Cherchez la Firme. Redressing the Missing Middle in Mainstream Economics

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Abstract

Aristotle warned against a 'missing middle' in logic (Gk *Mesos* - middle; intermediate). This paper submits that one of the reasons why there has been next no major breakthrough in macroeconomics since the financial crisis of 2007-2008, has been a missing middle in the micro-macro syntheses of mainstream economics – constrained by partial and general equilibrium premises. It proposes that transcending this requires recognition that large and multinational corporations (between small micro firms and macro outcomes - yet also influencing both) merit the concept of mesoeconomics. Drawing on earlier applications, the paper relates this concept to the reasons for 'too big to fail' and suggests implications for both research and policies to gain institutional accountability of global big business. Including how a meso dimension to input-output could gain transparency on risk-prone financial transactions by banks and transfer pricing by multinational corporations and even on global warming. It also offers an invitation to interested scholars to join a post-Keynesian and post-Marxian mesoeconomics research network within an evolutionary economics perspective.

Key words: Meso - Global - Governance - Environment - Accountability

Introduction

In an address in October 2016 when still head of the US Federal Reserve, Janet Yellen observed that the 1930s Depression motivated new ways of thinking about economic phenomena and questioned why a Great Recovery in economic thought has proved elusive during the recession since the 2007-08 financial crisis (Yellen, 2016). In May 2018 Thomas Ferguson and Robert Johnson of the Institute for New Economic Thinking submitted to the G20's Global Solutions Summit in Berlin that the stranglehold of orthodoxy on the economics profession hurts not only research but people and societies subjected to discredited economic policies (INET, 2018).

We agree in particular with Ferguson and Johnson (ibid, p. 2) that "one of the central problems in this regard has been fixation on economic models emphasizing full or nearly complete information and the presumption of tendencies for economies either to be always in equilibrium or heading there, not just in the present but into the indefinite future". And recognise with them that: "Possible reforms of economics have stimulated widespread discussion, but produced a wide dispersion of views" (ibid, p. 7).

Yet we suggest, and illustrate, that there already is an increased interest by a range of institutional, evolutionary and environmental economists in meso as a 'missing middle' between micro and macro which, if given higher profile and a strengthened research agenda, could reinforce heterodox economic approaches. And submit that the need for this is shown by Ms. Yellen seeking to find phenomena to explain the lack of progress in economic theory since the financial crisis yet not even referring to 'too big to fail'. Whereas the size and increased concentration of banks, hedge funds and insurance in the US since the repeal of the Glass-Steagall Act in 1999 not only aided the 2007-08 financial crisis (Grullon, Larkin & Michaely, 2017), but also has been matched by increased concentration in industry with 100 corporations now representing half of global manufacturing output (UNCTAD, 2016) and with 100 sourcing over 70% and 25 over 50% of global carbon emissions (CDP, 2017).

While the phrase 'too big to fail' has had wide resonance with a public that knows that giant banks have been salvaged by taxpayers in the US and across Europe at their cost. That astronomic bonuses were paid to those who caused or allowed them to fail and still are unrelated to performance. That transnational companies paying next to no tax dominate the media and the web that they daily use, and the delivery of the books and other goods they buy, while local family stores are closing. That globalisation is not working for many of them, or their children, when major corporations have been relocating to lower cost economies and reducing former thriving industrial areas to either vacant lots or rustbelts. With little to no social protection from governments which are facing fiscal constraints both from misguided economic policies and tax avoidance through transfer pricing of such corporations.

Few among such a wider public may know that mesos in Greek means intermediate or middle. Nor would we expect them to become familiar with the concept of mesoeconomics. But meso is familiar to geologists as Mesozoic or Mesolithic, and to climatologists as the Mesosphere. Many Americans are aware of Mesoamerica as the countries between them and Panama not least since many of them or their families have come from there. Many children in geography, or in history, have learned of Mesopotamia as lying between the Tigris and Euphrates.

The concept also is used by economists as well as geographers in defining nations within a contiguous area as meso regions, such as Sub-Saharan Africa, persistently rent by both drought and poverty, the Southern Mediterranean, in decline, or South-East Asia, still rising (Amoroso, 1996, 1998; Papadaskalopoulos, Karaganis, & Christofakis, 2005). A mesoregion also may be between the size of a city or district and that of a nation, as in Brazil, where its use is commonplace (Roth & Brunnbauer, 2009). Where the meso concept is not yet commonplace, but we submit should be, is in mainstream economics.

