

Causal Laws and Tendencies¹

Steve Fleetwood

Introduction

It is well known that Marx conceives of causal laws in terms of tendencies. In discussing the tendency for profit rates to equalise, for example, he suggests that this equalisation be 'viewed as a tendency *like all other economic laws*' (1984: 175 emphasis added). The conception of law as tendency has permeated much Marxist political economy ever since, resulting in oft-used terms like 'tendential law', 'law of the tendency', 'tendency law' and variants on this theme. It crops up in discussions of the tendency: of profits, wages, prices and intensification of labour to equalise; to create a reserve army of labour; towards centralisation and concentration of capital; of the productive forces to develop; to create a world market; and of the rate of profit to decline. Indeed, there are many other tendencies that Marxist political economists would be interested in, such as the tendency for men to be paid more than women or white people to be paid more than black people; the tendencies surrounding employment and unemployment, and so on. There is, however, a problem. The exact meaning of the terms 'law' and 'tendency' remains ambiguous.² This has not gone entirely unnoticed. After mentioning Marx's claim to have discovered certain laws (which for Marx are tendencies) McBride adds:

to be candid, the failure to say very much about the meaning of the term 'law' as he uses it is one of the most gaping lacunae in Marx's all too brief discussions of methodology (1977; 59).

If McBride's observation is correct, and I believe it is, how ought we to go about filling the gap and disambiguating the terms 'law' and 'tendency'? I resist the temptation to go back to Marx's writing, quite simply, because Marx himself is ambiguous, as the work of Reuten (1993, 1997 and 2004) clearly reveals. Reuten's extensive, and extremely careful, reading of Marx's key writings on the tendency of the rate of profit to decline (which is, after all, where Marx makes most of his comments on the term 'tendency') reveals several different conceptions of tendency. I proceed, instead, by making use of the insights afforded by *critical realism*³ because this philosophical perspective is one of the few that specifically attempts to disambiguate both 'law' and 'tendency'.⁴

The paper opens by differentiating between three ways in which causal law can be conceived: law as *event regularity*; law as *event regularity/tendency* and law as *tendency*. Part two further differentiates between six interpretations of tendency, all of which are found in Marxist literature. The first five interpretations treat tendency as an *outcome*, and are the kind of thing often referred to as 'tendential law', 'law of the tendency' or 'tendency law' and they equate to law as event regularity/tendency. But although the concept of law as event regularity/tendency is

commonly used, when unpacked we see that it is not really a concept of tendency at all: it is the concept of law as event regularity/tendency in disguise. The sixth interpretation, tendency as *power*, equates to law as a *bone fide tendency*, and is the interpretation I will argue for. Part three elaborates upon, and explains why, event regularity should not be confused with tendency and hence why the concept of law as event regularity/tendency is indefensible. Part four focuses upon the sixth interpretation of tendency (law as tendency, and tendency as power) deepening our conceptual field and introducing three variations of tendency as power: tendency as the (transfactual) way of acting of a structured entity; tendency as the (transfactual) way of acting of an entity experiencing a dialectical contradiction; and tendency as the (transfactual) way of acting of an entity experiencing a strain or tension. I end up rejecting conceptions of law as event regularity/tendency and tendency as outcome, and accepting the concepts of law as tendency, and tendency as power.

The following table shows, at a glance, the various combinations of law and tendency that will be elaborated upon as the chapter unfolds.

Six interpretations of tendency		Law as event regularity	Law as event regularity/tendency	Law as tendency
		<i>Nb. regularity/tendency is event regularity in disguise</i>		
i	Trend	yes	yes	no
ii	Cyclical variation	yes	yes	no
ii	Stochastically specified law	yes	yes	no
iv	Counterfactual event	yes	yes	no
v	Imprecise/under-elaborated claim	yes	yes	no
vi	Power	no	no	yes
	Three variations of tendency as power			
	Tendency as the (transfactual) way of acting of a structured entity	no	no	yes
	Tendency as the (transfactual) way of acting of an entity experiencing a dialectical contradiction	no	no	yes
	Tendency as the (transfactual) way of acting of an entity experiencing a tension	no	no	yes

(Figure 1. Interpretations and conceptions of law and tendency at a glance)

1. Terminology relating to causal law and tendency

The place to start understanding causal law, is causation. It is virtually impossible to overstate the impact David Hume's ideas on causation have had, and continue to have, on economists' understanding of law - and, by extension, tendency. Indeed, chapter one of a contemporary overview of the various conceptions of causation in widespread use, begins thus:

A good starting point for our philosophical endeavours is David Hume's account of causation. His work on the subject has been, by far, the most important and influential ever (Psillos 2002: 19).

The version of causation championed by Hume is widely referred to as the *regularity view of causation*, which conceives causation as involving nothing more than the constant conjunction of events or event regularity (Bhaskar 1978; Fleetwood 2001a, 2005; Lawson 1997; Psillos 2002). Given that conceptions of causality are inextricably bound up with conceptions of law, it is only a small (and consistent) step from the regularity view of causation, to what Psillos refers to as the *regularity view of law*, whereby: 'laws of nature are regularities' (2002: 137). Philosophers of science have hotly debated, and continue to debate, these (and other) views on causality and laws. Indeed, there are contemporary critics and defenders of updated versions of these regularity views, and even some prepared to abandon ideas of causality and law as regularity. But my concern is not with philosophers of science and their use of the term 'law' – they rarely mention the term 'tendency' anyway. My concern is with Marxist political economists, one of whom, incidentally, I consider myself to be.

Although Marxist political economists are less guilty than most, the majority of economists, of whatever school, and with a handful of notable exceptions, have studiously avoided philosophy of science. Orthodox economists appear to have arrived at a vague, unclear, unstated, tacit consensus that a law is an event regularity and law expresses causality. The law of labour demand, for example, is couched in terms of a regularity between changes in wage rates (events) and changes in the quantity of labour demanded (events). Notice that it is the alleged regularity between events that is thought to provide evidence of causality. For orthodox economists, then, a *law is causal, and a law is an event regularity*. Unfortunately for orthodox economists, whilst law is indeed causal, a law is *not* an event regularity; this is a meta-theoretical misconception. It would take another chapter to thoroughly defend this claim, so allow me to offer two reasons why one might accept it without further ado. First, the argument that event regularity of the kind economists typically seek, appear not to exist in the social world (i.e. the economy is an open, not a closed system) is now well known, and if the reader has not come across the argument, it is readily available.⁵ The point is, if the system is open, if there are no event regularities, there can be no laws – at least no laws as event regularities. Second, the very fact that the issue of tendency has become an issue for economists, especially in Marxist and heterodox economics circles, is precisely because many economists already accept that law as regularity is a most unlikely state of affairs, and this is precisely why they turn to concepts like law/tendency.

But Marxists have not been entirely able to resist the influence of Hume either, their use of terminology like 'tendential law', 'law of the tendency', 'tendency law' notwithstanding. Most Marxists appear to believe that, a law is causal, a law is a tendency, but tendency *is still believed to be associated with event regularity*, even if it is of a 'weaker' kind than a law as regularity. This inability to break entirely with the regularity views of law and causation

leaves many Marxists facing exactly the same meta-theoretical misconceptions as just noted for orthodox economists.

There is, however, another view of a law. For a handful of Marxists, especially those who subscribe to (at least some aspects of) critical realism, a law is causal, a law is a tendency, *and a tendency is not an event regularity of any kind.*

Let us pause at this point to clarify three important conceptions of law:

- a) Law as *event regularity*. This conception is rooted in the *regularity view of causation* and the *regularity view of law*.
- b) Laws as *event regularity/tendency*. This conception is, essentially, conception (a) in disguise. This is not easily spotted due to the ambiguous use of terminology like ‘tendential law’, ‘law of the tendency’, ‘tendency law’ and variants. To the extent it is rooted in any conception of causality it is, essentially, the *regularity view of causation*.
- c) Law as tendency. This conception is most definitely *not* rooted in the *regularity view of causation*, but in the concept of causal power.

