

Structural Crisis and Transitions: Present Issues and Potential Future Trajectories

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Abstract: This paper consolidates a series of earlier work, looking at capitalist diversity and change, and the effect of a long energy transition. It is argued that, whilst there are common assumptions as to strong homogenizing pressures associated with liberalization, there are counter pressures at work, making for renewed diversity. Finally, the nature of this diversity and possible future trajectories are evaluated.

Keywords: comparative capitalism, institutional change, crisis, growth regime.

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1. Introduction

This paper builds on earlier work on institutional diversity and change, and provides further insights into the nature of the ongoing global economic crisis, the potential challenges posed for different countries, and potential future trajectories. It is argued that the ongoing economic crisis has fundamentally material causes. This means that policy tinkering or even political change are unlikely to resolve the structural tensions in the global political economy, but rather solutions are contingent on resolving the challenges of high and volatile energy prices and resource scarcity. At the same time, dealing with the latter makes the resolution of present policy conundrums more likely. As different nations have fundamentally different approaches to energy policy, this is likely to make for a resurgence in capitalist diversity, which will represent a significant departure from the homogenizing pressures in recent years.

2. Long energy transitions and economic crisis: Nature and consequences

Wood and Lane (2012) linked the long period of mediocre growth and recession (which encompasses the present episode of particularly poor and volatile global economic performance) to an energy transition of historic consequences. The great previous long period of volatility, instability and recession from 1900 to 1945 coincided with a global shift from coal to oil. Whilst oil indeed made for cheap energy, it also fundamentally changed the competitive basis of industries and regions. Wood and Lane (2012) further argued that during such energy transitions, owners of highly fungible assets were in an

advantageous position vis-a-vis those with human or physical capital tied up in particular regions, industries and processes. Since then, there have been further accounts in that echo and develop this argument (c.f. Lane and Wood, 2014; Tverberg 2012). What the literature has in common is that the global economic crisis has a clear material cause, and unless this is better understood, and the nature of its consequences more systematically traced through, it will be difficult or impossible to develop viable alternatives. Although neo-liberal policy prescriptions clearly do not work, in the absence of credible alternatives that take account of changing physical realities, it is likely that they will persist, whatever political developments take place.

In an influential recent account, Piketty (2014) argues returns of capital tend to exceed overall growth, whilst poorer growth tends to concentrate wealth in a few. A limitation of this approach is that it is somewhat divorced from the physical and material world, in that it does not take full account of the possibilities and challenges of technology and the changing use thereof, as well as the finite nature of resources. Essentially, this account - in common with classic regulationist writings (see Jessop 2001a; 2001b) - sees crisis and change as essentially endogenous, when, it can be argued that a major driver of systemic crisis and change is exogenous. However, in common with the literature on financialization, he does correctly highlight the negative effects of excessive speculation. What has become increasingly visible is that the difficult and contested process of energy transition and such speculation has become associated with negative mutual feedback loops. The rise of fracking in the United States has been associated with excessive hype, irrational exuberance, and what appears to be the excessive accumulation of unsustainable amounts of debt (Heinberg 2014). Quite simply, what is happening is that first, historically high energy prices make investment in technology and extraction of unconventional oils more likely. Second, this entails borrowing to extract, which in, return, is facilitated through excessive hype and the prospect of easy short term returns. Third, what we do know about fracking is that well life is relatively short, and that constant drilling of new wells is required (ibid.). Effectively, this has involved setting in place a train of debt, with very little evidence that it can be brought to an orderly halt. In turn, this necessitates a further round of hype, borrowing, talking up the potential of new fields, and new drilling. The recent disappointments around the Monterey shales (which at one stage were supposed to equal or exceed the Bakken shales in potential), where the US Energy Information Administration recently cut its estimates of recoverable oil by 96% (Reuters 2014) appear to have little to daunt the appetite of investors, or deflate new rounds of hype (see Bakersfield Californian 2014). In this process, early investors reap benefits over later ones as new borrowing may effectively be deployed to pay dividends. What is also significant is that the prospect of unconventional new oil and gas fields on or around Africa (be they ultra deep water in the Gulf of Guinea or the heavy oils of Madagascar) appears to be associated with similar processes of hype, excessive borrowing, and disappointment (Africa Confidential 2008; Brigaldino 2005; Frynas et al. 2003; Africa Energy Intelligence 2014). Indeed, the countries involved have suffered all the consequences of the resource curse, without the resources in question being significantly developed. A notable example of this would