1. Reframing Micro-Macro Syntheses

Micro-Meso-Macro

Our main focus in this paper nonetheless is in deploying the meso concept in relation to big business and institutions. On which we are not claiming to be alone. Ng has done so extensively (Ng 1982-1999; Ng, & Wu, 2004), as have Dopfer, Foster and Potts (Dopfer; 2006; Dopfer, Foster & Potts, 2004; Dopfer & Potts, 2014). Yet have been concerned to reconcile the meso concept with partial and general equilibrium whereas we are concerned to show that it profoundly qualifies them. Further, some of those recognising the mesoeconomic concept have sought to do so in terms of meso 'axioms', of which we are sceptical, and for which Dopfer and Potts have been strongly criticised on methodological grounds by others (e.g. Juniper, 2009).

In general, our approach is closer to that of Elsner (2010, 2013, 2015, 2016) and of his work with a younger generation of economists (Elsner, Heinrich, & Schwardt, 2014; Elsner & Schwardt, 2015). Rasmussen, Friis-Hanse and Funder (2018) have shown how meso-level institutions between a central state and communities can facilitate climate change responses at local and district levels. Radej (2011), in addressing issues of aggregation in terms of both economic and social analysis, as well as of the environment, has submitted that only a meso approach addresses the complexity of its conceptual challenge.

The paper also submits that some principles which have been assumed to be axiomatic in macroeconomic theory and policy are profoundly qualified by global corporate power. It maintains that one of the limits the QE of quantitative easing pursued by the European Central Bank, and of the focus on interest rates in monetary theory, is that they fail to distinguish the different significance of borrowing costs for national micro and multinational meso firms, higher to penal for the former whereas insignificant for many of those among the latter which can self-finance.

More radically it maintains that foreign direct investment by multinational companies not only qualifies the assumption that comparative advantage will maximise global welfare, but also the presumption of Keynes, and many Keynesians, that exchange rate changes necessarily can balance global trade outcomes. In this context it claims that the alleged HOS Heckscher-Ohlin-Samuelson axiom of comparative advantage is neither Heckscher's nor Ohlin's rather than Samuelson's, and that whereas Ohlin recognised that foreign direct investment could substitute for exports, with significant negative balance of payments effects, Samuelson from 1948 through to 2004, 'abstracted from' capital mobility.

Besides Keynes' animal spirits, the paper also suggests less familiar reasons from organisational psychology for the subprime crisis, and others from clinical psychology on not only why there has been displacement of how big business has divorced key features of micro-macro syntheses but why models of partial and general equilibrium have exercised such a hold on the mainstream. As well as why, although there has been a

successful concern to develop approaches in institutional economics, there has been no major evolution in mainstream economic theory, of which Veblen protested in 1898, and no equivalent in the mainstream of 'post-modern' thought such has been achieved in a range of other disciplines such as philosophy, social psychology, sociology or law.

The paper also seeks to redress the persistent misrepresentation of key theorists whose principles, again, are assumed to be axiomatic in mainstream macroeconomics - Walras, and Pareto. Walras in the sense that he insisted that his pure theory of equilibrium was a conceptual device rather than a representation of realities, and that he inveighed against private rather than public or mutual ownership of banks on the grounds that unless they were subject to social ownership and control they would tend to speculate with people's savings and put them at risk. As well as maintaining that public utilities should be run on a non-profit basis for the welfare of the whole of society.

Pareto in the sense that mainstream macro theory has neglected that he warned that to project past market trends into the future - as in the case of theories of rational expectations and efficient markets - was an error similar to that of Pangloss in Voltaire's *Candide* claiming over the ruins of the earthquake in Lisbon that all still was for the best in the best of all possible worlds. Which has a parallel in the survival of such theories after the collapse in 1998 of the LTCM hedge fund even a decade before the subprime crisis and which already had needed a bailout organised by the Federal Reserve to avoid an earlier systemic financial crisis.

In terms of policy alternatives, the paper outlines several that might countervail repeat outcomes such as the crisis of 2007-08 in terms of accounting and accountability of financial institutions as well as redressing tax avoidance by multinational companies. *Inter alia,* it does so on the basis of meso dimensions to input-output analysis which, in the 1990s, were approved by Delors and Leontief, and which could achieve greater transparency on how multinational corporations can avoid taxation through transfer pricing and inform how a Tobin tax introduced for transactions by meso institutions and their micro subsidiaries could be effective without concerning all international transactions. As well as proposing several areas for further research within a meso conceptual framework that could yield more realism in relation to both micro and macro theory.