One writer who is aware of the distinction I am trying to establish between tendency and law, even if only to reject it, is Ruben, who claims to be: ‘genuinely worried that the tendency v. empirical regularity debate, if pushed hard enough, might well collapse into little more than a quibble about the use of the term ‘law’ (Ruben 1979b: 207. See also 1979a and Gibson 1982)). In what follows, I want to demonstrate that the ‘tendency v. empirical regularity’ is extremely serious and there is far more at stake here than a quibble. And I start with six interpretations of ‘tendency’.

2. Interpretations of the term ‘tendency’

This section outlines five common interpretations of the term ‘tendency’ that can be found in Marxist political economy, before adding a sixth interpretation that, whilst less well-known than the others, is not entirely unheard of in Marxist circles. It should not be assumed that I agree with the plausibility of these first five interpretations; I am merely suggesting they are common interpretations. This extends ideas first floated in Lawson (1997 & 1998) and mentioned in Hausman (1992: 128).

To make my argument a little easier to grasp, note two things at the outset. First, there is a dividing line running through these interpretations, separating the first five from the sixth. The first five are consistent with conception (b) just noted (which is (a) in disguise), whilst the sixth is consistent with conception (c). Second, whilst I do not want to restrict the analysis to the single issue of the tendency of the rate of profit to fall, outlining these interpretations in terms of this particular tendency will make the analysis a little more concrete.

i) Tendency as a trend

It might be said that the rate of profit will *tend* to fall over time. For example, Tsaliki & Tsoulfidis (1994: 46) set out to empirically investigate a 'secularly falling rate of profit'. For them, 'empirical research confirms that there is a long-run downward tendency in the rate of profit for the advanced capitalist countries, which started in the late 1960s or early 1970s' (ibid: 49). Mosely (1991: 152) concludes that 'the trends of the Marxian variables for the post-war long-wave period of expansion were largely consistent with Marx's hypothesis that the rate of profit would tend to decline due to technological change'. This seems to be what Fine & Harris (1981: 64) refer to as a 'downward trend (or regression line)' or an 'empirical tendency'. Notice that (whatever it is) the tendency refers to (past) empirically observed events, in this case, a decline in the rate over time.

ii) Tendency as a cyclical variation

It might be said that the rate of profit will *tend* to cycle. This might be what Mosely (1991: 1) has in mind with the concepts: 'medium-run long waves, and short run cycles'. Some have conceived of the tendency of the rate of profit to decline in terms of Kondratieff-type waves. Reuten cites Marx, suggesting that tendency as cycle is probably Marx's interpretation.

The stagnation in production that has intervened prepares the ground...for a later expansion of production. *And so we go round the whole circle again* (Marx, cited in Reuten : 1997: 168, emphasis in original).

The reference to going 'round the whole circle again' gives the impression of some measure of the rate of profit being observed to fluctuate over time. Notice that (whatever it is) the tendency refers to (past) empirically observed events, in this case, cyclical movements in rates over time.

iii) Tendency as a causal law, probabilistically or stochastically specified.

It might be said that the rate of profit will *tend* to fall as the organic composition of capital rises. The term 'tend' is used here to situate the analysis in a probabilistic or stochastic scenario. And this in turn is used in recognition of the fact that factors like increases in the productivity of labour, or indeed more concrete factors such as increasing intensity of exploitation, depression of wages, government policy, and so on could also have offsetting effects – indeed, these offsetting entities are often referred to as 'counteracting influences' (Fine & Harris 1981: 62) or some such. In recognition of multiple counteracting influences, the situation is given a stochastic twist. Expressed stochastically, the strict condition that *every single* instance of a rise in the organic composition of capital is constantly conjoined with every single instance of a fall in the rate of profit (that forms the basis of the regularity view of law) can be abandoned. Instead we have a 'weaker' version, whereby *most* instances of rises in the

organic composition of capital are constantly conjoined with *most* instances of a fall in the rate of profit. In other words, the mean value of variable x (measuring the organic composition of capital) is constantly conjoined with the mean value of variable y (measuring the rate of profit). Indeed, this can be extended, and expressed as a regression equation expressing a relation between the dependent variable (rate of profit) and any number of independent variables expressing the influences and offsetting counterinfluences. Two things are noteworthy here. First, the strict regularity appertaining to law as regularity is 'weakened' in the sense that the event regularity is no longer deterministic but is now *stochastic*. This 'weaker' view, I suspect lies behind the temptation to add the term 'tendency' to the term 'law'. Second, this notion of tendency is still rooted in an event regularity, the regularity is simply expressed stochastically. Notice that (whatever it is) the tendency refers to the set of (past) empirically observed events, that have provided the data for a regression analysis to estimate the coefficients and establish whether the independent variables have an effect on the dependent variable.⁶

Iv) Tendency as a counterfactual event

Counterfactual reasoning is often used in economics, although what is involved is rarely reflected upon by those engaged in it, and counterfactual statements are not always easy to spot because they usually come as part of a larger package of statements.⁷ Given that in a few moments we will have to compare counterfactual to transfactual statements, it is worth spending a little time unpacking the meaning of counterfactual statements at this juncture.

Counterfactual conditional statements, or counterfactual conditionals, state, or enquire about, what might have occurred, had conditions been different. This makes them *counter-factual* statements, in the sense of being counter, or contrary to the empirical fact. Thus we might say: 'if this match were struck in appropriate conditions, it would ignite'. Statements of this kind are not only counterfactual, they are also conditional. A *conditional clause*, or, *if-clause*, is added to the main clause (set of words containing a verb) which is why they are referred to as 'conditional' statements. Adding an if-clause to the base form of the verb gives sentences like: 'the rate of profit would fall if the organic composition of capital productivity rises', where 'would' is the if-clause and 'fall' is the base verb. The type of conditional statement we are interested in here, uses the *subjunctive* mood of verbs, to express what is imagined or possible - as opposed to the indicative mood expressing statements of fact. Typical if-clauses are: 'will', 'can', 'may', 'might', 'would' or 'could'. A typical counterfactual conditional used in economic theory then, does not express something that has happened (i.e. a fact), but rather something that has not happened (i.e. contrary to the fact), but might happen, if appropriate conditions come about.

When counterfactual conditionals are used in economic theory they almost always come as a package involving statements about: (i) the antecedent – e.g. 'the organic composition of capital rises'; (ii) the consequent – e.g. 'the rate of profit would fall'; and (iii) the wider conditions – e.g. assumptions and axioms. Assumptions can be all-

encapsulating, but totally non-specific, like the *ceteris paribus* clause; or specific like the assumptions of 'technology remaining constant' or 'all firms being identical'. An axiom might be that 'agents are rational'. Thus we might say:

- a) 'The rate of profit would fall if the organic composition of capital productivity rises, assuming technology remains constant, *ceteris paribus*'.

