

From Labour Market Institutions to an Alternative Model of Labour Markets

Steve Fleetwood

Abstract

This post-disciplinary article goes beyond orthodox labour economics and combines insights from the 'socio-economics of labour markets' (SELM), and *critical realism* (CR), to develop a *SELM^{CR}* perspective which is then used to create an alternative conception of *labour market institutions* and an alternative model of *labour markets* - i.e. the *SELM^{CR}* model.

Introduction

This article transcends disciplinary boundaries. It goes beyond orthodox labour economics (OLE), and combines insights from what I have elsewhere (Fleetwood (2006, 2010) called the 'socio-economics of labour markets' (SELM), and *critical realism* (CR), to develop a *SELM^{CR}* perspective. This perspective is then used to create an alternative conception of *labour market institutions* and an alternative model of *labour markets* - i.e. the *SELM^{CR}* model. Whilst the raw material for this alternative already exists in the insights of SELM, these insights have never been united to forge a model of labour markets as a *whole*. The *SELM^{CR}* model attempts to do just this.

Part one outlines some of the limitations that orthodox labour economists (OLEs) encounter when attempting to extend the basic model of labour markets (LMs) to include labour market institutions (LMIs). Part two considers three ways in which LMIs affect LMs: restricting them, making them function better, and making them function in the first place. Part three 'fits' these three ideas to three models of LMs. The first treats LMs as different and separate from LMIs; the second treats LMs and LMIs as the same kind of phenomena; and the third combines the previous two models. It reveals OLEs seeking to extend the basic model to include LMIs, but remaining trapped within disciplinary boundaries. The way forward is to step outside these boundaries, which is the objective of the final two parts. Part four introduces CR and two important concepts: *emergence* and the *morphostatic-morphogenetic (M-M) approach*. Part five introduces the *SELM^{CR}* perspective to 'unpack' what OLEs refer to as 'institutions', namely: **I**nstitutions (proper), **S**ocial structures, **O**rganisations and **M**echanisms - abbreviated to *ISOMs*. The conclusion presents the *SELM^{CR}* model of LMs.

1.0 OLEs and LMIs

Whilst, in the last three decades OLEs have extended the basic model of LMs to include LMIs, they have not managed to adequately define, explain, elaborate, theorize and research LMIs. Whilst establishing this properly would take an entire article, a brief comment is necessary in order to motivate the alternative model.¹

1.1 Definitional limitations

OLEs rarely define LMIs. Surprisingly, for a book entitled *The Political Economy of Labour Market Institutions*, St Paul does not define LMIs - other than referring to them as 'rigidities' (2000: 1, 27, *passim*). Boeri & van Ours's definition is a little better but it is still superficial:

A Labour market institution is a system of laws, norms, or conventions resulting from collective choice and providing constraints or incentives that alter individual choices over labour and pay (Boeri & van Ours 2008: 3).

If laws, norms, and conventions are LMIs, then why not, *inter alia*: agreements, codes, customs, directives, duties, guidelines, mores, networks, obligations, precedents, procedures, regulations, responsibilities, rituals, rights, routines, rules, scripts, standards, templates and values? Whilst OLEs occasionally mention some of these things, there is always a degree of arbitrariness about their selection of LMIs. I return to this in part four, but for now I simply exemplify LMIs as *laws, norms and conventions*.

(Why) does this definitional lack or superficiality matter? If OLEs have simply not gotten around to defining LMIs, then it does not matter – they could do so, and my critique would evaporate. But what if OLEs cannot define them – at least in terms consistent with their paradigm? I suggest that OLEs cannot define LMIs, for reasons that will unfold as the paper progresses.

1.2 Limits arising from qualitative socio-political phenomena, mathematics and statistics

OLEs routinely refer to LMIs (e.g. laws, norms, or conventions) as ‘non-economic’ phenomena – and variants. Baccaro & Rei (2007: 530) for example, ‘use the term “institution” somewhat imprecisely...as a shortcut for non-demand and supply factors impinging on the LM’. St Paul mentions ‘sociological factors’, ‘institutional factors’ (2000: 8), and frequently refers to ‘political mechanisms’ and the ‘political system’. These phenomena are, of course, not only sociological, institutional and political, but legal, organisational, cultural, discursive, ideological, ethical, spatial, historical and so forth. I will refer to them, generically, as *qualitative socio-political phenomena*. One of the reasons why OLEs have difficulty in defining LMIs is precisely because they are *qualitative* socio-political phenomena. Let us see why.

Qualitative socio-political phenomena are difficult, and in many cases, impossible, to quantify *meaningfully*.² McConnell *et al* (2006: 421) observe that: ‘Discrimination is complex, multifaceted and deeply ingrained behavior. It is also difficult to measure or quantify’. Recognising that LMIs are qualitative socio-political phenomena is not contentious. Its implications, however, are. To understand this, it is necessary to recognize that OLE is totally preoccupied with the use of mathematics and statistics. As one leading orthodox economist put matters: ‘Economics is a quantitative subject....So mathematical modelling is essential and is here to stay’ (Dasgupta: 2002: 79).

Empirical research (micro *and* macro-economic) is preoccupied with using econometric techniques and quantitative data in order to *measure* the influence of LMIs on a variety of economic outcomes. Whilst research of this kind can tell us *that* LMIs influence outcomes, it *cannot tell us how* LMIs actually do it – i.e. it cannot *explain* the influence. Theoretical research is preoccupied with mathematical modelling and, therefore, demands a *Procrustean* process of ‘lopping-off’ every qualitative socio-political phenomena that cannot be mathematized (or measured) and ‘stretching’ the rest to make them mathematically tractable. What happens in practice, is that OLEs ‘borrow’ ideas about qualitative socio-political phenomena like LMIs from their original disciplines and then try to ‘stretch’ or ‘lop’ them into the OLE paradigm. Let us explore this by considering how St Paul deals with power.

A is more powerful than group B, so that its members can design institutions in the way that suits them best...There are many ways that group A can increase its welfare by manipulating institutions, but one possibility is simply to introduce a regulation that alters the functioning of the LM in such a way that in equilibrium group A will be better off (St Paul 2000: 46).

Given that St Paul is aware of wider social and political domains, why not take a multi-disciplinary approach? Why not, for example, turn to Stephen Lukes, or Michel Foucault? Indeed, their conceptions of power are fairly well established in much contemporary social science and allow us to explain things like:

- The nature of conflict between various groups. Reducing a qualitative socio-political phenomenon, like political conflict, to a *quantitative* matter of rent seeking and rent capturing simply empties it of its most important characteristics.
- How and why processes of apparently joint-decision making are, often, exercises in manipulation by the more powerful group, masquerading as joint-decision making.
- How and why, via this manipulated joint-decision making process, some LMIs appear on the policy agenda, but (perhaps more importantly) others do *not*.
- How and why the LMIs that do appear are designed the way they are and not in some other way.
- How and why LMIs continue to be manipulated by powerful organisations and individuals.³

St Paul's emaciated understanding of political power stems from an emaciated understanding of politics, often referred to (pejoratively) as 'mathematical politics' - of which the following is a good example:

[P]olitical influence and participation may differ across income groups, so that the decisive voter would not be $i = 0.5$ but the median of a distribution weighted by *some measure of political power* (2000: 74, emphasis added).