be Sao Tome et Principe where the prospect of an oil boom attracted the interest of a range of players, both majors and small, sucking up vast amounts of money and corrupting the tiny nations body politic until the inevitable disappointment occurred (Africa Confidential 2008; Brigaldino 2005; Frynas et al. 2003). Madagascar seems to be following down a similar path; the discovery of “vast” fields of heavy oils was followed by an influx of interest and investment, but somehow the actual commercial development of the fields being postponed and postponed (Ghazvinian 2007; Africa Energy Intelligence 2014). In essence, it can be argued that the “discovery” and talking up of new unconventional oil reserves can be a viable business model for short term capture of capital from gullible investors and via debt, whether oil and gas are actually produced in significant amounts or not; the failure to bring into production major new fields further impels this process, and at the same time strengthens the power of speculative interests, impelling a new cycle. This is not the only factor impelling a move towards a greater reliance on debt and speculation in the oil and gas industry. Greater and more expensive technological demands mean that oil prices have to be progressively higher to yield good returns. It is worth noting that during the 2013-2014 financial year, the major oil and gas companies spent more than earnings, leading to some \$106 billion dollars of borrowing, and some \$73 billion dollars of asset sales (*New York Times* 3 October 2014).

Moreover, state owned oil companies in the Middle East have other reasons for keeping prices low, even if the problems of a chronic addiction to overstating reserves and over-rapid exploitation by key producers are worsened by this: the need to buy political stability at home, and political clout abroad (Simmons 2006; Okrhulik 1999). There is considerable evidence of over optimism in terms of real reserves (Simmons 2006; Aleklett et al. 2010; Owen et al. 2010). Whilst those with heavy investments in diminishing carbon based resources might seem to be the ultimate example of infungible capital, speculation around production possibilities and the nature of the end game gives such interests a heavy interest in the contemporary oil and gas based speculative bubble, and in ensuring its persistence for as long as possible. But, as we shall see, these are not the only examples of negative feedback loops in our present age.

The usage of energy is closely bound up with technology, as evidenced by the development of the internal combustion engine, making the widespread usage of oil and gas more desirable. A feature of investments in energy alternatives is, given their renewable nature, is that they are intrinsically more long term. Hence, it is little surprise that the nations associated with the greatest usage of alternative energy sources are not liberal market economies (Reicher and Bechberger 2004; Lewis and Wiser 2007; Wustenhagen et al. 2007). At the same time, emerging economies of scale in solar and wind, made possible through upfront investments in the nations pioneering energy alternatives makes their usage in other contexts more attractive, leading to greater take up. However, in liberal markets such as the UK and US, we have seen the emergence of extremely well funded astroturfed anti wind and solar campaigns (see Rajgor 2011; Goldenberg 2012); it is quite likely that those with an interest in speculation surrounding oil and gas (including the shale oil bubble in the UK) have done their utmost to

ensure that their interests are not threatened.

At the same time, one cannot count on technological fixes seeing us through the difficult transition to a new epoch, hopefully founded on growth made possible through the usage of alternative energy sources. Two issues are salient here. The first is, as Jessop (2012) notes, the excessive usage of patenting has made it very much more difficult to incrementally advance technology; in effect, an enclosure of the intellectual commons has taken place. Again, this suits owners of highly fungible assets, as it makes the prospect of hitting a proverbial jackpot through speculation in particular technologies greater than the incremental gains that are likely through slow advances, such as has characterized the development of energy alternatives. Hence, speculative interests may actually impede or slow technological advance, and ultimately make inevitable changes more disruptive. This is particularly the case as it is often some time before the full range of uses of a specific technology become apparent (Johnson 2014). Secondly, the adoption of new technologies is always a traumatic business for those with sunk capital in existing processes. One only has to consider the impact of digital on conventional camera manufacturers, with only a handful making a successful transition, others exiting (e.g. Konica, Minolta, Kyocera, etc) or incurring major losses in the process (e.g. Olympus), in predicting the likely impact of the inevitable universal adoption of electric technologies (see Van Mierlo and Magetto 2007) on the global motor industry. As with cameras in the 1990s, there is a global overcapacity in the industry, and some makers have been more active in promoting the usage of new technologies than others. Again, some national contexts lend themselves very much more to the large scale rollout of car charging or battery replacement stations, giving manufacturers from such countries a built in advantage. This is only one example of many likely instances where technological change is inevitable, but owing to both impediments (e.g. speculative interests, vested interests in oil and gas) and facilitators (emerging economies of scale, inevitable rises in the cost of hydrocarbon inputs), the process of adoption will be uneven, irregular and disruptive.