Notice that the statements about wider conditions complicate matters. The consequent ('the rate of profit would fall') is now not only dependent upon the antecedent ('the organic composition of capital rises') but also on the assumption that technology remains constant (and perhaps any other specific assumptions), and on the *ceteris paribus* clause. Indeed, because the *ceteris paribus* clause is totally non-specific, we do not really know what wider conditions it applies to: it could apply to the consequent, to anything that might influence profit; it could apply to the antecedent, to anything that might influence the organic composition of capital; or it could apply to anything that might influence the relation between the two. This makes it difficult to untangle the antecedent from the conditions, that is, from the assumptions and the *ceteris paribus* clause. It is no longer clear exactly what the antecedent is. But matters are even more complicated than this because there are many more conditions that must also remain constant if the rate of profit is to fall following a rise in the organic composition of capital. This, instead of (a) above, it is more accurate to write:

- b) 'The rate of profit would fall if the organic composition of capital rises, not only assuming technology remains constant, but also assuming management practices, marketing practices, industrial relations systems, macro-economic conditions, remain etc, all remain constant, *ceteris paribus*.⁸

Whilst it might be possible to extend the list of assumptions, there will almost always be a set of assumptions that remain unstated. It is difficult to refer to this set of unstated assumptions as 'assumptions' because assumptions are, by definition, stated. I refer to them instead as 'presuppositions'. Sometimes axioms, such as the axiom that all agents are rational maximisers, are explicitly stated; other times, they are simply presupposed. Indeed, statement (b) above *must* presuppose this axiom, or something similar, because only something like this guarantees that responses of agents to some external stimuli remains predictable. For reasons that will become clear in a moment, critical realists use the term 'closure conditions' as a generic term to encapsulate all the axioms, assumptions, presuppositions and *ceteris paribus* clause. Clearly, then, an extended set of closure conditions is involved in any counterfactual conditional statement. But why does this matter?

A counterfactual statement to the effect that 'the rate of profit would fall if the organic composition of capital rises' given closure conditions, is a statement expressing an event regularity: 'if the organic composition were to rise (event x), the rate of profit would fall (event y)'. As noted above, systems wherein such event regularities occur are referred

to as *closed systems*. In the socio-economic world, however, event regularities appear not to occur, meaning that the socio-economic system is an *open* not a closed system. This raises a problem for those who seek to formally, or mathematically, model the socio-economic system, because the lack of event regularity spoils the deductive certainty – which makes the deductive nomological method work. Recognising this, mathematical economists resort to a process of simplification, which is often justified by (mistakenly) calling it a process of abstraction (a 2001; Sayer 1998). Clearly, reality itself cannot be simplified, but a *model* of reality can. Indeed Michl's (1994: 61) reference to 'shoehorning...complex social theory into a tractable model' neatly captures what is involved. This shoehorning is necessary to maintain systemic closure in order to make the deductive logic work, for mathematical tractability. The conditions for maintaining systemic closure, however, are extremely stringent, and this explains why an extended set of axioms, assumptions, presuppositions and *ceteris paribus* clause is necessary in any counterfactual conditional statement set up in the form of an event regularity.

Not only does all this exacerbate the difficulty in untangling the antecedent from the (extended set of) closure conditions, there is a further problem. With counterfactual conditionals there is no necessity that the antecedent be instantiated. Indeed this is exactly why counterfactual conditionals use the *subjunctive* mood of verbs; they express what is imagined or possible, not statements of fact; they are 'contrary to fact'. Some antecedents may even be false. Some of these closure conditions are not only false, they are used in the full knowledge that they are false, such as the assumption that 'all firms are identical' (Michl 1994) or the axiom that agents are rational. Knowingly false closure conditions are used solely for reasons of mathematical tractability. Michl's paper entitled 'Three Models of the Falling Rate of Profit' is a clear example of the use of counterfactual conditionals in 'Marx's "law of the tendency of the rate of profit to fall"' (1994: 55). Moreover, counterfactual conditionals are used by 'neo-classical Marxists' such as Okishians, Sraffian inspired neo-Ricardians such as Steedman (see Johnson, Gramm & Hoas 1991) and, arguably, any Marxists engaged in mathematical modelling.⁹

What, then, is tendential about all this? To what does the term 'tendency' or 'law of the tendency' refer, in this interpretation of tendency? Whilst I recognise that the term 'tendency' is used ambiguously, I suspect it is used to express a variety of concerns relating to the recognition that the consequent might not follow from the antecedent; that the antecedent cannot be untangled from the closure conditions; and the closure conditions are unlikely to actually come about. Put another way, the subjunctive mood of the verb 'fall' is used to express something that is imagined or possible; something that is 'contrary to fact'. This gives the model something of an imaginary nature. The term 'tend' is used to imply how unlikely it is that all the closure conditions would ever be satisfied. The term 'tendency', then, refers to a counterfactual *event* in this example, the event is a fall in the rate of profit. Because the antecedents may remain un-instantiated (and may even be false), the event in question is potentially observable, but not (yet) observed.

It is important not to confuse this interpretation of tendency as a counterfactual event with what Fine & Harris (1981: 64) refer to as an 'abstract tendency'. On this account, the law of the tendency of the rate of profit to fall is:

constructed by abstracting from all distributional changes and from all changes in values except for those which immediately and directly result from changes in the TCC [i.e. technical composition of capital]. In short, Marx specifies the law as a consequence of a rising OCC [i.e. organic composition of capital]. His method of deducing the law is therefore to abstract from the indirect effects of the rising technical composition of capital, to abstract from changes in the rate of exploitation and, since we are dealing with the value rate of profit, to abstract from the effects of price and wage changes on the rate of profit (Fine & Harris 1981: 62).

What is at stake here is not so much the meaning of the term 'tendency' (although I think this is involved, if only tangentially) but the level of abstraction at which the analysis is carried out. Fine & Harris's understanding of abstraction involves bracketing off those factors that are inessential at one level of analysis (but obviously not inessential for reality), from factors that are essential. Then, as we move epistemologically speaking, to the next (lower) level of abstraction, these bracketed factors are brought into play. What is vital, however, is that conclusions drawn at lower levels of abstraction do not invalidate conclusions drawn at higher levels. This can be avoided if and when the epistemological decisions about what to bracket and what to include, are taken in the light of (ontological) considerations about the way the world is. This, however, is not the way mathematical models are, typically, constructed. Mathematical tractability drives not only what can and cannot, be included, but also drives the way things are included – hence we see firms being included in some models, but assumed (falsely) to be identical.¹⁰ Whilst I agree in large part with Fine & Harris approach, the strength of their work is that it insists about appropriate levels of abstraction being necessary to understand tendencies, but it does not actually tell us what a tendency is. For example, their interpretation of 'a tendency as a proposition developed at a certain level of abstraction' leaves the question: 'What kind of proposition'? For what its worth, I locate their work with interpretation (vi) below.¹¹

v) *Tendency as an imprecise and under-elaborated term*

It might be said that the rate of profit *tends* to fall, where the term 'tendency' is used (perhaps deliberately) in a 'non-technical' sense to refer to some imprecise and under-elaborated relationship that does not imply a strict event regularity, or a stochastic regularity, or a complete event *irregularity*. This kind of thing is sometimes referred to with terms like 'stylised facts' or demi-regularities (Lawson 1997).¹² The imprecision and under-elaboration is useful because it allows those who use it to (a) recognise, but (b) sidestep, the fact that the economy is a complex place where many counteracting influences are in play. As a placeholder, it allows those who use it to make theoretical headway without having to stop and elaborate all the counteracting influences. This is probably the kind of thinking underlying MacBride's reference to tendencies as "high level generalisations" (1977; 59). Notice that (whatever it is)

the tendency refers to an under-elaborated, but nevertheless, empirically observed and/or observable event, in this case, a likely fall in the rate.

vi) Tendency as power¹³

It might be said that the rate of profit *tends* to fall, because there is a *power* at work generating this tendency. The term 'tendency' is used to refer to *the power itself*. The term 'power' can be thought of, metaphorically, as something that forces, drives, propels, pushes, presses, shoves, thrusts, exerts pressure and so on.¹⁴ Notice that, in complete contrast to the other five interpretations that the tendency (whatever it is) does *not* refer to (past) empirically observed and/or observable, events. Indeed, the tendency refers to some, as yet unspecified, power that may or may not cause some empirically observed and/or observable, events. The key point to note is that the connection between tendency and events that underpin the previous five interpretations is broken here. A tendency as power can be in play and yet not manifest itself at the level of empirical events due to the influence of counteracting factors. It is likely that this is what Fine & Harris (1981: 64) have in mind when they refer to 'abstract tendency' which, they add, 'does have a connection with observable entities even though it does not involve simple predictions of trends (ibid: 71). It is also likely to be what (Reuten 1997: 151) has in mind when he writes: 'tendencies are about 'forces' and when he links 'tendency' to some 'power entity.'