As a qualitative socio-political phenomenon, political power is impossible to measure *meaningfully*. St Paul ends up ignoring rich and sophisticated notions of political power, transforming it into the thin gruel of utilitarian squabbles (Fleetwood 1999).

1.3 Limits to explaining the origin of LMIs

Let me turn now to another problem, namely, the inability to explain the *emergence, or origin* of LMIs. According to Aoki (2007: 1) there are two broad ways to explain the origin of institutions – conceived of as *sets of rules*. The first is to take them as 'given' - i.e. a euphemism for being unwilling or unable to analyse them properly. The second way to treat LMIs is as:

something spontaneously and/or endogenously shaped and sustained in the repeated plays of the game...[R]ecent game-theoretic approaches to identify institutions with some kind of equilibrium outcome are considered attempts to provide an analytical foundation for this view (*Ibid*: 2).

Let us see how St Paul tries to explain the origin of LMIs as the equilibrium outcome of rational choices. Collections of rational individuals, with different preferences, engage in rent seeking and rent capturing actions, which inevitably brings them into re-distributional conflicts with one another. Something called 'the political system' designs an institution and makes it available on the policy agenda. Each individual reflects upon whether they stand to gain or lose vis-à-vis the other party and then casts their vote. One group then emerges as the winner and their favoured institution is selected. St Paul (2000: 208) explains this formally:

Let us consider two institutions, A and B. Let V_a and V_b be the welfare of the decisive voter if institution A and B prevail, respectively. Let W_a (resp. W_b) be the expected welfare of the decisive voter if the initial situation is B (resp. A), and one changes the institutions to A (resp. B).

Society will elect institution B if originally in situation A if and only if
 $V_a < W_b$

It will choose to stay in institution B if originally in that situation if and only if
 $W_a < V_b$

Notice, however, that what St Paul is *actually* explaining is how agents choose or elect *one* of the LMs that 'the political system' has already placed on the agenda. This leaves absolutely crucial questions not only unanswered, but unasked, such as: Why are LMs A and B, but not C and D, on the policy agenda? These are important questions for anyone wanting to understand how LMs work.

1.4 Limits to understanding the relation between LMs and agents' actions

Let us turn now to the (temporal) relation between LMs and agents' actions. OLEs are unable to say if LMs *pre-date* or *post-date* agents' actions. Take the example of 'shirking' rules and norms – i.e. LMs governing 'shirking' actions.

If LMs *pre-date* agents' actions, then LMs *cannot* be explained as (equilibrium) *outcomes* of agents' actions. If LMs *post-date* agents' actions, then they *can* be explained as outcomes, such as regular patterns of agents' actions. This presupposes that agents must be able to act in the absence of (i.e. prior to the existence of) LMs. And this makes no sense because 'shirking' actions cannot occur without the rules and norms that govern them. LMs must, therefore, *pre-date* agents' actions – see section 4.2 below.

One attempt to resolve this dilemma comes by pressing methodological and ontological individualism (MI) and (OI) into service. Shirking rules and norms could be explained as the outcome of individuals' preferences – i.e. as post-dating agents' actions. But this has two important ontological implications. First, it means that there are not *two* kinds of phenomena: individuals *and* LMs. There is only *one* kind of phenomenon, namely, individuals. LMs are, thereby, conflated with, or reduced to, individuals, their actions, and ultimately, their preferences. Generalising, LMs as phenomena that have some kind of existence independent of agents' actions are, quite literally, inconceivable. Second, it means LMs are (mis)conceived as regular or repeated *actions* or *patterns*, when they ought to be conceived of as *phenomena that make action* (including any patterns) *possible*.

So, whilst OLEs have extended the basic model by including LMs, unfortunately, they have ended up with an extremely limited understanding of what LMs are, where they come from, what they do, how they do it, why they succeed, why they fail, and how they might be improved. LMs remain under-defined, under-explained, under-elaborated, under-theorized and under-researched *deus ex machinas* or black boxes. Many LMs are defined, explained, elaborated, theorized and researched in disciplines like employment relations, HRM, social theory, organisation theory, politics, sociology of work and so on, but OLEs cannot engage with these disciplines because they eschew mathematics.

2.0 What do LMs do vis-a-vis LMs?

OLEs conceptualize LMs as effecting LMs in three ways: restricting LMs; making LMs function better; and making them function in the first place. Let us consider them in turn.

2.1 LMs are restrictions on LMs

LMs are routinely conceived of as *constraints*, *rigidities*, *frictions* or *imperfections* or *restrictions* on the operation of LMs. This conception can be found in any orthodox textbook and advanced work such as that of St Paul. I refer to LMs conceived of as restrictions as $LM|_{fr}$ - with the 'fr' standing for 'functioning by restricting'. It is important to note that $LM|_{fr}$ are *different and separate from LMs*.

2.2. LMs make LMs function better

LMI's are sometimes said to improve the performance of LMs by making them function more efficiently or equitably, or by helping counteract market failure, or the negative consequences of other LMI's. The following is fairly typical:

Labour market regulations can correct market failures, usually related to imperfect information. Such institutional interventions may increase economic efficiency by changing the outcome that would have resulted from the operation of market forces (Blau & Kahn 1999: 1405).

Active Labour Market Policy is a good example of such LMI's. I refer to LMI's conceived of in this way as LMI_{fb} - with the 'fb' standing for 'functioning better'. Like the previous conception, LMI_{fb} are different and separate from LMs; but unlike the previous conception, LMI_{fb} are not merely restrictions.

2.3 LMI's making LMs function

LMI's are sometimes said to be necessary, not just to make LMs function better, but to make them *function at all*. Private property, for example, is necessary to ensure that those who offer to sell the (quasi) commodity known as labouring services, own these services, that is, own themselves - the alternative would be some kind of slavery, not a 'freely' entered-into exchange. Without private property, then, the actions typically involved in buying and selling labouring services could not occur.

What is true of private property, however, is no less true of many other LMI's such as employment contracts, households, information provision and education and skilling. If some LMI's are necessary to make LMs function then they must be doing more than just restricting LMs, or making them function better. Understanding this requires the differentiation between two types of LMI's: *regulative* and *constitutive*. In the following quotation, Searle discusses rules. But, because institutions are often conceived of as sets of rules, then what he says for rules, holds for institutions, so the compound term 'institutions/rules' can be applied here also.

Some rules regulate antecedently existing forms of behavior. For example, the rules of polite table behavior regulate eating, but eating exists independently of those rules. Some rules, on the other hand, do not merely regulate but create or define new forms of behavior: the rules of chess, for example, do not merely regulate an antecedently existing activity called playing chess; they, as it were, create the possibility of or define that activity. The activity of playing chess is constituted by action in accordance with these rules. Chess has no existence apart from these rules. . . . Regulative rules regulate activities whose existence is independent of the rules; constitutive rules constitute (and also regulate) forms of activity whose existence is logically dependent on the rules (Searle 1964: 53).

