

# Brexit: A New Opportunity

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**Abstract.** This case study combines two of the author's previous articles on networking and fractal economics with an assessment of Britain's economic geography and current regional disparities. Its purpose is to elucidate the underlying political considerations that informed the June 23, 2016 referendum on Brexit (the British decision to exit the European Union), and to consider alternative socially responsible economic organization, based on networking, that could alleviate the troubling disparities in income, wealth, and political control to be found in the majority of the regions of the UK. Implications for the survival of the EU and its member states are also considered.

**Key Words.** Brexit, Social Responsibility, Networking, Fractal Coherence, Fractal Connectivity, Collaborative Social Learning.

## Introduction.

Despite the gloomy prospect of economic doom seen by many, Brexit offers a rare opportunity to replace an oligopolistic, non-representative political and economic system with a socially responsible, collaborative, fractal system. A fractal economic system is built on complex *networks* of relationships rather than on simplistic cause and effect relationships. Fractal relationships (based on self-similarity) make possible the transfer of energy and information between one level of scale and another. They represent a kind of mathematical power law. Power laws are endless sources of self-similarity, and exist in nature to make energy and information flow efficiently. For example, the bifurcation of a fractal tree structure results because restricted energy flow leads to an energy buildup that creates stress in the conduit, resulting in two new channels that increase the efficiency of energy flow. The term "fractal" was first used by Benoit Mandelbrot in 1975. He based it on the Latin *fractus* meaning "broken" or "fractured," and used it to extend the concept of theoretical fractional dimensions to geometric patterns in Nature.

A fractal economic system offers significant advantages. Chief among these are political autonomy at all levels of scale, along with a more collaborative economic structure facilitating more reliable prosperity and greater equality of wealth distribution than the neoliberal model. Fractal complexity facilitates collaborative organization, whereas the neoliberal model facilitates hierarchical, top-down control by oligarchies. In fact, one may say that the fractal system would replace Adam Smith's *Invisible Hand* (in which self-interest is supposed to sum to social benefit) with a *Visible Hand*, requiring socially responsible and visible caring for one's counterparts.

Operationally, this would mean that everyone is responsible for sharing according to his or her capabilities, rather than “taking” to maximize personal advantage. It is a “eusocial” opportunity that should not be missed.

Marine Le Pen, President of the National Front party in France, applauds Britain’s courage to embrace freedom and leave the European Union, and wishes that France could demonstrate equal courage. She sees the issue as primarily a political one: must we allow an undemocratic authority, the EU, to rule our lives, or do we prefer to assert control over our own destiny? The economic questions, which everyone thought were fundamental, were correctly recognized by Britons as only secondarily important. EU currency restrictions, the European Parliament, and the EU constitution are all undemocratic and antithetical to the rights of sovereign nations (Le Pen, 2016). Le Pen does not say how an uprising would be accomplished, whether the EU itself could be subjected to major renovation, or how national political and economic models should be internally restructured. But her critique of the current political and administrative arrangements could not be clearer.

In the short term, economic confusion and dislocations caused by Britain’s exit from the EU will have the negative effects currently being experienced. This paper will argue that, in the long term, Brexit will likely prove advantageous to Britain’s productivity, prosperity, resource conservation, and more equitable sharing of income and wealth, provided that both Britain and the EU find ways to shift away from the neoliberal economic model, as outlined herein.

The European Union is a politico-economic union which, accounting for the UK’s pending withdrawal, will be comprised of 27 member states located primarily in Europe. It was founded in 1993 and is headquartered in Brussels. London is its largest city.

### **The Existing Socio-Economic Situation.**

A review of those parts of the UK that voted for Brexit is instructive. They are the nine of twelve statistical regions of the UK that experienced the lowest gross value per capita added in 2013. They comprise all of England except for the statistical region of Greater London (which enjoyed by far the largest gross value added per capita, £40,215), Northern Ireland, and Scotland. Two of the richest 10 areas of the European Union are in the UK. Inner London is number 1 while Berkshire, Buckinghamshire, and Oxfordshire combined are number 7. Southern Scotland is also one of the UK’s richest areas per capita. Please note: the source of the statistical and other information describing the UK and Brexit is *Wikipedia*.