On this interpretation a tendency is *transfactual*, not counterfactual. Bhaskar and others use the term 'normic' or normic conditionals to differentiate between counterfactual conditionals (elaborated upon in interpretation *iv*) and transfactual conditionals.¹⁵ Recall that counterfactual conditionals state what might have occurred, had conditions been different and hence are counter, or contrary to the empirical fact. Transfactual conditionals, by contrast, state what is actually occurring here and now, but because the consequent may be unrealised, the consequent may be non-empirical, or against the empirical fact. This is a subtle, but important point. As I hold my pen, gravity is acting transfactually on it, acting non-empirically, or against the empirical fact of the pen being observed to fall due to the effects of gravity. With counterfactuals, the antecedents need not be instantiated; with transfactuals the consequents need not be realised. Counterfactual conditionals 'are not second best kinds of empirical generalisations. They are not empirical statements at all' (Bhaskar 1978: 102). We will make use of transfactuality again in later sections.

First five interpretations compared with the sixth

Note immediately that despite their differences, the first five interpretations share important similarities. They all imply that a tendency is something to do with the *events*; that these events are (past) *empirically observed*, or at least (in the case of *iv*) *potentially observable*; that these events manifest as a *regularity* – of some kind. Indeed it is only because of observed past event regularity that interpretations (i), and (iii) can be used to make predictions about future changes in the rate of profit – this may also hold for (ii), depending on our ability to predict timing and variation in the cycle, a serious problem with all inductively based attempts to predict. Carchedi (rather confusingly) refers to

this as the ‘future tendency, which is found by forecasting the future tendential reality on the basis of the present movement’ (1993: 193).¹⁶ These interpretations are what I referred to above as causal law as regularity/tendency. Metaphorically speaking, we might say of law as regularity/tendency that the tendency is ‘attached’ to the events. These events and, therefore these interpretations of tendency as regularity/tendency, refer to the *outcomes* of something, not to *a something* itself – if this seems an odd thing to say, my meaning will become clear later. It is easier to see what this involves by way of the well-known critical realist diagram illustrating a ‘flat’ (empirical realist) ontology.

Domain	Entity	
Empirical	Experiences & observations	Law as event regularity/tendency where the tendency is an outcome vis-à-vis events
Actual	Events & actions	

(Figure 2. A ‘flat’ ontology with tendencies)

This sixth interpretation is radically different to the first five. Since it is virtually impossible to overstate the importance of this, allow me to state the point a little bluntly. On this interpretation, the existence of a tendency has *nothing* to do with empirical observation; it has *nothing* to do with events; it has *nothing* to do with a law as event regularity; it has *nothing* to do with ‘weaker’ versions of law/tendency; it has nothing to do with probabilistic or stochastic law/tendency. There is, however, one important caveat that my bluntness should not be allowed to obscure. There is in fact one way of conceiving a connection between tendency and events. This is raised via the possibility that a tendency might be causally implicated in the occurrence of an event or events - albeit, typically, in conjunction with other tendencies. Indeed, it is often because we see some kind of (non-regular) pattern in the flux of events that we are alerted to the possibility that a tendency might be at work, and this prompts us to investigate further. But the fact that the tendency might be causally implicated in an event or events, means the tendency and the events are radically different things. *With this sixth interpretation, we are dealing with an entirely different conception of tendency than the conceptions underpinning the first five.*

To continue with the metaphor, we might say that the tendency is ‘attached’ to the (as yet unspecified) power. This interpretation of tendency, does not refer to the outcomes of something, but to the something itself – once again if this seems an odd thing to say, it will become clear later. This can be sketched by adding ‘depth’ to the previous diagram, illustrating the ‘layered’ (critical realist) ontology.

Domain	Entity	
Empirical	Experiences & observations	
Actual	Events & actions	
'Deep'	Structures, institutions, mechanisms, rules, conventions, resources, (non-human) powers etc	Law as tendency, where tendency is a power.

(Figure 3. A 'layered' ontology with tendencies)

In sum, then, the first five interpretations are variants of the conception of law as event regularity/tendency. The sixth interpretation, tendency as *power*, equates to law as tendency and what I consider to be the only *bone fide* concept of law as tendency. Before we go on to elaborate this sixth interpretation, it is necessary to take a brief step back and complete the task of unpacking the concept of law as event regularity/tendency.

Unpacking causal laws as event regularity/tendency

This section will show that the concept of causal laws as event regularity/tendency, is a derivative of law as regularity; to the extent the conception of law as regularity/tendency is rooted in any concept, it is the *regularity view of causation*; and all this is fundamentally flawed. Let us start by considering an example of a law that is often (incorrectly) understood (by empiricists) as law as event regularity.¹⁷ *Ohm's Law* states: *The direct current flowing in a conductor is directly proportional to the potential difference (voltage) between its ends.* It is usually written:

1) $V = I \cdot R$

Where V is the potential difference, the voltage, I is the current, and R is the resistance. This concept of law captures three important conceptions: an (empiricist) ontology of observed events; the regularity view of causation and the regularity view of law. Ohms Law can be interpreted as expressing an event regularity between three variables such that a change in the magnitude of one variable is regularly conjoined with changes in the magnitude of one or more of the other variables. This can be expressed in several ways. We can write: 'whenever a change in I (an event) and R (an event), then a change in V (an event)'. We can express this more generally and write 'whenever events x_1 and x_2 , then event y '. We can also express this as: $V = f(I, R)$ or more generally $y = f(x_1 \text{ and } x_2)$. Moreover, it is only in virtue of the fact that the magnitude of V varies regularly, *and not just occasionally*, with changes in the magnitude of I and R that we have grounds for thinking that causality is present. On this understanding, causality is inextricably tied to event regularity: where there is event regularity, we are allowed to imply causality; where there is no causality, we must deny causality.

For reasons I cannot enter into here, the (empiricist) ontology of observable events; the regularity view of causation and the regularity view of law, found its way from natural science into social science, and disciplines such as economics in particular. Unfortunately, and despite a century of trying, economists have been unable to find causal laws in the social world that come anywhere close to those like Ohm's Law. This has not, however, stopped economists from using the concept of law as event regularity. As an example, consider the introductory chapter to Lipsey's *Positive Economics* where he makes the following comment:

The idea that one thing depends on another is one of the basic conceptions behind all science...When mathematicians wish to say that one thing depends on another, they say that one is a *function* of the other. Thus the gravitational attraction is a function of the mass of the two bodies concerned and the distance between them...and the quantity of a product demanded is a function of the price of the product (1983; 18).