This allows us to make two interpretations. Some LMI's *regulate* LMs by *restricting* them, and making them *function better*. Other LMI's *constitute* the very fabric of LMs themselves. Private property, employment contracts (and many other LMI's) do not merely regulate an antecedently existing entity called a LM, *they constitute that entity*. Just as chess has no existence apart from the rules of chess, LMs have no existence apart from the LMI's that constitute them. This is a very important claim and I will re-visit it in part four. I refer to these institutions as type LMI_{fc} - the 'fc' standing for 'functioning to constitute'. LMI_{fc} are partly *constitutive* of LMs'. Without LMI_{fc}, not only would LMs not function, or function poorly, *there would be no LMs*. Notice, however, that LMI_{fc} are no longer different and separate from LMs.

So, armed with three conceptions of how LMIs effect LMs, we can now try 'fitting' them to three models of LMs.

3. 'Fitting' three types of LMIs to three models of LMs

The first model treats LMs as different and separate from LMIs; the second treats LMs and LMIs as the same kind of phenomena; and the third combines the previous two models

3.1 LMIs are different and separate from LMIs

Model one (figure 1) shows LMs are different and separate from LMIs. This is, for example, presupposed in terminology such as 'institutions versus markets' and in (well known) debates about whether European LMs (heavily institutionalized or regulated), perform better or worse than Anglo-Saxon LMs (lightly institutionalized or regulated).

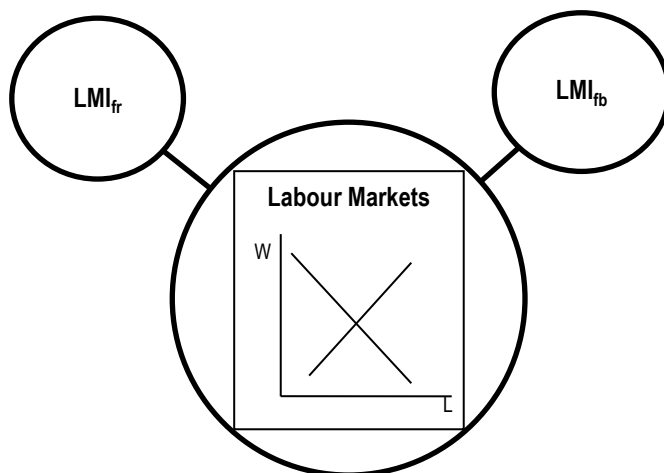


Figure 1. Model 1: LMs and LMIs as different and separate phenomena

Putting matters with this degree of clarity reveals a serious problem - actually it was always there, but difficult to see. Whilst LMI_{fr} and LMI_{fb} are conceived of as different, and separate from LMs, and influencing them, LMs are conceived of as a kind of *institutional void* – i.e. it is as if the two curves could just hang in an institution-less space. The problem is easier to see if we return to the chess example - which I deliberately misrepresent in figure 2.

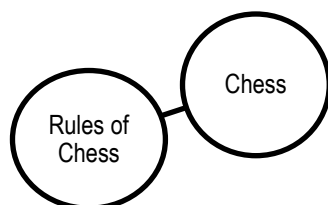


Figure 2. A deliberate misrepresentation of chess and the (constitutive) rules of chess

Trying to show the rules of chess as different and separate from chess is a misrepresentation because chess has no separate existence from the rules of chess. Trying to show LMIs as different to and separate from LMs is a misrepresentation because LMIs, especially LMI_{fc} , have no separate existence from LMs – i.e. they are what make LMs function. The snag is, LMI_{fc} cannot be included in model one because LMI_{fc} are *not* different to and separate from LMs. Model one is not, therefore, defensible.

3.2 LMs and LMIs are the same kind of phenomena

Model two tries to resolve the above problems by incorporating LMI_{fc} , and conceiving of LMs and LMIs as *the same kind of phenomena*. Whilst I have tried to express this idea in figure 3 with two circles representing LMs and LMIs, there is an obvious difficulty. Expressing two similar phenomena would involve placing one circle directly on top of the other, obscuring one. The *partial* overlap should, therefore, be interpreted as a *complete* overlap.

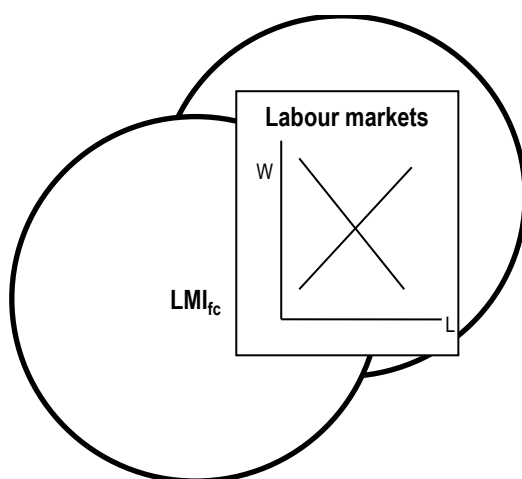


Figure 3. Model 2: LMs as LMIs

This appears to be a significant advance. It no longer treats LMs as institutional voids and it expresses the idea that LMI_{fc} constitute the fabric of LMs – but two problems remain. First, this conception is, quite literally, inconceivable from the OLE perspective. Whilst it is impossible to deny that some LMIs are partly *constitutive* of LMs, it flies in the face of OLE theory to theorize LMs as LMIs. Second, without theoretical elaboration, this model simply *merges* LMs and LMIs into one ambiguous, amorphous conception that obscures more than it reveals. As it stands, model two is not defensible either.

3.3 LMs as a combination of the previous two models

The third model combines the insights of the two previous models and is expressed in figure 4.

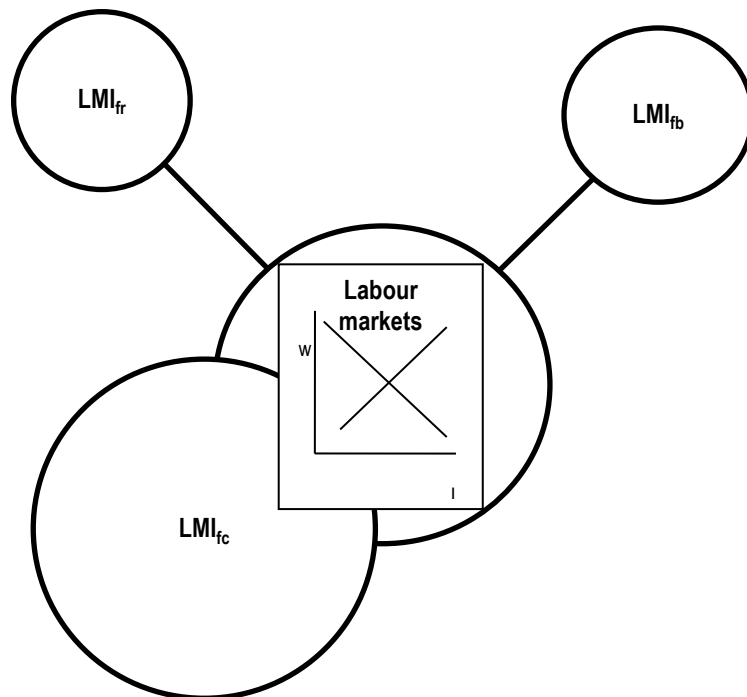


Figure 4. Model 3: LMs as a combination of the two previous models

Whilst model three looks promising because it accommodates all three conceptions of LMIs identified in part two, it does have two problems. First, because model three reproduces the key idea of model two, namely that LMI_{fc} constitute the fabric of LMs, it reproduces the same problem – i.e. it flies in the face of OLE theory. The second problem is more complicated.