3. Economic crisis and the changing nature of global supply chains

Whilst global production is an inevitable feature of today's world, ongoing research by myself and a team of colleagues in the UK, South Africa and Brazil¹ on the nature of supply chains within the global textile and automotive industry has yielded some interesting findings. The first is that, irrespective of the nature of the dominant partner in the supply chain (be they car majors in the automotive industry or retailers in clothing and textiles), is that although first tier suppliers are often closely monitored (this is particularly the case in the automotive industry), thereafter, the situation becomes very much more opaque. This is despite any concerns surrounding quality or labour standards. This may have always been the case; after all the first tier supplier holds responsibility for their suppliers and most failures can be dealt with through dealing with the first tier supplier exclusively. However, with the globalization of supply chains, this means that second and third tier suppliers may be very remote, making it very much

more difficult to monitor or control their activities. How does this relate to national prosperity and the relative competitiveness of industries? What is clear is that owing to the availability of debt financing - in the case of China, leveraged via personal and political ties between firms and banks - facilitates both start ups in specific parts of the world, and the persistence of production at a loss. This is, of course, quite different to the traditional trajectory of national development in Asian economies, where an initial cost advantage was leveraged to secure market share and brand recognition, prior to moving to higher value added production. In essence, there is a large pool of producers - centered in China in particular - that are capable of making and selling goods at extremely low costs (even at times, less than the cost of the raw materials) if not on sustainable basis, but certain on a sustained one. Essentially, in many sectors, the investment led growth model has led to chronic over-capacity, with systemic supports and barriers to exit forcing prices down (Anderlini 2013; Badkar 2013; Eckaus 2006). Although such firms often lack access to technology, they are capable of producing basic components at very low prices, and moving slowly up the supply chain. This has led to, in many developed countries, manufacturing being hollowed out: manufacturers that make nothing (Milberg 2008). What this means is that firstly, industries such as car firms, that the geographic cluster of suppliers surrounding main plants is diminishing or being thinned out, with the proportion of relatively well paid and regular jobs being reduced; whilst new jobs are created in centres of very low cost production, work is precarious and poorly rewarded. Navarro (2006) argues that some 5% of Chinese competitive pricing can be ascribed to poor environmental and health and safety regimes, 9% very low labour costs, 39% counterfeiting and piracy, but also 11% currency undervaluation, and 17% export subsidies; hence a great deal of competitive advantage is dependent on interventions and practices that are essentially non market factors and interventions. To this could be added firm finance that is contingent on personal ties and political networks. In another example of negative feedback loops, such conditions mean that any problems of global manufacturing overcapacity are worsened, as the capacity to consume in traditional manufacturing centres is hollowed out. Again, as traditional relationships down the supply chain are eroded, there is a simple lack of information as to the process of production and labour standards surrounding the making of basic component parts. Whilst this does not necessarily mean that consumer safety will be compromised, it does hold considerable risks, and place traditional industrial clusters under threat.