Whilst Lipsey's text does not mention the (empiricist) ontology of observed events; regularity view of causation and regularity view of laws, they are clearly presupposed (2001a). The point I wish to make here is simply that for Lipsey, and I might add, for most economists who seem to accept the existence of law as event regularity, an economic law is not fundamentally different to a natural law – I will mention stochastic laws in a few moments. The tools Lipsey highlights in this introductory text, particularly the functional relation, remain central to much economic theory. Lipsey then identifies two of the most basic functional relations used in economic theory:

$$(2) \quad q = f(p)$$

$$(3) \quad C = f(Y)$$

It is usual to refer to (2) as the 'law of demand', but not usual to refer to (3) as the 'law of consumption'. It is usual to refer to (3) as 'consumption function' but clearly, (2) is also a function. Terminology aside, given the idea that 'one thing depends on another' these expressions appear to be on a par. In fact, many examples of this idea that 'one thing depends on another' are found in economics – e.g. relationships between: labour supply and wages; factor inputs and subsequently produced outputs; output growth and productivity growth; the general price level and the money supply; inflation and wages; profits and wages; rate of profit and the organic composition of capital and so on. Whilst these relations may or may not be accompanied by the term 'law' the important point is that they presuppose an (empiricist) ontology of observed events; regularity view of causation and regularity view of law. Moreover, there is no fundamental difference between equations above (2) and (3) and the various expressions for Ohm's law:

$$(1) \quad V = l \cdot R$$

$$(4) \quad V = f(l, R)$$

Marxist readers should take note: there is no fundamental difference between all the equations cited above and many equations found in Marxist economics. Consider following examples from two Marxist political economists. Botwinick (1993: 181) offers us the following equation:

$$(5) \quad m = r^* (K / Q)$$

Where:

r^* denotes general rate of profit for all regulating capitals

(K / Q) denotes the regulating capital / output ratio

m denotes the profit margin (m) for each regulating capital

Laibman (1993: 229) offers us the following equation:

$$(6) \quad r^* = r + (U/C)$$

Where:

r^* denotes the 'Marxian' rate of profit

r denotes the profit rate, P/C

C denotes constant capital

P denotes profit

U denotes the wages of unproductive workers

U/C denotes the ratio of unproductive flow to constant capital.

Equations like these are not usually accompanied by the term 'law' in Marxist political economy. As noted above, they are usually accompanied by terms like 'tendential law', 'law of the tendency', 'tendency law' and variants. The important point, however, is that they presuppose an (empiricist) ontology of observed events; regularity view of causation and regularity view of law. In this respect, equations (5) and (6) are no different from any of the equations used by orthodox economists, or for that matter from Ohm's Law. It is only by ambiguous use of terminology that we end up with the terms 'law' and 'tendency' being used as if they were the same, or similar things, when they are not.

To show what is wrong with ambiguous terms like 'tendential law', 'law of the tendency', 'tendency law' and variants, let us try to operationalise them. Let us start with Ohm's Law, and ask what would it look like if we tried to insert the term 'tendency' into it, and refer to it as (say) 'Ohm's tendential law' ? We might write:

$$(1a) \quad V \text{ tends to} = I \cdot R$$

But the operator 'tends to equal' would be meaningless.¹⁸ V does not 'tend to equal' $I \cdot R$; V does equal $I \cdot R$. Ohm's Law is a precise expression and we know precisely what it means. It means V varies positively with I and R . But 'Ohm's tendential law' is not a precise expression and we do not know precisely what it means. We do not know what it means to say: V tends to vary positively with I and R . How, for example, would we represent the tendency of V to vary positively with I (holding R constant) on a two-dimensional diagram? What would the curve look like? If it was a 'normal' curve, the term 'tendency' would be redundant: this would be a straightforward curve mapping the values of V to values of I , allowing us to ascertain any value of V for a given value of I .

Things would be exactly the same if we took Laibman's¹⁹ equation (6) and tried to insert the term 'tendency' into it, and refer to it as 'the tendential law of the profit rate'. We might write:

$$(6a) \quad r^* \text{ tends to} = r + (U/C)$$

Again the operator 'tends to equal' would be meaningless. r^* does not tend to equal $r + (U/C)$; r^* does equal $r + (U/C)$. Laibman's equation (6) is a precise expression and we know precisely what it means. It means r^* varies positively with r , U and negatively with C . But equation (6a) 'the tendential law of the profit rate' is not a precise expression and we do not know precisely what it means. We do not know what it means to say: r^* tends to vary positively with r , U and negatively with C . As with the case of 'Ohm's tendential law', the term 'tendency' is redundant and what we really have is a causal law as event regularity, relating variables r^* , r , U and C .

One possible way out of the conundrum is to interpret tendency as event regularity/tendency and then express this stochastically. This recalls interpretation (iii) above in part one, where the mean value of variable x (measuring the organic composition of capital) is constantly conjoined with the mean value of variable y (measuring the rate of profit). Generalising, this can be stated thus: the mean value of variables $x_1, x_2 \dots x_n$ are constantly conjoined with the mean value of variable y . This, of course, means that some observed values of $x_1, x_2 \dots x_n$ will *not* be constantly conjoined with all the observed values of y . Expressed stochastically, Laibman's equation (6) might be re-stated thus: 'The mean values of variables r , U and C are constantly conjoined with the mean values of variable r^* '. This sentiment is, of course, captured in Hempel's *Inductive Statistical* (IS) model, which is his version of the *Deductive Nomological* (D-N) model, augmented to take account of statistical

generalisations. On this understanding, then, a strict or deterministic law can be expressed stochastically. But this does not alter the fact that a law expressed stochastically is still rooted in an (empiricist) ontology of observed events; regularity view of causation and the regularity view of law. Moreover, even if we consider a law in the social world to be stochastic instead of deterministic, there is nothing to be gained by adding the term 'tendential' or 'tendency' to a stochastic law. The term 'tendency' here is redundant; it is window dressing.

In sum, then, whilst the concept of causal law as event regularity/tendency is widespread, when unpacked, it turns out that it is not really a concept of tendency at all: it is really the concept of causal law as event regularity/tendency in disguise – and ambiguous terminology prevents us seeing this clearly. And this throws up a very serious problem. If critical realists are correct, and the economy is an open system, then event regularity is unlikely to occur, as is law as event regularity/tendency. The concept of law as event regularity/tendency that underpins terms like 'tendential law', 'law of the tendency', 'tendency law' and variants, is misconceived and should be abandoned. In its place, I suggest we consider the concept of tendency as powers, which is considered next.

3. Tendency as power

Reuten (1997) is one of the few Marxists to have spotted this concept of tendency as power, and recognises something of the distinction I am trying to maintain between tendency as outcome and tendency as power.

The least one can say is that tendencies are about 'forces' and (their) 'expressions,' or about 'powers' and (their) 'outcomes'...The main divergent conceptions are either to see powers as tendentially in operation (thus to link 'tendency' to some power entity) or to see the outcome as a tendential occurrence (Reuten 1997: 151).

Reuten's formal way of expressing these two concepts makes it extremely easy to see the difference – and shows where I got the term 'attached' from.

Tendencies may be conceived of as the operators of the powers. Thus tendencies 'belong' to powers. (It is even stronger to say that, inherently, powers are always tendential in character. This may, more explicitly, be represented as:²⁰

$$P(i) [T] \rightarrow F(j)$$

(where T implies the tendency is 'attached' to the power).

This is what I call the *power concept of tendency*, or sometimes the *tendency as power* concept.

Operating 'through' the Effect in a Result....we have $P(i) [T] \rightarrow F(j) \rightarrow R(j)$

A second concept of tendency, *tendency as expression*, or *tendency as outcome*, allots tendency to the Result. This may be represented as:

$P(i) \rightarrow F(j) \rightarrow R(j) [T^*]$

(where T^* implies tendential outcome)

(Reuten 1997: 157).

Whilst the concept of tendency as outcome has been elaborated upon, the following section identifies three variations of tendency as power.