LMs are still defined exclusively in terms of labour supply and demand functions. Yet the key feature of model three is that it allows for the forces of labour supply and demand to articulate with forces generated by LMI_{fr} , LMI_{fb} and LMI_{fc} which can be theorized as working in conjunction with the forces of supply and demand, playing a role in determining wage rates. The problem here is that once LMI_{fr} , LMI_{fb} and LMI_{fc} are allowed into LM models, they become indeterminate. What is going on here can be generalized and their importance grasped via the following *rhetorical* questions:

- Does the presence of LMIs *entirely negate* the forces of labour supply and demand? If so, does this mean the forces of labour supply and demand have *no* effect on wage rates? If so, are wage rates determined *entirely* by something other than the forces of supply and demand? If so, what? If wage rates are determined *entirely* by LMIs how might labour economists theorize and model this?
- Does the presence of LMIs merely *modify* the relationship between labour supply and demand such that wage rates are only roughly determined, or heavily influenced, by the forces of labour supply and demand? If so, how rough is 'roughly' and how heavy is 'heavily'? If wage rates are roughly determined and heavily influenced by LMIs how might economists theorize and model this?
- Is it the case that the forces of labour supply and demand set boundaries to wage rates, and the forces of LMIs regulate actual wage rates?

- Or is it the case that the forces of LMIs set boundaries to wage rates, and the forces of labour supply and demand regulate actual wage rates?

Model three is not defensible either because it flies in the face of OLE theory, and it would introduce a degree of indeterminacy that OLEs, committed to mathematical and statistical tools and techniques that deliver (only) determinate outcomes and predictions, would almost certainly reject - recall Dasgupta's comment (part 1.2) about mathematical modelling being 'here to stay'.

So, whilst OLEs seek to extend the basic competitive model of LMs to include LMIs, they remain trapped within their own disciplinary boundaries. The way forward is to step outside the boundaries - which is exactly what I do in the remaining parts of the paper.

4.0 Critical Realism

Whilst CRs have written on the meta-theory of economics, this is not the place to repeat it.⁴ Instead, I merely introduce and elaborate upon *two* important CR concepts that are necessary for the task of creating an alternative model of LMs, namely, emergence and the 'Morphogenetic-Morphostatic' approach.

4.1 LMs as emergent from but irreducible to LMIs

When, in Fleetwood (2006) I argued that LMs *just are, or are constituted by* LMIs, I did not deploy the concept of 'emergence',⁵ and yet without it, could not overcome the problem of LMs and LMIs 'merging' into one ambiguous, amorphous concept. The problem lies with the term 'just' and a simple analogy will explain it.

A sandcastle is made out of, or constituted by, sand. It is misleading to say that a sandcastle *just is* sand, because a sandcastle is more than *just* sand, it is more than just a *pile* of sand. Sand can be just a pile and not constitute anything, except a pile of grains of sand. But sand can be arranged in many ways. When sand is arranged in a particular way, it can constitute a sandcastle. A sandcastle emerges, or is emergent from, the sand. Whilst a pile of sand is reducible to (grains of) sand, a sandcastle is not. A sandcastle is irreducible to the sand that constitutes it. Put these concepts together and we can say that a sandcastle is emergent from, but irreducible to, the sand that constitutes it. It is not that sand and sandcastle have merged; rather, a sandcastle has emerged from sand.

LMs are made out of, or constituted by, LMIs. It is misleading to say that LMs *just are* LMIs because LMs are more than *just* LMIs, they are more than just a *pile* of LMIs. LMIs can be arranged in many ways. When LMIs are arranged in a particular way, they can constitute a LM. A LM emerges, or is emergent from, LMIs. If a LM is more than a pile of LMIs, then it is irreducible to the LMIs that constitute it. Put these concepts together and we can say that *a LM is emergent from, but irreducible to, the LMIs that constitute it*. It is not that LMs and LMIs have merged; rather, a LM has *emerged* from LMIs. In this case, LMs and LMIs do not form an ambiguous, amorphous, conception that obscures more than it reveals.

4.2 Morphostatic-morphogenetic (M-M) approach

Allow me to address two terminological difficulties which are best sorted out at this juncture so that I can deploy more accurate terminology throughout the rest of the paper. Firstly, up to this point I have uncritically used the term 'institutions' (LMIs) because I have been explaining how OLEs conceive of them. But what OLEs, typically, refer to as 'institutions' are really (at least) four different (qualitative socio-political) phenomena: *institutions (proper)*, *social structures*, *organisations* and *mechanisms* - ISOMs. Henceforth I will use the term 'LM ISOMs', occasionally using the term 'LM ISOMs (*nee* institutions)' as a

reminder that `LM ISOMs` is an augmented term, encapsulating `LMIs`. I will elaborate upon these LM ISOMs in part five.

Secondly, within the *agency and structure* approach, the term `structure` (or *social structure*) can be confusing because it is used as both a *portmanteau* term (that includes institutions, organisations and mechanisms) and as a term for a specific phenomenon, such as the structure of social class. Henceforth I use the term `structure` solely with reference to specific phenomena such as the structures of class, gender or demography. When I need a *portmanteau* term I will use `ISOMs`.

Archer (1995, 1998, 2003) has been influential in developing this approach, which she refers to as the *morphostatic-morphogenetic (M-M) approach* - for reasons that will soon become clear. The basis of the M-M approach is rooted in four crucial ideas:

- i) Agents and ISOMs (*nee* structures) are different kinds of things. ISOMs are *non*-agential phenomena, *rooted* in, but *irreducible* to, agents' actions.
- ii) In order to undertake any form of action, agents have no option but to draw upon ISOMs.
- iii) When agents draw upon ISOMs, there is a temporal separation in the circle of interaction, so that at any moment some ISOMs are always pre-dating agents' actions.
- iv) ISOMs (*nee* institutions) are the *phenomena* that *make action (and any subsequent patterns) possible*: they are not themselves *actions* or *patterns* - see 1.4 above.

Agents are born into a social world that pre-dates them, a world replete with ISOMs. This particular cohort of agents did not make or produce these phenomena, but in order to act they have no option but to draw upon them. By drawing upon them, they either *reproduce* them (hence *morphostasis*), or *transform* them (hence *morphogenesis*). Because the reproduction or transformation of ISOMs occurs via the actions of agents, these phenomena are *rooted in* the actions of agents. Once ISOMs are reproduced or transformed via the actions of agents, these phenomena take on an independent existence and are, therefore, *irreducible to* agents' actions. ISOMs are emergent from, but rooted in, agents' actions.

