would be historical evolution, not repetition, and so could not be described as regular.

To establish this point the first problem is that, unlike the idea of a 'natural state', the notion of regularity is empirically unfalsifiable. Almost any recurrent event can be represented as regular by an imaginative soul equipped with a judicious choice of equations.[4] Whereas the empirical data allowed us, in sections 2 and 3, to refute the equilibrium concept of 'gravitation around a natural state', we can push the empirics no further in refuting the claim of self-regulation. The data 'looks' regular.

[4] Jackson(1991) points out that there are equations, not particularly complex ones either, which can be fitted to any possible or known continuous time series, to any desired degree of closeness. As with monotheistic Gods there is nothing such an equation cannot explain; as a consequence, it doesn't actually explain anything.

Instead we must study not just the timing of booms and slumps, but their causes. My case is that booms require *exogenous* circumstances to start, although once going they are sustained by endogenous mechanisms, unique to capitalism. A boom is kicked into existence and does not happen on its own.

This is not a new ideas; but until now, no systematic and rigorous attempt has been made to define what is meant by 'internal', 'external', 'automatic' or 'on its own', let alone to distinguish properly between 'regular' and 'recurrent' events. The secret, I will argue, lies in the peculiar nature of the commodity form. A rigorous definition of that which is 'internal' to capitalism must limit the forces concerned to those social relations that are directly expressed as value, as an exchange relation between commodities. The formation and interaction of values, prices, wages, profits, rent, commercial profit and interest, in and through the process of accumulation, are internal to capitalism because they are concealed within the commodity form which hides and disguises the social relations that these magnitudes truly represent. The actions of states ranging from war and taxes to welfare and benefits, are external to the laws of motion of the capitalist economy because they are determined directly, by conscious human decision.

This helps us understand why Long Wave theory itself divides into two contesting outlooks, in which the minority current treats the alternation of fast and slow periods of growth as 'exogenous' or determined by non-economic circumstances. This issue came to the fore during Russian debates of the 1920s and is ably summed up by both the principal protagonists, Kondratieff and Trotsky. In the mid-1920s they participated in what was probably the most advanced Marxist discussion of the century, with a poignant practical relevance: they were trying to determine, in the embattled Soviet Union of 1924, what prospects there were for revolution beyond Russia's boundaries, and hence what the likely state of the world economy would be in the years to come. Kondratieff(1924) pioneered the statistical study of 'Long Cycles' and his work remains today canonical. All the major modern ideas about Long Waves can be found in it, including the importance he attaches to invention. To this, Trotsky (Day 1981:50) replied:

> One can reject in advance the attempts by Professor Kontrad'ev to assign to the epochs that he calls long cycles the same 'strict rhythm' that is observed in short cycles. This attempt is a clearly mistaken generalisation based on a formal analogy. The periodicity of short cycles is conditioned by the internal dynamic of capitalist forces, which manifests itself whenever and wherever there is a market. As for these long (fifty-year) intervals that Professor Kontrad'ev hastily proposes also to call cycles, their character and duration is determined not by the internal play of capitalist forces, but by the external conditions in which capitalist development occurs. The absorption by capitalism of new countries and continents, the discovery of new natural resources, and, in addition, significant factors of a 'superstructural' order, such as wars and revolutions, determine the character and alteration of expansive, stagnating, or declining epochs in capitalist development.

Kondratieff (1984:31) offers a frank and honest response:

> L.D. Trotsky, in his article titled "Concerning the Curve of Capitalist Development," whilst not denying the existence of long waves in economic conditions, refused to recognize their patterned, cyclical character, and regards them as the result of adventitious (and, in that sense, random) circumstances of an economic and political nature"

It is important to note what the dispute was about. Trotsky did not dispute the existence of recurrent exceptional expansions; the discussion is about their cause. The view to which he gave voice has become known as the theory of 'exogenous' causality for the start of booms; the causes of booms are primarily political. Kondratieff's approach, notably as adapted by Schumpeter, has become known as the ‘endogeous’ theory of long waves.[5] According to this view, the causes of booms are primarily economic – provided one accepts innovation and invention as endogenous causes.