3.1 Tendency as the (transfactual) way of acting of a structured entity.

In the *Dictionary of Critical Realism*, Pinkstone (2007: 459) advances what is, arguably, the commonly held view of a tendency. 'A tendency, in its primary meaning, is a causal power exercised or set in motion'. Let us try to unpack the notion of powers and tendencies.²¹

All complex entities have an internal structure, or are internally structured – for the moment we are unconcerned what this internal structure is. The term 'entity' is generic and can refer to a complex thing, system or situation (Lawson 1997: 21). The internal structure of an entity is created the moment the entity is itself created, giving rise to that entity's causal power or powers. The term 'causal mechanism' is used as a technical term to designate some real entity with causal power. The power is emergent from, but irreducible to, the internal structure of the entity. Put another way, the entity has the power it does in virtue of its internal structure. The power is emergent from, but irreducible to, the intrinsic structure of the entity. The moment a lump of ice is created, so too is its internal structure. We can say it is a causal mechanism with the power to float on water – it does, or course, have other powers. The moment a capitalist company is created, so too is its internal structure. We can say it is a causal mechanism with the power to extract profit from its workforce – it too has other powers.²²

Most of the entities social scientists deal with (such as capitalist companies) are actually mixtures of generative mechanisms, involving several entities, each with their own intrinsic structures, powers and tendencies. I use the term '*causal ensemble*', to reflect the fact that social entities are, typically, not a single mechanism, but rather a complex ensemble of components and sub-components. Allow me to elaborate upon this by using the example of a capitalist company with the power to extract profit from its workforce – indeed, I will use this example throughout. For a company to possess this power (and any subsequent tendencies) it must, at a minimum, have assembled the appropriate quality and quantity of intrinsic components and must have coordinated them appropriately. Clearly, this involves thousands, if not millions of intrinsic components (sub components, sub-sub components etc), but for arguments sake, let us simply assume the following are necessary and sufficient: a workforce, premises, mechanisms for receiving revenues and making payment, means of transforming inputs of labour, capital, raw

materials and/or semi-finished products into outputs and employment contracts. A company that has assembled, and coordinated, the appropriate quality and quantity of intrinsic components will possess the power to extract profit.

The term 'power', here, refers to what the company entity *can* do; the term 'tendency' refers to the company actually *doing* that which it can do – although 'acting', of course, means acting transfactually. According to Bhaskar:

[W]hereas powers are potentials which may or may not be exercised, tendencies are potentialities which may be exercised or as it were 'in play' without being realized or manifest in any particular outcome.... [T]endencies are powers which may be exercised without being fulfilled or actualised... It is the idea of continuing activity as distinct from that of enduring power that the concept of tendency is designed to capture. In the concept of tendency, the concept of power is thus literally dynamized or set in motion (Bhaskar 1978: 50).

Thus, once a company has the intrinsic structure to endow it with a power to extract profit, and this power is put into action, we can write of the company having a tendency to extract profit. A useful analogy might, for example, be the way that a fully charged battery (power) gives the mobile phone a tendency to send, receive and store various kinds of messages.

When we think of a tendency as a transfactually acting power, or a power in action, or words to this effect, we 'attach', metaphorically speaking, the tendency to the power and then 'attach' the power to the causal mechanism – where the term 'causal mechanism' designates some intrinsically structured entity (1994: 62). *A tendency, then, is the (transfactual) way of acting of a structured entity.* We might sketch this as follows:

Structured entity as causal mechanism → power → tendency → events

Notice that, in complete contrast to the first five interpretations where the tendency is 'attached' to the events, in this case, the tendency is 'attached' to power, and the power is 'attached' to the generative mechanism. This is what I meant above when I said that the first five interpretations of tendency refer to the *outcomes* of something, not to a *something* itself. We can now see that the 'something' is the power.

To define a tendency as the way of acting of a power, which is, of course, a power of a structured entity as generative mechanism, says nothing in detail about the structure of that entity. In their influential work on causal power Harre & Madden (1975) simply refuse to be drawn on the nature of the structure of the entity with a power and a tendency.

To ascribe a power to a thing or material is to say something specific about what it will or can do, but this is not to assert any specific hypotheses about the nature of that thing. To ascribe a power to a thing asserts only that it can do what it does in virtue of its nature, whatever it is. It leaves open the question of the exact specification of the nature or constitution in which the thing, person or material has the power (Harre & Madden 1975: 87).

Why is this important? It is important because it means that this first variation on the interpretation of tendency as power, does not necessarily exclude the second and third variants. It means that Marxist-Hegelians, who will almost certainly want to include the second variation, have no *a priori* reason *not* to accept the concept of a tendency as the actualised (transfactual) power of a structured entity as generative mechanism. It may be that the structure of the entity that drives the tendency is an entity experiencing a dialectical contradiction. It is to this that we now turn.

3.2 Tendency as the way of acting of dialectical contradictions

A tendency might be caused by the dialectical contradiction contained in an entity. The most fundamental dialectical contradiction of capitalism is, arguably, that between concrete labour as the content, and abstract labour as the form in which concrete labour appears (Meikle 1985: 120-1; Reuten & Williams 1989: 53 – 63). This dialectical contradiction between the concrete labour that produces use value, and abstract labour as the value form in which concrete labour and use value appears, generates a tendency to expand the magnitude of value – which itself appears in the form of money. This expansion is often styled $M - C - M'$. The tendency to accumulate, in turn, generates many other dialectical contradictions and, therefore, many other tendencies. By way of an example, we might consider the way the (same) tendency to accumulate generates both the tendency towards unemployment, and the tendency towards employment. As Rosdolsky, paraphrasing Marx puts matters:

Capital strives to link absolute with relative surplus value...Both tendencies are necessary tendencies of capital... It then appears that the two sided law of capital to link up the greatest absolute mass of necessary labour with greatest relative mass of surplus labour corresponds to an equally two-sided law, on the one hand to transform the largest possible part of the population into a working population, and on the other, to constantly posit part of it as surplus population - population which is useless until such time as capital can utilise it (1977: 248-9).

To remain with the metaphor used above, we might say that the tendency is 'attached' to the dialectical contradiction. But even this is ambiguous. Does this mean the tendency is 'attached' to:

- the content?
- the form?

- the dialectical contradiction between the content and the form?
- the dialectical process of transcending the dialectical contradiction?
- the (dialectically contradictory) entity itself – e.g. labour, the commodity, accumulation?

I am not certain which of these is correct. For the moment, I will proceed by ‘attaching’ the tendency to the dialectically contradictory entity itself, whilst making it known that I am using this as a place-holder until such time as the matter has been thoroughly investigated – either by myself in a later article, or hopefully by others with a greater knowledge of dialectics.