Let us put this in the context of LMs. LM agents are born into a pre-existing world replete with specific *labour market* ISOMs – i.e. LM ISOMs. By drawing upon LM ISOMs, consciously and/or unconsciously, LM agents reproduce or transform them. LM ISOMs are emergent from, but irreducible to, agents' actions. Moreover, as they reproduce or transform LM ISOMs, agents simultaneously reproduce or transform themselves as LM agents. Via these processes, both the LM ISOMs that constitute LMs, and LM agents, continue their existence into the future.⁶ This will form the basis for creating the SELM^{CR} model in the conclusion.

5.0 SELM^{CR} perspective and ISOMs

The following sections build upon CR whilst adding insights from SELM. I refer to this as the SELM^{CR} perspective. I use this perspective to explain and elaborate upon institutions (proper), social structures, organisations and mechanisms in turn.

5.1 Institutions

Following the Institutionalist tradition, Hodgson (2006a&b) defines institutions as systems of rules. These rules are what might be called `*rules of thumb, unconsciously, implicitly and tacitly understood, and loosely followed*'. They should not be confused with the `*precise rules, consciously, explicitly and non-tacitly understood, and precisely followed*' used in more formal approaches – e.g. the rules conceived of as the equilibrium outcome of rational choices discussed in part one. It makes sense to include things like

customs, mores, norms, obligations, rituals and values alongside rules because these things are also internalized and unconsciously drawn upon – see part 1.1.

When institutional customs, mores, norms, obligations, rituals, rules and values are drawn upon with sufficient regularity, they can become embodied or internalized via a process of *habituation* resulting in the adoption of a *habit*. Habits reflect the wider socio-economic environment agents find themselves engaging with. This process of habituation involves a kind of tacit knowing or embodiment, reminiscent of Bourdieu's notion of *habitus* (Hodgson 2004: 187). When agents act habitually, however, they do so *without* the need for *deliberation*. Whilst social structures enable and constrain agents' plans and actions, they cannot actually cause agents to have, or change, their plans. This is not the case with institutions. Institutions, operating via habituation and habits, can indeed cause agents to have, or change, their plans. Hodgson refers to this capacity as *reconstitutive downward causation*.

Definition: Institutions consist of systems of established customs, mores, norms, obligations, rituals, rules and values that are sometimes consciously (at least at first), but more often unconsciously internalized as habits via a process of habituation, itself rooted in, but irreducible to, the nervous system. They assist in making the plans and actions of other agents relatively predictable; they exist independently of the agents who reproduce or transform them and who in so-doing reproduce or transform themselves. They may, via a process of reconstitutive downward causation involving habituation and habit, transform the plans and actions of these agents.

There are, of course, many institutions. What makes them *labour market* institutions is that they are drawn upon by agents executing their work-orientated plans and actions. In order to execute their work-orientated plans and actions, LM agents have to engage with a variety of *institutions*, some of which give rise to habits. Habits are, for example, enacted by recruitment officers, careers advisors and staff in recruitment agencies and job centres, and can manifest themselves in discourses about what is (allegedly) suitable work for men and women. 'Women's nimble fingers' make them suitable for light engineering jobs and 'women's ability to empathize' make them suitable for customer-related work. Thus, recruitment officers, careers advisors and recruitment agents do not have to be conscious sexists for *institutional* sexism to emerge. Habits are also at work in the plans and actions of job-seekers who, for example, only apply for those jobs available to a 'person like me'. Women do not apply for jobs in the building trade, not (necessarily) because someone consciously blocks their application, but often because it is simply not 'customary' for women to be brick-layers. In many cases, agents do not first deliberate, formulate an intention, and then act; rather, they just act – i.e. habitually. In such cases, the origin of the habits are not located in the organisation, but in the sexist institutions of 'wider society'. Either way, by generating habitual activities such as these, institutions come to partly *constitute* not only LMs, but LMs horizontally and vertically segregated by gender.

5.2 Organisations

Whilst OLEs refer to unions, families, state departments such as social security offices, job-centres and schools as 'institutions', this is a mistake: these things are *organisations*. Clearly, we will not get very far until we have a definition of organisations. And here we run into a significant problem. 'Although most of us "know an organisation when we see one", the diversity and complexity of organisations and their activities is difficult to capture in a single formal definition' (Baum & Rowley 2002: 2). I have problems with one of the seminal interpretations in organisation theory, namely, Scott's three-fold definition of organisations as: rational, natural and open systems. The interpretation I prefer is based on Hodgson (2006a: 18), for whom organisations are 'special institutions' involving:

- a) criteria to establish their boundaries and to distinguish members from non-members

- b) principles of sovereignty concerning who is in charge
- c) chains of command delineating responsibilities within the organisation

Whilst I largely agree, two points need clarifying. First, it confuses matters to think of organisations as ‘special institutions’: *institutions and organisations are, quite simply, different kinds of things*. Second, the following points need to be added. Organisations:

- d) are often consciously designed
- e) embody unconsciously established customs, mores, norms, obligations, rituals, rules and values
- f) embody consciously established agreements, codes, customs, directives, duties, guidelines, precedents, procedures, regulations, responsibilities, rights, routines, rules, scripts, standards and templates – see part 1.1.
- g) include the people who populate them.

These last three are subtle points, and easily misunderstood. The institutional phenomena mentioned in (e) are unconsciously internalised via habituation as habits and commonly believed to form an unconsciously operating ‘organisational culture’. The social phenomena mentioned in (f) are better *not* referred to as rules – even though they include rules. These phenomena are not internalized via an unconscious process of habituation, but are, at some point, explicitly formulated and recognised and a conscious decision made to follow them – which is not to say they cannot become habitually followed eventually. There is, for example, a difference between unconsciously accepting a norm governing workers taking an ‘extra’ five minutes for lunch, and following regulations about official clocking-on and clocking-off. The former (norms) are the stuff of institutions, the latter (regulations) are not.

Definition: Organisations have criteria to establish their (typically porous and fuzzy) boundaries and to distinguish members from non-members. They have principles of sovereignty identifying who is in charge and for assigning responsibilities. They have a division of labour delineating tasks and responsibilities. They are consciously designed, and re-designed, to meet specific objectives. They are constituted by (a) agreements, codes, customs, directives, duties, guidelines, precedents, procedures, regulations, responsibilities, rights, routines, rules, scripts, standards and templates that are consciously reproduced or transformed by agents; (b) customs, mores, norms, obligations, rituals, rules and values that are unconsciously, reproduced or transformed by agents; (c) artifacts like bricks and computers; and (d) agents who reproduce or transform these things, and who, thereby, simultaneously reproduce or transform themselves as the organisations’ agents.