The - Meso - Representative Firm

Centrally, the paper submits that the representative firm at a global level is not a price-taking small enterprise subject to consumer sovereignty but typically a large multinational corporation with price-making power. Stiglitz (2016) has deemed this 'monopoly', which happens to be consistent with Marx's use of the term, even if he has modified it. Yet while such firms may be monopolistic in their behavior they are more typical of concentrated

oligopoly (Ozawa,1999). While there also are limits to the concept of monopolistic competition.

For example, Chamberlin and Joan Robinson, in the same year (1933), published qualifications of neoclassical micro theory in what they deemed monopolistic and imperfect competition. But in their respective analyses they both stayed within a partial equilibrium framework. With the outcome that they could safely be regarded as an add-on to mainstream micro theory, which also was assumed by Keynes of Robinson's imperfect competition concept when he wrote in the Concluding Notes of the *General Theory* on the social philosophy to which it might lead that:

> ' if we have dealt otherwise with the problem of thrift, there is no objection to be raised against the modern classical theory as to the degree of consilience between private and public advantage in conditions of perfect and imperfect competition respectively' (Keynes, 1936, chapter 24, Part III).

Yet, as recognised by Kalecki (1943, 1954), big business can gain a decisive influence on macroeconomic outcomes and macro financial policy. That oligopoly, through scale economies, could dominate markets was recognised by Bain (1954), by Galbraith (1967), by Averitt (1968), by Sylos-Labini (1968) and, notably, by Eichner (1976), who well recognised how major corporations with market power differed from the assumed perfectly competitive firms of micro theory. But their case, although strong, made little impact in challenging mainstream micro-macro syntheses, even in Eichner's demonstration of several dimensions of this, not least since he subtitled his 1976 *Megacorp* as *The Micro Foundations of Macro Dynamics.*

Some theorists have drawn on Chamberlin's concept of monopolistic competition to seek to provide a conceptual framework relating it to macro outcomes. Blanchard and Kyotaki (1987) did so. Yet also were concerned to construct a model in which each price setter in the sense of monopolistic competition is large in its own market but small with respect to its economy. Whereas such firms now are large also in relation to macroeconomics not only in the sense of national economies but also of the global economy.

Solow (1998), a self-styled Keynesian, and Nobel economics laureate, also sought to do so. But there are only two goods in his model of this, for consumption and investment, while he affirmed that his main concern was to reconcile the partial equilibrium of monopolistic competition with macro equilibrium. Besides which, in the opening two lines to his at the time influential *Contribution to a Theory of Economic Growth* (1956) Solow wrote "All theory depends on assumptions that are not quite true. That's what makes it theory". Which, arguably, is what has been wrong with a mainstream economics, even if nominally Keynesian, that derives its axioms from arbitrary premises rather than reasoning from evidence.

An exception to mainstream micro-macro syntheses was Stephen Hymer (1968, 1972). Extending Marx's case that capital would draw on reserve armies of labour wherever it could when these were at or near subsistence levels, Hymer already realised the relevance of this to foreign direct investment by multinational rather than only national capital and that it had major implications for uneven rather than balanced global development. He had done so since his 1960s PhD, though it was only published later and had strongly influenced Charles Kindleberger (1976; 1984) as well as John Dunning (Dunning, 1978, 1988, 1998; Dunning & Rugman, 1985) and also one of us (Holland, 1976c) in already relating this to the meso concept. But whose breakthrough otherwise was neglected in mainstream economic literature while Hymer himself died prematurely and tragically in a road accident in 1974 when only thirty and did not live to follow through on his path-breaking initial insights.

Meso Dominance

There also has been a remarkable neglect in Anglo-American economics of the work of François Perroux who was powerfully influential in postwar economic theory and policy in France, Belgium and Italy as well as with leading Latin American economists such as Raul Prebisch (Dosman, 2008; Vernengo, 2013).and Celso Furtado (Kay 2006). While also, through them, and their development of dominance and dependency theory, influencing a range of younger economists in the United Nations Economic Commission for Latin America several of whom later were to be influential either as officials or ministers, including finance ministers, in successive Latin American governments, as well as in global institutions such as UNCTAD and the ILO (Kay ibid).

From the early 50s Perroux extensively related big business domination of markets to globalisation. His concept of 'dominance' was within a *champ des for*ces rather than a static partial or general equilibrium. His concept of the dynamics of leading firms or *firmes motrices* in interregional and international polarisation (e.g. Perroux, 1950a, b, 1955, 1961, 1964, 1965) is similar to Myrdal's (1957) concept of asymmetric circular and cumulative causation but with more emphasis on the role of such dominant firms in driving it.