Be that as it may, we are now in a position to derive a definition of a tendency from this variant of tendency as power. *A tendency is the way of acting of an entity experiencing a dialectical contradiction.* Furthermore, unless one is committed to some linear and deterministic concept of dialectics where the contradiction *always* results in an exercised power, which always results in an actualised power or exercised tendency, which always results in an actualised tendency which, finally, always results in the event that the power had the potential to bring about, then one can accept transfactuality. Thus the definition can be slightly augmented so that *a tendency is the (transfactual) way of acting of an entity experiencing a dialectical contradiction.* I see no reason why the critical realist conceptions of exercised and actualised power and tendency cannot be appended to the Hegelian-Marxist concept of tendency as the (transfactual) way of acting of an entity experiencing a dialectical contradiction. We can, therefore, sketch this as follows:

Entity experiencing a dialectical contradiction as generative mechanism → power → tendency → events

Many Hegelian-Marxists favour the systematic, dialectical method, which makes extensive use of the process of abstraction. Fine & Harris (1991) also make use of abstraction in their own analysis of the tendency of the rate of profit to fall, even though they do not (explicitly) use a systematic dialectical method. The aim is, as the well known Marxist maxim has it, ‘to reproduce the concrete in thought’ that is, to reproduce the world in our categories and theories. To do this we build epistemic categories, or categories of thought, that capture, correspond to, reflect, express, grasp (and these terms need to be elaborated with more care than I am giving them here) the ontic, that is, the entities of the world. So, our epistemic categories, use value and value, or concrete and abstract labour, for example, are the theoretical counterparts of the use value and value, or concrete and abstract labour. Having built these categories, they can be collected and analysed, but not in any old way. We collect and analyse only those categories that can be collected and analysed at a particular level of abstraction – indeed an important aspect of Fine & Harris’s (1981) critiques of Neo-Ricardian and Fundamentalist versions of the tendency of the rate of profit to fall,

lies in mistakes relating to use of incorrect levels of abstraction. We then move to a lower level of abstraction (or stated differently, to a higher level of concretisation) where another set of concepts are analysed at their particular level of abstraction. And so on.

Accepting this as a valid methodological procedure, we might ask: At which level of abstraction do we locate a tendency? 'A tendency is a concept belonging to a specific level of abstraction' as Reuten & Williams (1997: 116 *passim*) correctly observe, adding that this 'is quite different from the concept of an empirical trend'. Let us unpack this a little.

- We have a tendency (ontic) and the category of a tendency (epistemic).
- We have an outcome of a tendency (ontic) and the category of an outcome of a tendency (epistemic).
- We can legitimately locate the *category of an outcome* of a tendency at the level of abstraction of *the empirical*.
- We can legitimately locate the *category of a tendency* at the level of abstraction of...what?
 - In 'attaching' the tendency to the outcome, we locate the category of the tendency at the level of abstraction of *the empirical*. But Reuten & Williams are clear that this we cannot do. And they are right because as we have seen, tendency as power is counterfactual, not empirical.
 - In 'attaching' the tendency to the dialectical contradictions contained in the entity, we locate the category of the tendency at the level of abstraction at which it is appropriate to deal with these contradictions. And the appropriate level is not the empirical, but what critical realists call the 'deep' – see figure 2 above.

In sum, then, it seems far more in-keeping with a Hegelian-Marxist position to reject the interpretation of tendency as outcome, and accept something like tendency as power.

That said, and whilst I am firmly committed to a method of presentation that works steadily through levels of abstraction, resolving dialectical contradiction on the way, there is a limit to the explanatory power of the systematic dialectical method. This limit is not the result of an intellectual weakness, or a problem with the method itself. The limit is imposed by the nature of the social world. Not everything that happens in the social world is the result of an entity experiencing a dialectical contradiction working itself out. Not being driven by dialectical contradictions does not, of course, make something unimportant. But it does mean that the systematic dialectical method cannot be applied when trying to analyse such things. Fine & Harris (1981) recognise this implicitly when they differentiate between 'effects on the surface of society' (which are at a relatively lower level of abstraction), and the tendency and counteracting tendencies of the rate of profit, that is, the causal factors governing these surface effects (which are at a relatively higher level of abstraction). Surface effects would include: things like: 'over production, speculation, crisis

and surplus-capital alongside surplus population' and 'increasing intensity of exploitation, depression of wages, foreign trade, increase in joint-stock capital' (62-3), but could be extended much farther. Fine and Harris repeat the point that knowing the tendency 'yields no general predictions about the actual movements in the rate of profit (ibid: 64) since these are effects of the 'complex contradictions between the tendency of the rate of profit to fall and the counteracting influences' (ibid). In other words, knowing the fundamental contradictions woven into the tendency does not allow us to predict what will happen at relatively low levels of abstraction, when the analysis is widened to include ever more non-dialectical, and ever more contingent factors. And this segues us nicely into the following section where we consider non-dialectical tendencies.

3.3 Tendency as the way of acting of an entity experiencing a tension

Tendencies might be generated by entities that have some kind of (non-dialectical) contradiction, strain or tension (as I will refer to it) 'built in' as it were – after all, not all contradictions are dialectical ones. Consider the tendency of HR managers to hire workers from universities with 'good' reputations. Whether the reputations of these 'good' universities accurately reflect the abilities of their graduates is beside the point – at least in this example. HR managers assume the reputations are an accurate reflection because, despite the barrage of recruitment tests they conduct, they have little or no way of really knowing, in advance, the quality of the graduates they hire. This tendency, then, is rooted in a tension between having to recruit an employee, and yet being unable to ascertain the quality of that employee. The same could be said of HR managers employing certain categories of workers based upon national, gender or racial stereotypes. Currently in UK, there is a tendency to hire workers from Poland because they are perceived as being 'good' workers. Tendencies like these, rooted in a tension between having to hire a worker, or recruit an employee, yet being unable to ascertain the quality of that worker or employee, often manifest themselves in differential hiring, firing, skilling, promoting and payment activities. The point of interest for us, is that a tendency is 'attached' to the entity experiencing a tension.

We can, then, define tendencies thus: *a tendency is the way of acting of an entity experiencing a tension.* Furthermore, unless one is committed to some linear and deterministic concept of tensions where the latter *always* results in an exercised power, which always results in an actualised power or exercised tendency, which always results in an actualised tendency which, finally, always results in the event that the power had the potential to bring about, then one can accept transfactuality. Thus the definition can be slightly augmented so that a *tendency is the (transfactual) way of acting of an entity experiencing a tension.* Moreover, I see no reason why the critical realist conceptions of exercised and augmented powers and tendencies cannot be appended to this concept of tendency as the (transfactual) way of acting of an entity experiencing a tension. We can, therefore, sketch this as follows:

Entity experiencing a tension as generative mechanism → power → tendency → events

What are we to make of the fact that we have three interpretations of tendency as powers? Fortunately it is not necessary to choose between tendency as the way of acting of a structured entity; an entity experiencing a dialectical contradiction or an entity experiencing a tension because they are compatible, for the following reasons:

- a) In all three variants, the tendency is not 'attached' to the events, as it is in the first five interpretations of tendencies as outcome, but rather it is 'attached' to the generative mechanism (whether it be as structured entity, entity experiencing a dialectical contradiction or entity experiencing a tension) that governs the flux of events.
- b) Where the three variants refer to different entities, they are not competitors over the same ground.
- c) It is possible that the first version encapsulates the other two: the intrinsic structure of an entity could take the form of an entity experiencing a dialectical contradiction and/or a tension. Put another way, the term 'generative mechanism' could be used as a technical term that designates an entity experiencing a dialectical contradiction or an entity experiencing a tension.
- d) Related to the last point, we need to think about the following possibility. We are used to referring to a tendency to designate what an entity can do, and a generative mechanism as a technical term that designates some real entity with that tendency. Typically, we have in mind here entities as natural kinds – e.g. capitalist companies and icebergs. I see no reason why the term 'generative mechanism' cannot be applied to an entity experiencing a dialectical contradiction. An essentialist like Meikle (1985, for example, would be happy defining something as a natural kind, precisely, on the grounds of its dialectical contradiction. Would there be an objection, for example, to defining a commodity as a natural kind with an intrinsic structure consisting of a dialectical contradiction between content (use value) and form (value), and then using generative mechanism as a technical term that designates the commodity as a particular entity with the tendency to generate class conflict? Probably not. I doubt, however, the same thing can be said for an entity with an intrinsic tension, because not every entity experiencing a tension is a natural kind – at least not in virtue of that tension.