Notice that if organisations, but not institutions, involve people, then unions, families and business organisations *are not institutions at all*. Whilst the state, the law, industrial relations systems and education are institutions, local government job-centres, law courts, unions and schools are organisations (Jessop 2001: 1220). This is a contentious claim, especially in disciplines like organisation theory, where organisations are commonly referred to as institutions. But it is accurate.

There are, of course, many organisations. What makes them *labour market* organisations is that they are drawn upon by agents executing their *work-orientated* plans and actions. In order to execute their work-orientated plans and actions, LM agents have to engage with a variety of *organisations* such as colleges, job-centres, unions, firms. Some of these organisations are involved in ‘educating’ the workforce, so let us focus on ‘education’ and private sector firms. Drawing from disciplines like education research, sociology and politics allows us to understand how firms get involved in education to pursue several objectives. One

objective is for firms to use their knowledge and experience of the business world to provide pupils with *soft skills* like managing the culture of the workplace, understanding the roles and responsibilities of managers and employees, engaging in team working and using formal and informal channels of communication, as well as presentation skills and generic personal effectiveness skills such as motivation, enthusiasm, commitment, a willingness to learn, giving and receiving feedback and contributing to group activities (Greatbatch & Lewis 2007). Whilst some firms promote these soft skills directly (e.g. by involvement with UK Academy Schools), others promote them indirectly, via intermediary organisations. Many firms work closely with government departments, schools and private sector education providers in order to have an input in setting the curriculum and designing and delivering courses. The provision of soft skills engages with the *ideas and attitudes* of potential LM entrants. These ideas and attitudes include reflections upon themselves, society and employment such as: motivations, beliefs, hopes and aspirations; notions of their position in society, their relation to authority, their relation to co-workers, their loyalty and commitment; their ability not just to think, but to think creatively, imaginatively, ingeniously; and their willingness to act in self-directed, self-motivated ways. The objective of pro-business education is to create a workforce with pro-business ideas and attitudes. But the (intended or unintended) consequence is the creation of a workforce with suitably lowered horizons vis-à-vis what they can expect from LMs and employment. Various organisations play a role in 'ideologically grooming' potential LM entrants to accept pro-business ideology such as: not to 'buck the (labour) market'; to accept neo-liberal LM policies as inevitable; not to question the idea that there are no longer jobs for life; to accept that they will spend years working flexibly on temporary contracts, 'showcasing' their skills before being considered for one of the few permanent jobs; to believe that having a constantly revolving clutch of dead-end jobs is a way of exercising individual autonomy, and so on.

To explain the role played by organisations in 'educating' the workforce is to explain how LMs are, for example, populated by potential LM entrants with suitably lowered horizons vis-à-vis what they can expect from LMs and employment. In this way, these organisations come to partly *constitute* LMs.

5.3 Social structures

In an important historico-theoretical overview of over a century of writing on social structures, Lopez & Scott (2000) identify three broad approaches to social structures which they refer to as *institutional*, *embodied* and *relational structures*. Elsewhere, (Fleetwood 2008b) I have argued that only relational structures are *bone fide* social structures; embodied and relational structures are both very similar, if not identical to what many would just call institutions - below. Lopez & Scott define *relational structures* as: 'the social relations themselves, understood as patterns of causal interconnection and interdependence among agents and their actions, as well as the positions that they occupy' (ibid: 3). My definition builds upon their relational conception.

Definition: Social structures are latticework's of internal relations between entities that may enable and constrain (but not determine) the plans and actions of agents who reproduce and/or transform these relations.

In comparison to institutions and organisations, the relation between agency and social structures is far more straightforward, largely because nothing like habits and habituation intervenes. Whereas institutions are linked to agency via *habit*, *social structures are linked to agency via reflexive deliberation* and what Archer (2003) refers to as *the internal conversation*. For Archer, being in the world necessarily brings agents into contact with (i) structures that constrain and enable their plans and (ii) the natural, practical and social orders, which give rise to concerns about physical well-being, performative achievement and self-worth respectively. Agents, knowing their own minds, take these factors into consideration when they

reflexively deliberate upon the course of action they feel they ought to take. This reflexive deliberation occurs via the *internal conversation* whereby agents literally talk to themselves (and sometimes others) about their needs, concerns and the things that might constrain or enable them. They then formulate (fallible) courses of action, or agential projects, they think might result in these needs being met and concerns being addressed. Archer is also keen to establish the existence of a genuine interior, a domain of mental privacy where this process happens. In short, reflexive deliberation via the internal conversation is the mechanism linking *social structure* to agency.

There are, of course, many social structures. What makes them *labour market* structures is that they are drawn upon by agents executing their work-orientated plans and actions. Whilst we sometimes refer to 'LM structures' this is often used to refer to the way LMs are structured or configured, which is a different matter.

In order to execute their work-orientated plans and actions, LM agents have to engage with a variety of *social structures*. The social structures of class, for example, constrain and enable the access of LM agents to education and, thereby, to various LM segments. Working class and middle class youths do not always attend different schools, but they often do. Not all middle class youths do better in school than their working class counterparts, but most do. Not all middle class youths attend the 'top' universities, but more middle class youths than working class youths do. On the basis of their educational experiences, middle class youths tend to progress to jobs in higher socio-economic echelons. One outcome of this is a LM horizontally and vertically segregated by class. In his classic book *Learning to Labour*, subtitled *How Working Class Kids Get Working Class Jobs*, Willis opens with the following comment:

The difficult thing to explain about how middle class kids get middle class jobs is why others let them. The difficult thing to explain about how working class kids get working class jobs is why they let themselves (Willis1980: 1).

To explain how class structures are simultaneously LM structures is to explain how LMs are, for example, horizontally and vertically segregated by class. In this way, these social structures come to partly *constitute* LMs.

5.4 Mechanisms

I use the term 'mechanisms' to refer to *social* apparatuses, contrivances or devices – e.g. devices for recruiting such as interviews; apparatuses of collective bargaining such as strikes; or immigration controls. Mechanisms differ from institutions because mechanisms contain *both* unconscious, habitually followed phenomena and consciously followed phenomena. Mechanisms differ from organisations because mechanisms do not contain agents.

Definition: Mechanisms are systematic configurations of (a) agreements, codes, customs, directives, duties, guidelines, precedents, procedures, regulations, responsibilities, rights, routines, rules, scripts, standards and templates that are consciously reproduced or transformed by agents; and (b) customs, mores, norms, obligations, rituals, rules and values that are unconsciously reproduced or transformed by agents.

There are, of course, many mechanisms. What makes them *labour market* mechanisms is that they are reproduced or transformed by agents executing their specifically work-orientated plans and actions. Consider, for example, immigration controls as LM mechanisms. Immigration controls are not simply phenomena that restrict the inflow of migrant labour, like a tap turns water on and off. As Anderson (2010)

has argued recently, these mechanisms *actively produce* certain forms of labour and, I would add, certain forms of LMs:

Through the creation of categories of entrant, the imposition of employment relations and the construction of institutionalized uncertainty, immigration controls work to form types of labour with particular relations to employers and to labour markets. They combine with less formalized migratory processes to help produce 'precarious workers' that cluster in particular jobs and segments of the labour markets (ibid: 301).