The economy of the UK (England, Scotland, Wales, and Northern Ireland), one of the world’s most globalized economies, is the world’s fifth largest, measured by GDP, and ninth largest measured by purchasing power. It is the second largest in the EU by both metrics. The UK economy is dominated by the service sector, which accounts for about 78% of GDP, and its financial services sector is especially important. London is the world’s largest financial center, the city in Europe with the largest GDP, and the world capital for foreign exchange trading. Edinburgh is one of the largest financial centers in Europe.

In regard to poverty, abated by social welfare structure, the UK is in the lower half of developed country rankings for poverty rates, exceeding Italy and the US but performing less well than

France, Austria, Hungary, Slovakia, and the Nordic countries. The numbers of Britons at risk of poverty was 15.9% in 2014, down from 17.1% in 2010 and 19% in 2005 (calculated after social transfers were taken into account). In general the poverty line in the UK is defined as 60% of the median household income.

### **Exchange Rate Considerations.**

The British Pound was equivalent to about \$1.6 during 2012 and 2013. It bumped up to about \$1.7 by the beginning of 2015, then dropped to \$1.5 by the end of 2015. It then went up to almost \$1.6 in early 2016 and dropped to \$1.32 in the wake of the Brexit vote, a drop of 8.25% from the beginning to the end of this period. The weaker rate may help British exports, but could also make imports more expensive and push up the inflation rate.

### **Economic Geography and Regional Disparities.**

The UK has a long history as a trading nation and an imperial power. Its primary industrial sector was once dominated by the coal industry, concentrated in south Wales, the Midlands, Yorkshire, North East England, and southern Scotland. Although coal output fell by more than 75% between 1981 and 2003, the remaining mines produced enough coal in 2003 to rank the UK as the 15<sup>th</sup> largest coal-producing nation, compared to 4<sup>th</sup> in 1981. Now, the major primary industry is North Sea oil and gas, concentrated on the UK Continental Shelf to the northeast of Scotland.

The decaying industrial areas of the north of England and southern Scotland, when contrasted with the wealthy, finance-and-technology led southern economy, are referred to in terms of the North-South divide. The following categories indicate the principal differences:

- Earnings, which are higher in the South and West
- Housing prices, which are higher in the South and South-East
- Health conditions, considered to be worse in the north, cause higher health care costs
- Government spending per person on transport, infrastructure, and R&D, which is much higher in the South-East
- Government spending, which is higher in the North than the South, largely to fund universal benefits as a result of higher unemployment
- Political influence, since Southern England tends towards the Conservative Party rather than the Labour Party
- Devolution of powers to local government is less extensive in the North
- Class and ethnicity differences are more prejudicial in the North.

Successive governments have tried to rectify the imbalance with regional development policies, but without notable success. Poor wages and low expectations were the root of dissatisfaction with membership in the EU, while the finance and technology sectors of London, Edinburgh, and Northern Ireland appeared to benefit disproportionately from EU membership; their citizens supported continuing EU membership in the referendum of June 27, 2016, whereas the other regions did not.

However, the Midlands retain a strong manufacturing base, with about one-fifth of its employment dependent on manufacturing, and the East Midlands Development Authority is

interested in preserving and enhancing this economic characteristic. Meanwhile, manufacturing in the South continues to decline, except in the London area.

Although manufacturing in 2013 comprised only about 13% of the economy, having been supplanted by services, which comprised 79%, it remains an important sector in the British economy, and the UK is one of the most attractive countries in the world for direct foreign industrial investment. Engineering and allied industries comprise the largest single sector within manufacturing, including eight global automotive manufacturers located in the UK. Electronics, audio, and optical equipment are also important, together with communications products and scientific instruments. Other productive sectors of manufacturing include chemicals and chemical-based products, along with pharmaceuticals.