What is the difference between endogenous and exogenous cause? Or, as earlier writers refer to the issue, causes that are ‘internal’ and causes that are ‘external’ to capitalism? Economics tends to play fast and loose with the term; an unintended side-effect of the econometrics revolution is that, in the mathematical models so beloved of the economists, it appears that the variables we treat as endogenous are a function of the models, rather than reality, and that the economist may choose to make any variable endogenous or exogenous, as they see fit.

In fact we are not free to say what is internal to the capitalist economy and what is not. It is a property of the system itself, not of our way of thinking about it. Intuitively, it is quite easy to frame the idea that there are certain things that the capitalist economy ‘does on its own’ and certain things that are ‘done to it’. The market is certainly ‘internal to capitalism’. So, probably, are investment, banking, and commerce. Government and ideology are generally not thought of as ‘part of the capitalist economy’. Thereafter it gets harder to pin down. For example - as we shall shortly discuss – it is quite questionable whether invention and innovation are internal or external to the capitalist economy.

In Freeman (2010b) I suggest that Marx’s understanding of the commodity form provides an answer to this question. The commodity appears in society as a relation between things. But actually, it is a social relation. Commodity Fetishism obscures this. So, the workings of the commodity form are – outside of crisis – blind. We are not collectively and consciously aware of the reasons that the stock market goes up or goes down. This gives rise to the illusion that the ‘market’ is an independent person, a *Deus Ex Machina,* who gives His own verdict on our puny actions as did the naturalistic gods of pre-antiquity, the pantheons of the Greeks and Romans, the monotheistic emperors of Zarathustrian monotheism and its successors, or the more human but equally kingly deities of the Mahabharata.

During the normal workings of capitalism this illusion is sustained and everyone feels subject to a mechanical, apparently external law of the market in the face of which she is helpless. In crisis, the commodity form ceases to underpin social reproduction adequately and the underlying social relations become transparent. As the gospel of St Thomas puts it ‘the veil of the temple is rent in twain’. Suddenly, actors appear. Social and class movement spring into action, populist politicians multiply virally and take over entire parties or erupt on the scene of tranquil government, revolutions and insurrections appear out of nowhere, vast fortunes are dedicated to evil purposes – trust in the market vanishes. At this point, we may say, exogenous forces take the stage. Thus, we should define as ‘exogenous’ to be that which is not organized by and within the commodity form. That is the definition which I will use in this paper.

Exogenous forces are always present, even in the harmonious phases. The state takes a steady 30-40% share of income, which fluctuates remarkably little among the populist battles for cheap government, as Marx himself acerbically notes. The real battleground is not how much the state should spend, but on which class it should spend it, and from which class it should take it.

My definition of ‘external’ hinges very much on the extent of *consciousness,* particularly collective consciousness, involved. The reason that the capitalist economy has ‘laws of motion’ apparently outwith anybody’s control, is not that some non-human force (‘market forces’) has come into play, but the fact that humans have chosen a means of organizing their social relations which obscures these relations, which hides their reality from the conscious understanding. It is the blind nature of the market and the commodity that place them ‘inside’ the capitalist economy. Conversely, any collective action that

[5] See Menshikov 1989

humans undertake which is planned and premeditated, is by that very fact external to the capitalist economy.

Therefore, Kondratieff slightly misses the point when he conflates political circumstances with 'random' circumstances. A war, or the arrival of a despotically protective or expansionist government, can hardly be termed a random event. Many factors came into play in determining the victory of English colonial ambitions over the French, the Dutch, and the peoples of the colonized territories, or in defeat of the 1848 revolution, or in the defeat of the Axis powers and the USA's rise to industrial supremacy at the end of the war. These have been analyzed at interminable length; however they cannot possibly be dismissed as 'random'. They were determinate events, arising from the interplay of massive material forces. The issue is that they were not in the first place 'economic' events, in the sense that the immediate cause (in the Aristotelian sense) of the outcome was not the blind working of the commodity form but by the conscious action of humans. To what extent were these conscious actions the true 'causes' of the booms that followed them, and to what extent were they completely incidental?