Anderson then goes on to explain three ways in which immigration controls produce these LM segments: the creation of categories of entrant, the influencing of employment relations and the institutionalization of uncertainty (ibid: 307). Her main point is that migrant labourers do not find themselves in precarious LMs solely because of bad employers and the grey economy, but also because of the policies of the UK government and the politics of immigration.

To explain how LM mechanisms create categories of entrant, influence employment relations and institutionalize uncertainty is to explain why LMs are, for example, characterized by segments of precarious migrant labour.

5.6 The origin of LM ISOMs

Notice that, unlike the way OLEs treat LMIs, there is nothing fundamentally problematic about explaining the origin of LM ISOMs – which is not to gainsay the difficulty of doing this. Allow me to make this point via the example of institutions.

It is not fundamentally problematic to explain the origin of gendered institutions and their embodiment as the habits of LM agent's because institutions are conceived of as *rules of thumb, unconsciously, implicitly and tacitly understood, and loosely followed, not precise rules, consciously, explicitly and non-tacitly understood, and precisely followed*. I can do this because I make no attempt to explain institutions as equilibrium outcomes of rational choices – and anyway, the concept of habitual (as opposed to deliberative) action is, quite literally, inconceivable within OLE. And I can do this because I make no attempt to mathematize institutions. It is also worth noting that I do not treat institutions as exogenously pre-determined in some 'economic' domain, where 'economic transactions' occur and, therefore, as 'given'. This is because the concept of an 'economic' domain, somehow different from and exogenous to an 'institutional' domain, makes no sense within my framework.

So, the $SELM^{CR}$ perspective allows us to explain and elaborate upon LM ISOMs. Together they can be used to create an alternative model of *labour markets* which I will refer to as the $SELM^{CR}$ model.

Conclusion: A $SELM^{CR}$ definition and model of LMs

It is now straightforward to pull the strands together and conclude with an alternative definition of LMs; an alternative model of LMs (figure 5); and seven brief observations for clarification.

Definition

Labour markets are mechanisms, emergent from, but irreducible to, and constituted by, the specific labour market institutions, social structures, organisations and mechanisms (LM ISOMs) reproduced or transformed by labour market agents as they execute their specifically work-orientated plans and actions.

SELM^{CR} model

In figure 5, the four circles represent the constituents of LMs and the dotted square represents the 'boundary' of LMs.

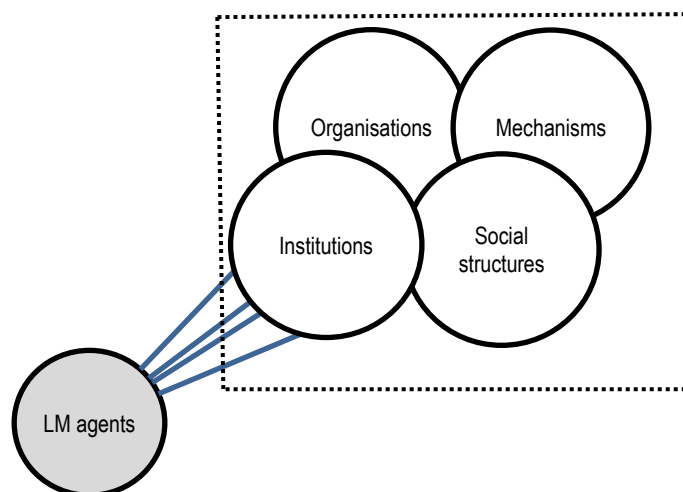


Figure 5. A SELM^{CR} model of LMs

Seven observations

First, whilst it is often said that 'labour markets are institutions', we can now be more nuanced. In the SELM^{CR} model LMs are mechanisms, *not* institutions. This might sound strange, given that institutions, or ISOMs, are the constitutive elements of LMs, but it simply means that a mechanism (e.g. a LM) can have sub-mechanisms.

Second, whilst this is a highly abstract model, it is no more abstract than the OLE supply and demand model that it seeks to replace – and against which its abstractness should be judged. I could add a narrative to the model, explaining and elaborating upon things like the transitory and dynamic character of labour markets, different labour market segments, formal and informal labour markets, and so on, but word-limits prevent this. Moreover, the SELM^{CR} model is abstract *but realistic* in the sense that it contains none of the OLE model's knowingly false assumptions. There are no knowingly false assumptions in the explanations and elaborations of LM ISOMs in part five because mathematical tractability is irrelevant in non-mathematical model.

Third, LM agents are *not* part of LMs; agents reproduce or transform the ISOMs that constitute LMs. This is in-keeping with the M-M approach, wherein agents and LM ISOMs are conceived of as radically different kinds of phenomena.

Fourth, accepting that a 'market mechanism' is in operation it is conceived of as one mechanism acting alongside other mechanisms, plus institutions, organisations and structures. This is why the SELM^{CR} model does not have labour supply and demand curves at its centre.

Fifth, the SELM^{CR} model could accurately be described as 'post-disciplinary'. Developing it will *inevitably* mean dealing with, *inter alia*, cultural, discursive, ethical, historical, ideological, institutional, legal,

managerial, organisational, political, sociological, spatial phenomena and, thereby, the disciplines wherein these phenomena are studied. Any attempt to add detail would involve, for example, spatial and historical accounts of how the particular set of LM ISOMs at work in any spatio-temporal location came to be the way they are, and not some other way; how they do what they do; how they fail; and how they might be improved in future.⁸

Sixth, the concept of *'embedding'*, deriving from Polanyi, and coming to economic-sociology via the work of Granovetter, must be abandoned (Krippner 2001) because it presupposes the existence of *two* entities: 'labour markets' and 'institutions' (i.e. ISOMs), with the former embedded in the latter. But, as I have argued here, there are not two entities. LMs are not embedded in LM ISOMs. LMs *are* LM ISOMs. Krippner has spotted something similar:

[T]he notion of embeddedness has deflected attention away from important theoretical problems. [T]he relative neglect of the concept of the market in economic sociology is a result of the way in which the notion of embeddedness has been formulated. Quite paradoxically, the basic intuition that markets are socially embedded (while containing an important insight) has led economic sociologists to take the market itself for granted. As a result, economic sociology has done scarcely better than economics in elaborating the concept of the market as a theoretical object in its own right (Krippner 2001, 776.)

With the SELM^{CR} model, it is impossible to deflect attention from LMs to the phenomena that are said to embed them because these phenomena (i.e. LM ISOMs) are now part of LMs themselves.

Finally, to investigate what *LMs* are, where they come from, what they do, how they do it, why they succeed or fail, how they might be improved and so on, is simultaneously, to investigate what *LM ISOMs* are, where they come from, what they do, how they do it, why they succeed or fail, how they might be improved and so on. In short, from a SELM^{CR} perspective, the investigation of LM ISOMs becomes part and parcel of the discipline of labour economics.