Conclusion

This paper has been unashamedly meta-theoretical in orientation. This has been necessary given that the problems surrounding concepts of laws and tendencies are rooted in meta-theory and it is here, therefore, will not be resolved by ignoring meta-theory and pressing on regardless. But meta-theory is not, of course, where matters end. The whole point of clarifying laws and tendencies is so that we can engage in sophisticated political economic theory, empirical work and, eventually, successful political practice. This raises two questions. First, how can we test the claims I have made vis-à-vis tendencies as powers? This is, now, complicated by the fact that tendencies are not empirical and hence do not lend themselves to treatment using the usual statistical toolbox. Second, how can we apply the concept of tendencies as powers? These questions cannot be tackled here, but it is only with a better understanding of tendencies that we can begin to address them.

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² Ideas of law as tendency are to be found in the work of Marxists such as: Carchedi (1993); Fine and Harris (1979); MacBride (1977); Meikle (1985); Ollman (1993); Reuten (1991, 1997 & 2004); Reuten and Williams (1989); Ruben (1979a&b); Sayer (1983); Wilson (1991) and Zeleny (1980). Despite entitling a chapter 'Epistemology, causality and the laws of tendency', there is very little on the concept of tendency in Cutler et al (1977; part II, especially chapter 4). Mosely's (1991) book on the falling rate of profit uses the term 'law of the tendency' when discussing the falling rate of profit, but carries no discussion of the term 'tendency' and there is no entry for 'tendency' in the index. The same goes for Dumenil & Levy's (1993) book on the economics of the profit rate. Cullenberg's (1992) paper on the falling rate of profit subtitled 'methodological considerations' does not tackle methodological issue vis-à-vis laws and tendencies either – although it is touched upon in his (1994) book on the falling rate of profit. Glombowsik's (198?) paper entitled 'Are There Macroeconomic laws' does not discuss the nature of laws (or tendencies) either.

³Overviews of critical realist ideas in economics can be found in Downward (2003); Lawson (1995 & 2003); Lewis (2004) and Fleetwood (1999).

⁴ Philosopher's of economics such as Hausman (1992) mention laws and tendencies, but in his case, only in discussing the work of J.S. Mill. Cartwright (2007) deals explicitly with conceptions of law, but also mentions tendencies. Whilst Cartwright (a realist but not necessarily a critical realist) prefers the concept of tendency, it is not exactly clear whether her concept of tendency, which also appears to derive from J.S. Mill, is similar to the one I am trying to develop.

⁵ There is a debate surrounding the nature of open and closed systems. See Fleetwood (2006), Dow (2006) Downward (2006); Downward & Mearman (2007) and Brown (2007).

⁶ See Cartwright (2007: chapter 12) for a detailed discussion of causality and probability.

⁷ It is, however, often discussed by philosophers of economics. See, for example, Morgan (2002).

⁸ Notice that if the list of assumptions is incomplete, then the *ceteris paribus* clause remains necessary to capture all (or perhaps most) of the influential, remaining yet unspecified conditions. Notice too that in econometrics where the *ceteris paribus* clause is replaced by the error term, the onus is on the model builder to seek out the most influential independent variables, leaving the rest simply labelled 'missing'.

⁹ The debate within economics about the nature and legitimacy of mathematical modelling rumbles on (see, for example, the collection edited by Maki 2002). Writing specifically about laws and tendencies, Cartwright (2007: chapter 15) offers a detailed discussion of what she calls 'analogue economies' – i.e. typical mathematical models of economies. Whilst she is not entirely clear, she does suggest that these models can 'teach us about general tendencies (in my vocabulary capacities), tendencies that are nakedly displayed in the analogue economies described in our economic models but that stand ready to operate in most economies' (1997: 231). At the same time, however, she doubts that these models can be applied outside of the study. See also Lawson 1998 and 2003.

¹⁰ I interpret Fine & Harris's (arguably correct) critique of the neo-Ricardians as a critique of the latter's commitment to deductivist methods and mathematical modelling. See Fleetwood (2001) for an elaboration of the problems of mathematical modelling.

¹¹ The place of mathematical modelling in Marxist political economy has not been seriously addressed. My suspicion is that for many Marxists, mathematics is not seen a problem provided the mathematical models do not inadvertently stray across levels of abstraction. See Fleetwood (2001b) for a critique of mathematical models of value theory. See fn.11.

¹² Lawson does not, however, link stylised facts and demi-regularities with tendencies, nor does he use tendency in this imprecise or under-elaborated way.

¹³ Lawson (1998) refers to a 'Tendency as an enduring orientation'. It is, however, compatible with the conception I develop here.

¹⁴ None of this should be understood as a version of structuralism with a denial of agency. In the social world, tendencies are the result of humans acting by drawing upon, and thereby reproducing and transforming, a range of social structures, generative mechanisms, etc.

¹⁵ Bhaskar (1978: 51n) borrows the term 'normic' from Scriven, although he seems less than keen on it. Unfortunately, however, the term derives from the Greek *nomos*, meaning law-like, and is associated with *nomological* which, in turn, is associated with the deductive-nomological model which is precisely what Bhaskar and other critical realists fundamentally object to. I will try to refer to counterfactual conditionals instead of normic conditionals and variants. See the entry on 'counterfactual/transfactual' in Hartwig (2007: 85)

¹⁶ I have to say that whilst I admire Carchedi's attempts to unpack the concept of tendencies, I find his three types of (present) tendencies confused and confusing. I think this is, in part, due to his (arguably incorrect) starting point. A tendency, he correctly points out 'manifests itself through the real movement of specific events'.

He then adds that 'different types of tendencies can be discerned by analysing the real movement' (1993: 194). The problem is, if I am right and tendencies are *not* to be associated with events, but rather, are powers that govern the flux of events, then differences in types of tendencies cannot be sought at the level of these events. Carchedi flirts with empirical conceptions of tendencies, whilst at the same time trying to deny he is doing this.

¹⁷ I wish to head of a popular misconception that can arise when borrowing examples from natural science. It is *not* the case that natural sciences make use of law as event regularity, whereas social scientists make use of laws/tendencies or even just tendencies. In *A Realist Theory of Science* (the book that, essentially, 'started' critical realism) Bhaskar argues that *all* laws are tendencies, even in natural science. Furthermore, I am happy if anyone wants to argue that the event regularities created in experiments with *Ohm's Law* are the result of experimenters closing the system, ensuring nothing interferes with the wires and the insulators are sound and so on. The example of Ohm's Law is not intended to somehow 'prove' the existence of naturally occurring event regularities and closed systems. It is intended to show how this classic law is often interpreted.

¹⁸ Some may see a family resemblance here between the concept of 'tending to equal' and the concept of an asymptote – i.e. is a line that a graph gets closer and closer to (as we go to infinity) but never intersects. It is difficult to say if there is a resemblance because, unlike the concept of an asymptote, the concept of 'tending to equal' has no real meaning; indeed I am using it hypothetically. I am not, however, aware of anyone who has tried to treat the tendency of the rate of profit to fall in asymptotic terms. Moreover, as we will see in part three, my real argument is against all conceptions that treat a tendency as an outcome, as the magnitude of a dependent variable.

¹⁹ I apologise in advance to David Laibman. I am not suggesting that he would try to do such a thing, I simply needed an equation to illustrate a point, and his paper was close to hand.

²⁰ P denotes power; F denotes effect and R denotes Result.

²¹ For further elaboration see Fleetwood (2008).

²² I apologise if this sounds like vulgar materialism. It is perfectly possible for an entity to have powers that are ascribed to it by the community that have little or nothing to do with its material constitution – I am thinking here of religious symbolism, or indeed many forms of fetishism. The point remains, a power like this is social and is still created at the moment when the entity is created as (say) a taboo.