History provides rather good empirical support for the hypothesis that such events were indispensible and necessary causes, which is to say, whatever other causes played their part, without the political preconditions, no boom is historically possible. The industrial revolution itself followed a prolonged period of colonial expansion, which when coupled with the slave trade provided an emerging industrial class access to unparalleled markets worldwide, both for the purchase of their raw materials and for the export of their manufactures. The Age of Coal and Iron more or less took off with the defeat of the 1848 revolutions. The *Belle Époque* coincides with the New Imperialism; and the connection between the Golden Age and the Second World War, though often glossed over, is too obvious for comment.

The alternative view, to which Schumpeter's intervention lent heavy weight, sees a boom as a natural or 'endogenous' phenomenon, arising from the normal self-restoring operation of the market. Such an idea offers a sophisticated and Panglossian defence of optimality. Capitalism may have its difficult periods, but it corrects them. Downturns, recessions, slumps have merely to run their course – regardless of the human havoc they wreak – and in the end, it will be for the best, for a season of fruitfulness will always follow a season of hunger. It is often forgotten that Schumpeter was an Austrian, by conviction as well as birth. The Austrian view is not that pain is avoidable under capitalism, but that anything else is by definition worse. Accept hunger, the argument runs, for if you do not, things can only be worse.

A specific set of conditions are required for booms, some of which are 'internal' to capitalism and some –definitive – causes. Some are internal in the above sense, but several are required for a boom that are definitely external to the economy as such, for example wars, conquests, and invasions; emphatic action by powerful states; or great inventions. The next object of this paper is to assess precisely what these conditions are and how they interact with each other.

Why do booms only happen under capitalism?

It may seem an obvious thing to state that booms are specifically capitalist, since there have been no booms in history outside of capitalism. The nearest equivalent are 'flowerings' associated with certain empires of antiquity. But these flowerings led to nothing comparable with capitalist booms which leave a permanent mark on the forces of *production*. At the end of each capitalist boom, we find that there has been a qualitative transformation both of the technical means at society's disposal, and also in the size and competence of the working class, perhaps the most important productive force of all. As far as I can see, there is no comparable development of human capacity associated with the 'flowerings' even though every such empire has left a significant cultural and scientific legacy. The Ottoman Empire may be an intermediate case in this respect.

Though obvious, it is an important thing to state that booms are capitalist, and easy to forget, as is illustrated by the fact that many people forget it. It tells us that there must be something that capitalism as such contributes to the causes of booms and that, therefore, no account can possibly be complete that does not identify this specifically capitalist factor or factors. I will argue that high on the list is accumulation; the fact that capitalism generates a surplus which requires to be realized in an expenditure in order to continue as capitalism. Marx is quite insistent on this point, which is a subtle one.

To look at things in Marx's way is to invert the normal way that invention is presented in social and economic literature, in which the invention is perceived as driving the investment, rather than the other way around. This is particularly clear in Schumpeter's presentation. For him, the *cause* of the boom is the entrepreneur. Some person seizes on an invention, sees a way to use it by producing more or different products and realizes that an additional profit can be made by doing that. The entrepreneur creates a 'new firm' and, as other entrepreneurs see the potential of the new product, innovation follows on innovation and the result is a boom. Even more significantly, the entrepreneur cannot make his innovation without finance; a critical figure in the boom is therefore the banker, the lender, whose indispensible social function is to make money available for investment. Because Schumpeter's concept of equilibrium is, essentially, simple reproduction, the ground state is generating no unconsumed surplus and there are no funds around to spend on invention.

For Marx it is the exact opposite. Since a surplus necessarily arises from the wage relation, the capitalists have money on their hands which they *have to spend*. If they do not, they cease to be capitalists because their capital does not increase. Innovation is therefore driven not by the need to make changes, but by the primal imperative to expand. With the advent of relative surplus value, a completely new way of expanding becomes available. The capitalist no longer needs to expand by simply hiring 'more of the same' as did his landed predecessor who could expand only by expanding his holdings. He can expand in a completely different way, by buying machines that replace workers.