References

- Aoki, M. (2007) 'Endogenizing Institutions and Institutional Changes', *Journal of Institutional Economics*, Vol. 3, No.1, 1-31.
- Archer, M. (1995) *Realist Social Theory: The Morphogenetic Approach*, Cambridge: Cambridge University Press.
- Archer, M. (1998) 'Realism and Morphogenesis', in M. Archer, R. Bhaskar, A. Collier, T. Lawson, A. Norrie, *Critical Realism: Essential Readings*, London: Routledge.
- Archer, M. (2003) *Structure, Agency and the Internal Conversation*, Cambridge: Cambridge University Press.
- Baccaro, L. Rei, D. (2007). 'Institutional Determinants of Unemployment in OECD Countries: Does the Deregulatory View Hold Water?' *International Organization*, 61(3), 527–569.
- Baum, J. Rowley, T. (2002) 'Companion to Organisations: An Introduction', in J. Baum (ed) *The Blackwell Companion to Organisations*, Wiley-Blackwell.
- Blau, F. Kahn, L. (1999) 'Institutions and Laws in the Labour Market' in O. Ashenfelter, D. Card, *Handbook of Orthodox Labour Economics*, Vol. 3, No. 3, Amsterdam: Elsevier.
- Boeri, T. van Ours, J. (2008) *The Economics of Imperfect Labour Markets*, Princeton: Princeton University Press.
- Dasgupta, P. (2002) 'Modern Economics and its Critics', in Mäki, U. *Fact and Fiction in Economics: Models, Realism and Social Construction*, Cambridge: Cambridge University Press.
- Elder-Vass, D. (2007a) 'For Emergence: Refining Archer's Account of Social Structure', *Journal for the Theory of Social Behaviour*, Vol. 37, No. 1, 25-44.
- Elder-Vass, D. (2007b) 'Social Structure & Social Relations', *Journal for the Theory of Social Behaviour*, Vol. 37, No. 4, 463-477.
- Elder-Vass, D. (2007c) 'Reconciling Archer and Bourdieu in an Emergentist Theory of Action', *Sociological Theory*, Vol. 25, No. 4, 325-346.
- Elder-Vass, D. (2010) *The Causal Power of Social structures: Emergence, Structure and Agency*, Cambridge: Cambridge University Press.
- Fine, B. Milonakis, D. (2009) *From Freakonomics to Economics Imperialism*, London: Routledge.
- Fleetwood, S. (1999) 'The Inadequacy of Mainstream Theories of Trade Unions', *LABOUR*, Vol.13, No. 2, 445-80.
- Fleetwood, S. (2006) 'Re-thinking Labour Markets: A Critical Realist-Socioeconomic Perspective', *Capital & Class*, No. 89, 59-89.
- Fleetwood, S. (2007) 'Austrian Economics and the Analysis of Labour Markets', *Review of Austrian Economics*, Vol. 20, No. 4, 247-267.
- Fleetwood, S. (2008a) 'Structure, Institution, Agency, Habit and Reflexive Deliberation', *Journal of Institutional Economics*, Vol. 4, No. 2, 183–203.
- Fleetwood (2008b) 'Institutions and Social Structures', *Journal for the Theory of Social Behaviour*, Vol. 38, No. 3, 241-265.
- Fleetwood, S. (2011) 'Sketching a Socio-Economic Model of Labour Markets', *Cambridge Journal of Economics*, Vol. 35, No. 1, 15-38.
- Fleetwood, S. (2014a) 'Do Labour Supply and Demand Curves Exist'? *Cambridge Journal of Economics*, Vol. 38 No. 4, 1-27.
- Fleetwood, S. (2014b) 'Conceptualising Future Labour Markets', *Journal of Critical Realism*, Vol. 13. No. 3, 251-258.
- Greatbatch, D. Lewis, P. (2007) 'Generic Employability Skills II', *Centre for Developing and Evaluating Lifelong Learning*, University of Nottingham.
- Hodgson, G. (2004) *The Evolution of Institutional Economics: Agency, Structure and Darwinism in American Institutionalism*, London: Routledge.

- Hodgson, G. (2006a) 'What are Institutions?', *Journal of Economic Issues*, Vol. 40, No. 1, 1-25.
- Hodgson, G. (2006b) *Economics in the Shadows of Darwin and Marx: Essays on Institutional and Evolutionary Themes*, Cheltenham: Edward Elgar.
- Kripner, G. (2001) 'The Elusive Market: Embeddedness and the Paradigm of Economic Sociology', *Theory and Society*, Vol. 30, No. 6, 775-810.
- Lawson, T. (1997) *Economics and Reality*, London: Routledge.
- Lawson, T. (2003) *Reorienting Economics*, London: Routledge.
- Lewis, P. (2004) *Transforming Economics: Perspectives on the Critical Realist Project*, London: Routledge.
- Lopez, J. Scott, J. (2000) *Social Structure*, Buckingham: Open University Press.
- Manning, A. (2003) *Monopsony in Motion: Imperfect Competition in Labour Markets*, Princeton: Princeton University Press.
- McConnell, C. Brue, S. Macpherson, D. (2006) *Contemporary Labour Economics*, Boston: McGraw-Hill, Irwin.
- Marsden, D. (1999) *A Theory of Employment Systems: Micro-Foundations of Societal Diversity*, Oxford: Oxford University Press.
- Rutherford, M. (1999) *Institutions in Economics: The Old and the New Institutionalism*, Cambridge: Cambridge University Press.
- St Paul, G. (2000) *The Political Economy of Labour Market Institutions*, Oxford: Oxford University Press.
- Searle, J. (1964) 'How to Derive "Ought" from "Is"', *Philosophical Review*, Vol. 73, No. 1, 43-58.
- Willis, P. (1980) *Learning to Labour. How Working Class Kids Get Working Class Jobs*, Farnborough: Gower.
- Wilson, N. (2007) 'Applying Critical Realism: Re-conceptualising the Emergent English Early Music Performer Labour Market', in *Contributions to Social Ontology*, C. Lawson, J. Latsis, N. Martins. London: Routledge.

¹ For a quasi-orthodox view of LMIs, see Marsden (1999). For non-orthodox ideas on institutions in general see Rutherford (1999).

² Anything can be measured but this is pointless if the measure is meaningless (Fleetwood & Hesketh (2010: 160-3).

³ This can involve economists 'colonising' other disciplines, transforming them into a version of economics – as in the case with the version of 'political economy' espoused by St Paul. This is not multi-disciplinarity, but 'economics imperialism' (Fine & Milonakis 2009).

⁴ For CR ideas in economics in general, see Lawson (1997, 2003), and Lewis 2004; and in labour economics, see Fleetwood (1999, 2006, 2007, 2011, 2014a & b) and Wilson 2007.

⁵ On emergence see Elder-Vass (2006, 2007a, 2007b and 2007c and 2010).

⁶ For an elaboration of this ontology see Archer (1995, 1998)

⁷ Despite differences in appearance, this model is entirely consistent with the model sketched in Fleetwood (2010: 735, fig 5). Apparent differences are due to 'telling two different stories' as it were.

⁸ For a discussion of future labour markets, see Fleetwood (2014b).