Additional important sectors of the manufacturing industry include foodstuffs, beverages, tobacco, printing, paper, and textiles. The UK is home to three of the world's largest brewing companies: Diageo, SABMiller, and Newcastle. Other major manufacturing companies include Unilever, Cadbury, British American Tobacco, HarperCollins, and Reed Elsevier.

Almost half of the UK's biggest cities have low wage, high-welfare economies that follow the template of the north-south divide. A recent report by the independent think tank's annual "Cities Outlook" urges the national government to address the divide by continuing to increase investment in regional economies, while giving cities "home rule" control over local tax revenue, skills, infrastructure, and housing. Skill gaps must be tackled through improved schooling to attract businesses and jobs, and to support the transition of more people into high-skill sectors.

### **Failures of Market-Based Economics.**

Neoliberal economists claim that the free market, under the rule of the invisible hand and equilibrium theory, generates *harmony*. However, as we have seen in the section on the UK's economic geography and regional disparities, its membership in the EU has not benefitted the majority of geographic regions or economic sectors, resulting politically in the Brexit referendum. Instead, the EU represents oligarchic control, unfair and inequitable wealth distribution, and the need for huge British government bailouts to cover the health and welfare costs of populations in regions that are not able to generate adequate income levels.

As shown by Kenneth Arrow, Joseph Stiglitz, and others, the idea of a market as a *stable and self-correcting mechanism* cannot be supported scientifically. Equilibrium theory is not able to derive the behavior of the market as a whole from the rational behavior of individual consumers and firms, and thus is not able to support market stability. Stiglitz argues further that information is never fully revealed by market prices, and information issues are key to many types of market failure, including unemployment, credit rationing and financial blow-ups.

Thirdly, regular patterns in the market are not *predictable*. Prevailing smooth bell-curve theory has been shown by Mandelbrot and others to be inapplicable. The efficient market hypothesis, that prices of speculative assets move independently of each other and are random, is not an accurate description of reality. Again, in the context of Brexit, the UK's economically

disadvantaged citizens are correct in assuming that the EU cannot predict or generate more favorable economic conditions for their regions (Dyck, 2011).

Since harmony, stability, and predictability cannot be achieved by the prevailing neoliberal model, despite claims to the contrary, we need an economic model that takes advantage of new developments in complex systems and network theory to provide better ways of linking all parts of socio-economic systems, from the smallest to the largest, and to provide better methods of monitoring and influencing the dynamics of unfolding systems.

### **Networking: A New Scientific Basis for Economics.**

The biggest problem associated with the prevailing economic model is that it does not contemplate the entire system of relationships that are important. The focus must be on healthy flows of energy, information, and money through all parts of the socio-economic system. The approach must be more systemically inclusive and more dynamic, yet attuned to all the individual actors. Fractal theory, as pioneered by Benoit Mandelbrot, will almost certainly prove to be essential, as it has been in the analysis of complex ecosystems.

Fractal (self-similarity) relationships facilitate energy transfers between levels of scale in nature. The more *intricate* the structural relationships, the more energy, information, and money can flow. Accordingly, at the level of community scale, it is essential to support education, roads, hospitals, and all other minimal conditions for healthy community life, as well as its economic basis.

Linkages between all levels of economic activity are required, as in Nature, which also is built on multi-scale organization. It is no longer possible to cleanly separate manager from worker, consumer from supplier, or micro from macro considerations. The separation of the large, powerful, and wealthy financial sector from small, impoverished economic units in the UK provides a pertinent example. Systemic networking and multi-scale connectivity has not yet occurred to the extent necessary to assure mutual prosperity, quality of life, social equity, justice, and environmental quality.