Innovation and science, in Marx's conception, are therefore an outcome of accumulation – not its cause. This is a somewhat important point. For, it suggests that a *prior accumulation of capital* is an important and necessary cause of booms. If so, it suggests at least one reason why the state plays such a necessary role in the initiation of a boom: it secures that prior accumulation. This explains also the geographically specific nature of booms.

Writers such as Bagchi, U. Patnaik, and many others have rightly insisted that an essential condition for the Industrial Revolution was the *prior* accumulation of surplus arising from the colonies. Many commentators have emphasized the importance of the influx of gold from the Spanish colonies in both the preceding Flemish development and in the industrial revolution itself.

The question then is: is this a universal feature of capitalism, and in particular, capitalist booms, or only of the Industrial Revolution?

The evidence that it is a general feature of booms is quite strong, the 1848 boom being the only dubious case. The *Belle Epoque* was clearly fuelled by the stunning resources mobilized by the New Imperialism. The Long Boom opened with a huge concentration of capital in the US seeking outlets throughout the world.

ITtis also clear that this prior accumulation has a geographical focus but this is more complicated: Whilst Britain was the undoubted centre for the accumulation that led to the industrial revolution, in 1848 there was a general expansion in which France, Germany, and to some extent the US were competing agents; by 1893 the focus had shifted to Germany and the US but with fierce competition; unquestionably the US was the initial centre for the Long Boom. It is also clear that the initial geographical focus is not always the final locus of the expansion. In 1848 what was going on was the ‘catching up’ of Britain’s contender economies France and Germany. In the Belle Epoque Germany itself was already

Thus we need to unpick the complexity of the *mechanisms* through which this prior surplus is acquired; whether and how it is maintained; and why the process leads to an endogenous decay

The role of surplus profit and the function of the state

The necessary category to understand this is Marx’s concept of surplus profit, a profit ‘above and over the average’.

There are three forms of surplus profit: on technical superiority, on commerce, and on finance. The division of labour amongst the imperialists.

It is precisely because there is more than one form of surplus profit that we see the complexity of the geographical centre. Different countries become specialized in different primary modes of extracting surplus profit. Thus Germany became a focus almost entirely independent of its colonial activity which was if anything a drain; it specialized in technical superprofit. Japan played a similar role after WW II. But because these powers did not hold in their hands the key to all forms of surplus profit, they never achieved the equivalent centrality as did Britain in the first boom. The more ‘capitalist’ the world becomes, the less easy is it for a single power to dominate completely.

Nevertheless the group of robber barons is surprisingly small and surprisingly constant. So, until now, a geographical centre that is confined to the imperialist heartlands. For this reason, the emergence of China as a world centre of growth poses a potentially completely new stage of development. Its success centres not, as is commonly claimed, on its manipulation of commercial profit (which would be impossible without having cheap goods to sell in the first place) nor even on the undoubtedly low wages, relative to the rest of the world (countries with low wages have been around since the dawn of imperialism but this has not permitted them to contest the robber barons). Its success centres on its mastery of technical superprofit, and through independent and postcapitalist forms for dynamising its economy. In particular, China maintained capital controls and a rigid control over capital movement, expressing itself in property forms that still diverge markedly from those to be found elsewhere, accompanied by a very large state role – including in the most dynamic sectors of the economy. It has also focused, in its joint enterprise relations with foreign investors, on a technical transfer model, and has invested enormous resources (somewhat unnoticed in the West) into higher education and in general, the development of the knowledge and scientific capacity of its workforce.

This further highlights the specific function of the modern state in world competition and, hence, its decisive role in books: it is above the mobiliser of the specific mode of appropriation of surplus profit. Germany, Japan having been defeated in their expansionist aims, focused on technical superprofit while UK and US focused on commercial and financial. The modern history of capitalist political economy is the history of national forms for mobilizing surplus profit.

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