For Perroux, dominance was not forever. As a convinced Schumpeterian he was well aware of the power of creative destruction. While major corporations such as the once 'Big Three' of GM, Ford and Chrysler in the US have declined and faced near extinction by relying on economies of scale - which perfect competition theory does not even admit - rather than learning up from the *kaizen* of continuous improvement and economies of scope in methods of work organisation achieved by Japanese and South Korean majors both in their own markets and in their foreign direct investment in the States (Womack, Jones & Roos, 1990; Senge, 1990; Colenso, 2000).

Black and Dixon have submitted that, as a class, rather than individual firms within it, the global dominance of multinational companies nonetheless has been persistent, and evidenced this (Black, 2016; Black & Dixon, 2016). In 2017 Grullon, Larkin and Michaely have found that more than 75% of US industries had experienced an increase in concentration levels over the previous two decades. Firms with the largest increases in product market concentration had enjoyed higher profit margins, higher stock returns, and more profitable M&A deals, while enforcement of antitrust laws by the Department of Justice and the Federal Trade Commission declined during the administrations of both George W. Bush and Barack Obama.

Meso-Micro Dynamics

Research by the OECD (2017) has found that a 100 'frontier' firms across the world have been able to increase their productivity whereas productivity growth for the rest (the ‘laggards’) is dwindling. 'Frontier’ firms thereby are increasing their earnings and can increase pay substantially, whereas ‘laggard’ firms can find it difficult to do so. Findings by Brennan (2016) also suggest that the rise of practices such as stock buybacks have shifted finance away from investment in production, leading to weak economic growth and rising income inequality. In other words, one of the factors in the concentration of wealth identified by Piketty (2014) may be explained not only by his stress on the reduction of progressive taxation but also by the rise of a group of ‘super firms' that can afford high incomes and bonuses at least for their own high flyers, even with Icarus-like risks, against a shrinking share of income for employees in small micro firms many of which now are struggling for survival.

What this amounts to is neither perfect nor imperfect competition but unequal economic power. In a study for the NBER by Gutiérrez and Philippon (2017) have found that leading firms have been increasing concentration and decreasing competition in many industries since 2000 and that the gap is primarily driven by industry leaders who show higher profit margins but lower investment and lower capital formation. In another NBER study Autor, Dorn, Katz, Patterson and Van Reenen (2017) have found that ‘superstar’ firms account for an increasing share of industry output. Yet also allow the case of Jones and Philippon (2016) who found that the US capital stock was 5% to 10% lower than it should have been by 2012 if competition had remained at its level of 2000.

This merits a meso-micro distinction between monopolistic or oligopolistic corporations with price-making power and smaller firms without it. Bain (1954) already had been notable in recognising that an oligopoly could deploy 'no entry pricing' by temporarily reducing price below what would be the variable costs of a potential entrant to a market such as that, if it entered, it could not even pay its wage bill. There also is the concept of 'elimination pricing' (Holland, 1987a) in that if an oligopoly is faced by a new entrant with less market power than itself it could reduce price on a longer term basis so that the challenger, once entered, then goes insolvent.

Such dynamics represent a challenge for anti-trust and competition authorities. Yet it is more than ironic that, while the US has had a 15% rule of thumb for non-financial institutions, and while the 1890 Sherman Antitrust Act was sufficient to break up Standard Oil, it has none for banks.

As Robert Reich (2018) has submitted, a result of consolidations brought on by the Wall Street bailout, the biggest banks today are bigger and have more clout than ever. They and their clients know that they will be bailed out if they get into trouble, which gives them a financial advantage over smaller competitors whose capital has no such implicit guarantee. Which is an example of the distinction between meso and micro resisted by mainstream economics.

To which he submits that the only answer is to break them up (Reich, ibid). While their ongoing influence in persuading successive administrations that they should not be closely regulated has been a confirmation of Kalecki's 1943 warning that big business could and would gain a decisive influence on macroeconomic and macro financial policy. Yet both the US and the UK, also deregulated since the mid-1980s, were economies facing a decline in their industrial base. A response to this was to enlarge the scope for profit by deregulating finance and privatising public assets and services or, as Galbraith (2008, 2014) has forcefully put it, to predate on them.