In the case of clothing and textiles, where it is not the major manufacturing, but rather the end retailer that has dominance in global supply chains, the process is even more pronounced. Here, the final producer may be reduced to a designer cum labeller, with the nature or even locale of production of the near-finished good being surrounded in mystery (Melho 2012; c.f. Naude and Rossouw 2008). This does not mean that very low cost producers of basic materials are necessarily in a secure position either; ever present pressures to squeeze down costs mean that traditional producers may be marginalized. Hence, for example, Kazakhstan established itself as a centre for the production of very low cost cotton. However, as cotton has locked in costs, there renewed pressures back to the usage of synthetics in

clothing and textiles (Johnson et al. 2014; Robertson 2006). Again, one sees the development of another major negative feedback loop, with a greater proportion of low paid and precarious jobs in the supply chain making for a diminished capacity to consume, again forcing firms to cut costs and prices for manufactured goods, reinforcing crises of consumer demand in both traditional and new manufacturing countries. In both cases, this can reinforce tendencies to debt fueled production and consumption, of which, again, the main winners are owners of highly fungible capital.

4. Energy and the global circuits of production

A potential brake on this process is the nature of shipping. Currently, long distance marine transport is relatively cheap to and from countries with relatively good port infrastructures (Hummells 2007; see Novy 2013). At the same time the industry relies extensively on heavy oils (Corbett et al. 2013). On the one hand, there are still significant global reserves and potential in the production of heavy oils. And, unlike, say electric cars, there is no immediate technological fix in sight, whilst the gains from alternative fuel mixes are modest at best (Corbett and Winebrake 2008). This means the shipping industry is less vulnerable than say, the internal combustion based land transport industry, to the disruptive effects of higher energy prices and technology. On the other hand, this makes any delayed adjustment more painful. And, increased concern with the environmental costs of burning heavy oils (or heavy oil mixes) may make regulation more likely, whilst running costs are unlikely to diminish (see Corbett and Winebrake 2008; Kasper et al 2007). This may, more than anything else, help save local production regimes in traditional manufacturing states, especially as emerging ultra low cost suppliers' business model is contingent on very low prices. The extent of this effect depends on the relative geographic distance between the individual traditional manufacturing state and the new low cost producer. At the same time, changes in the cost of raw material inputs may make the beneficial effects of squeezing production costs more limited.

5. Circuits of capital and debt

A further constraint on the present global ecosystem is the nature of circuits of capital and debt. A tendency to stagnant and declining real wages, and increasingly contingent employment, most pronounced in the liberal markets led to a real crisis of consumer demand, temporarily resolved through debt (Boyer 2012). Although the 2008- financial crisis has highlighted the limitations of this model, it has proved quite resilient. However, at the same time, there are limits to the extent to which the average consumer can be loaded with debt. Moreover, easy borrowing can lead to another negative feedback loop. A example of the latter would be the UK, where the rise of borrow to let landlords has led to escalating rents (both in terms of households and commercial property) as the former seek to ever expand their portfolios, and hence, leverage more debt which has to be serviced (Martin 2011; Nielson

2010; Wade 2008). Not only has this priced a large proportion of normal income earners out of the property market, but it has also meant that rents have become increasingly unaffordable, eating into the remaining proportion of income that can be used for consumption and servicing debt. Again, the squeezing of production costs to sell goods on to consumers with a diminishing means of consume worsens the global crisis of competitiveness and consumption. Although debt bubbles seem to able to defy gravity for surprisingly long periods of time, the expansion or sustenance of this model becomes progressively more difficult. Over time, diminishing returns are likely to set in, which may contribute to shifting the balance of power away from speculative interests.

6. Revisiting space and scale

The early regulationist literature was primarily a theory of time, rather than space. It was held that particular ways of producing things dominated at specific times, an example being the fordist era. Later developments incorporated a spatial element to explain why the specific regions might exhibit particular growth patterns. For example, Hudson (2005) argued that northern England exhibited a very different growth pattern to the heavily financialised south. What set northern England apart was a very much more activist state role; even under neo-liberal governments, a greater degree of regional developmental support was tolerated, given political dynamics. Theories of social systems of production sought to draw distinctions between national economies (Hollingsworth and Boyer 1997; Hollingsworth 1998), and had much in common with the emerging literature on comparative capitalism, albeit with an assumption that mediation was more temporally confined than initially suggested by the latter (see Hall and Soskice 2001; Whitley 1999).