### **Structural Rules.**

Two important rules for fractal economic development planning are as follows. The first is *fractal coherence*. There must be sufficient density and variety of nodes at all scales in a distribution so that they can catalyze interactions among themselves by exchange of information and energy. If there are huge corporations, they must be balanced by larger numbers of small firms, in inverse proportion, at all levels of scale.

The second rule is *Fractal Connectivity*. Every node of economic activity (e.g. a firm) must have multiple alternative paths of connection with other nodes. Both short and long links are needed to provide necessary connectivity between nodes. The connections must provide for exchange of information, energy, money, materiel, and goods, and must occur at all scale levels. They must provide for exchange between persons and firms, with necessary means of financial exchange and means of connection (from walkways to electronic linkages). If the goal is better income and economic vitality within the smaller and less productive units of the British economy, better

interlinkage of the smaller and larger hubs will be necessary, including those of London's financial center.

### **Collaborative Social Learning.**

The above two structural rules must be supported by collaborative social learning for the innovation and entrepreneurship required, at each level, to facilitate the development of increasing system intricacy. This means that each hub in the system must be completely open to exchange of energy, information, and capital, without destructive domination of any hub by another. In a cultural context that values collaboration and sharing, this will not be a problem, but gaps in income and wealth in the world have grown geometrically throughout the last 150 years (Dyck, 2006).

Rationality must now be defined as *caring* at least as much as by self-interest. New behavioral evidence indicates that people everywhere are hard-wired for caring. People enjoy collaborating with others and expect to be treated as equals. Collaboration is humanity's best survival strategy, because it is the principal basis of social learning and innovation (Dyck, 2011).

### **Conclusions.**

The EU has increasingly become a neoliberal project, and correspondingly, one that is oligarchic and anti-democratic. Inclinations to leave the EU are met with threats from the EU, including extortion, rather than compromise. Any movement for democratization must question the EU's imposition of the budget rights of the European Parliament, and its imposition of austerity in Greece and other member countries, including Italy and France.

Ironically, it is political leaders on the right, including Marine La Pen of France, who are currently taking up the issue of national sovereignty, not only in the UK, but in other member countries. Their most important national economic policies, including monetary, currency exchange, and even fiscal arrangements, have been compromised by EU rulings. Lack of independent national control over currency, banking, monetary, and fiscal issues has created mass unemployment, most notably in Greece, and is also a major cause of migration friction, together with failed US/European foreign policy in Syria, the Middle East, and North Africa (Weisbrot, 2016).

Britain's new prime-minister, Theresa May, who now leads its Conservative Party, has sounded similar concerns. In regard to the corporate world in Britain, she has called for more protectionism, greater say for workers, vigorous antitrust enforcement, and limitations on pay for CEOs. She speaks of a country that "works not for a privileged few, but for all of us."

Her perspective seems very similar to what you would expect from a Labour Party leader, or Bernie Sanders, but she asserts that she is not "anti-business," even though she is for more stringent regulation of corporations. Her main interest is better governance of corporations, with more representative governing boards, and more responsiveness to their stakeholders, including both consumers and employees. In summary, she argues for a rethinking of the state's relationship to the corporation, and for more corporate social responsibility in respect to its communities and other constituencies (Solomon, 2016).

When conservative political leaders Marine le Pen and Theresa May, women in powerful political positions in two different countries, espouse radical changes in the prevailing political economy, it is time to take notice. Their concerns are with community, with democracy, and with sovereign national control over important national policy matters. Their concerns articulate the glaring failures of neoliberal theory and practice in regard to democratic control, equality of opportunity, equitable distribution of income and wealth, elimination of poverty, and a more sustainable and satisfying lifestyle for all.

That is why it is time to take a close look at the underpinnings of prevailing economic theory and practice, and to consider alternatives, including those articulated in this essay, that are generated by current scientific perspectives, political requirements, and cultural imperatives.

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