However, missing from both accounts was an account of the effects of institutional proximity across (rather than within) national boundaries. However, theories of institutional distance highlight the consequences of differences in regulation, norms and cognitive realities (Xu and Shenker 2007). What matters is when sets of institutional arrangements closely spatially coexist, with little in the way of proven compatibility. Let us consider two European examples first. The first is the case of Ireland. With a proportional electoral system and heavy Europeanization (including Euro zone membership), it might seem that the system would face pressures towards at least some aspects of the European social model (Roche and Cradden 2003). Indeed, the country's experiment with successive waves of social accords would suggest that it was advancing on this path (Harcourt and Wood 2003). Yet, the speed with which the country jettisoned the latter, whilst proceeding with open ended bailouts of the financial sector necessitating extreme austerity highlighted the fragility of these tendencies (Doherty 2011). Here, there is little doubt that close proximity to the United Kingdom (and, indeed, the regulatory legacies of British rule) may have done much to ensure the dominance of liberal market tendencies, and the difficulties in ensuring lasting institutional redesign. However, the large presence of US MNCs in Ireland also has had significant effects, geographical distance notwithstanding. A second example would be that of central

Europe; German firms outsourcing or moving production to the former state socialist “Visegrad” countries has resulted in significant wage savings, and local job creation (Geishecker 2006). However, wages in such countries are not low by global standards, and whilst regulatory enforcement is weaker, emerging or recombant regulatory traditions (e.g. German corporate law) are not completely dissimilar or remote from the German model. Again, there has been a tendency to outsource skilled jobs, rather than substitute skilled for unskilled (Marin 2010). This means that moving to production to such states may maintain the base of some existing complementarities, replicate others, and, at the least, make for some basis of transnational institutional compatibility. In practice, this has meant that the job consequences in Germany have been insignificant or limited (Geishecker 2006; Farrell 2006; but see Marin 2010 for a counter view).

The Japanese case is a more complex one. Here, firms looking to offshore production have a number of Asian low wage alternatives, including China (Belderbos and Zou 2006). Here, wages and regulation are so much lower as to be fundamentally corrosive to existing production in Japan. Quite simply, it is harder to mix and match, or reallocate production if the competitive advantages associated with a particular locale are so different. This makes for complex relations, which whilst not one sided, bring with them tensions and contradictions (see Dean et al. 2009). This would encompass issues such as flows of capital, training and skills development, and the relative propensity to invest in people, or concentrate training on the basic point of entry, solving any productivity problems through throwing more cheap labour at them. It would also encompass issues such as the depth relationship with suppliers, and whether the relations centre on arms length contracting, or close cooperation and the sharing of production approaches and knowledge. This situation reflects the challenges when two fundamentally incompatible institutional regimes closely spatially exist, but with strong (and potentially even stronger) trade relations between the two.

7. The return of capitalist diversity

On the one hand, a large body of recent literature suggests that there has been an unwinding of coordinated institutional arrangements and their replacement with lighter institutional restraint (see, for example, Streeck 2009). On the other hand, the trends highlighted above would suggest a counter movement. Firstly, the role of the state is likely to vary extensively from context to context, an obvious example being a sovereign wealth fund owning state with one that does not. Not only is the former more deeply shielded from speculative attacks, but also it allows for interventions in favour of specific types of economic activity and sector. Secondly, the countries most advanced in the usage of energy alternatives will have, as oil and gas resources further diminish, have an inbuilt cost advantage, and a major site of potential speculation similarly shrunk. Again, stable energy prices and reduced opportunities speculation will help other areas of industry, as a stable pool of patient investment opportunities will allow work for a critical mass of patient investors beneficial for other areas of the economy. Thirdly,

countries with compatible institutional regimes in their vicinity will find it easier to maintain specific production paradigms over those who do not.

8. Politics and solutions

An integral feature of the economic crisis has been the systematic failure of the political classes to come up with - or express much interest in - comprehensive regulatory interventions in order to restrain market excess. Hence, authors such as Streeck (2011; 2012) have argued that there is a need for a political solution, that recasts the nature of politics. However, the present condition places, as we have seen, owners of highly fungible assets in a strong position, and many of the latter not only have a strong vested interest in opposing better regulation, but an oligarchic sense of entitlement that makes meaningful debate difficult or impossible. It is also worth noting that corruption is easier in terms of short term transactions - it is possible, but harder to shore up long term relations through corruption.

However, political solutions are only possible if material conditions are right. A key question is which comes first, changes in economics or positive changes in politics. In the long crisis of the first half of the twentieth century, there is evidence of tendencies in both direction, but generally politics did follow, rather than the other way round (c.f. Wolf 2014).

9. Conclusions

This article has highlighted a number of trends that are connected indirectly or directly to the long term energy transition, and the challenges it poses to contemporary institutional arrangements. Historically high and volatile oil and gas prices has not only placed an impetus towards the development of remaining unconventional reserves, but also the financialization of the oil and gas industry; speculation and hype about potentially lucrative new fields has proved highly effective as a vehicle for debt leverage, even if promised riches never materialise.

We used the example of the global automotive industry to highlight the challenges facing regional industrial clusters, and indeed, global production networks with the proliferation of ultra low cost suppliers, even in industries conducive to incrementally innovative high value added production. These challenges are integrally bound up with the long energy transition. Firstly, the associated global economic crisis has been marked by industrial over-capacity and an eroding based of consumption (Boyer 2012). This places great pressures on manufacturing firms to cut costs, even if this may jeopardise complementarities surrounding existing supplier networks and relations. In the case of the automotive industry, these challenges are accentuated by the unpredictability surrounding moves towards electric cars (again, a function of high energy prices), again placing pressure on car makers to drive prices down.

Again, a feature of the present condition has been great trade imbalances between primary commodity

exporting (most notably oil and gas ones) and a limited range of highly successful manufacturing nations on the one hand, and net consuming nations on the other. Up until recently, net exporting nations were prepared to recirculate capital on an arms length basis; the rise of sovereign wealth funds, and their increasing independence from financial intermediaries has meant that (most notably in the case of many of the major petrostates and China) with this recirculation has come increasing voice and power.

Finally, there is the issue of space and scale. As noted above, short term investors have an increasing interest in oil and gas and the financialization of that industry, and, by their very nature, alternative energy sources require long term patient investors. In turn, this has resulted in liberal market economies lagging behind more coordinated peers in their take up of alternative energy sources. The persistence of financial ecosystems orientated towards short and long term investment is likely to short up differences between national economies; the liberalization of national economies should no longer be assumed to be an inevitable process.

The persistence of clusters of economies geared towards short termism or long termism, is not the only product of the long crisis and associated energy transition. There is also the divide between those hanging on to higher value added production paradigms and, by the same manner, those seizing advantage through ultra-low cost production. When two very different institutional regimes are closely inserted with each other and/or in close spatial proximity, the consequences may be quite corrosive for the development or persistence of deeper and fuller institutional mediation, and associated denser ties and networks between key players.

This article argues that the structural causes of the present crisis mean that present attempts at policy tinkering (be they in the directions of liberalization or counter tendencies) are unlikely to provide an abiding basis for growth. At the same time, the uneven take up of alternative energy sources, will mean that some nations will enjoy at least the foundations of a more stable period of growth sooner than others. Lower energy costs may help consumer spending and, hence, result in some insulation from the vagaries of the global economy. At the same time, the interconnectedness of nations through trade and capital flows will mean that any improvements will be uneven and contested, making the process not without risks; one needs to be cautious as to the traps of over-optimistic determinism. In short, some countries may be in a better position to help themselves than others, but this will not negate the effects of good and bad policy choices. However, any dilution of the global power of speculative interests, will have generally beneficial effects, particularly in countries where financialization is less well advanced than in the liberal markets and with the main pressures to promote it coming from abroad. But, one should be very cautious as to “deterministic optimism”, given other factors, including not only long term historical legacies, but also spatial effects, and the nature of neighbouring institutional regimes.

Notes

¹ The project number is: ES/K006452/1. The research team include researchers from the UK (Pauline

Dibben, John Cullen, Geoffrey Wood, Phil Johnson and Gareth Crockett), South Africa (Debby Bonnin) and Brazil (Luiz Miranda, Juliana Meira and Caroline Linhares).

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