2. The Dangers of Systems Thinking

As we elaborate later, Adam Smith warned that 'systems thinking' could lead to 'dangerous errors' (Smith, 1759). We submit that this has been the case not only in assuming that mathematics can reveal 'truths', below, but also in one of the most widely - and wrongly - presumed mainstream principles, assiduously promoted by the IMF, the World Bank and the WTO, that Ricardian comparative advantage would and will maximise global welfare.

Ricardo's Deception and Comparative Advantage Myths

In his claims for comparative advantage in trade between England and Portugal Ricardo (1817) needed to assume no capital mobility, admitting that otherwise lower cost Portugal would have an advantage in both cloth and wine. Yet this had less to do with exports of cloth from England than his concern to abolish the Corn Laws in Britain which were raising the cost of subsistence wages for manufacturers in general and reducing his own profits as a major importer of corn.

Which also was a gross deceit in that it was English capital that had developed the main wine trade from Portugal - in port - through companies such as Churchill's, Croft, Dow, Gilbey, Graham, Offley, Taylor and Warr, whose brands still dominate it, while free access to Portugal for British cloth since the Methuen Treaty of 1703 already was causing many Portuguese textile producers to relocate to lower cost Brazil (Holland, 2015b; Serrão,

1975). And which Ricardo would have well known, not only since his own family came from Portugal but since port at the time was the addiction - and gout the well-known affliction - of the English middle and upper classes in his time.

Nor is this only a matter of the history of economic thought. Capital mobility also profoundly qualifies the alleged HOS Heckscher-Ohlin-Samuelson theorem of comparative advantage, which is neither Heckscher's (1950), nor Ohlin's (1933) but Samuelson's (1948, 1949) and entirely unrealistic in not recognising capital mobility between countries. Heckscher and Ohlin assumed a factor proportion basis for trade with countries specialising in whether they were labour or capital abundant.

But Heckscher, who originally published in Swedish in 1919, had been making a case from data in a colonial era before WW1 when some less developed countries either lacked manufactures or, as in the case of India, such as of cotton, were forbidden to export them. Ohlin, writing by the 1930s, was well aware also of differences in capital and labour mobility and realised that, with inhibitions on labour migration, factors flows would be asymmetric and that comparative advantage therefore would not necessarily maximise global welfare. As well as presciently observing that foreign direct investment and production could substitute for exports from the country of capital outflow.

In an article in the New York Times in 2004, Samuelson allowed that the economies of China and India can combine low wages, increasingly skilled workers and rapidly improving technology. He put his case in terms of a labour market 'clearing wage' that has been lowered for all countries by globalisation, and observed that: "If you don't believe this changes the average wages in America, then you believe in the tooth fairy" (Samuelson, 2004b).

Yet it was Samuelson's expositions of comparative advantage, over decades, that gave such a tooth fairy wings. He had displaced both the mounting US FDI outflow to Asia since WW2, and that half of China's improved technology exports by the time he wrote this, in 2004, were from foreign direct investment (Yadev, 2010; McKinsey, 2010) which, at much lower labour costs, was yielding Smith's absolute advantage rather than Ricardian comparative advantage. For, as Smith (1763) presciently had put it in his Glasgow Lectures:

> '[t]he cotton and other commodities from China would undersell any made with us were it not for the long carriage, and other taxes that are laid upon them' (Smith, ibid, in Napoleoni, 1975, p. 141).

Krugman sought to gain more realism than in standard comparative advantage paradigm by introducing economies of scale and *inter alia* gained renown for it as a Nobel laureate (Krugman, 1979a,b, 1980, 1981). Yet this did not manage to divorce the micro-macro synthesis in mainstream international trade theory.

Stripping Out Psychology

Akerloff and Shiller (2009) have related Keynes' animal spirits to the reasons for the subprime crisis. Yet well before the rise of monetarism and the demise of Keynesianism, Samuelson (1942, 1947) had stripped psychology and uncertainty from Keynes. He deemed himself a Keynesian but was concerned not only to claim that economics since Keynes was a science but also alleged in successive editions of his *Economics* that it could reveal 'truths'. Such as at the time that Minsky (1975) was warning that Keynes without psychology, and uncertainty, was Hamlet without the Prince, Samuelson was claiming that:

> 'The first task of modern political economy is to describe, to analyze, to explain, and to correlate the behaviour of production, unemployment, prices and similar phenomena…To be significant, descriptions must be more than a series of disconnected narratives. They must be fitted into a systematic pattern - i.e., constitute true analysis' (Samuelson, 1976, p.7, his emphasis).

One of Samuelson's (1942) main claims for this was that such economic truths could be expressed in mathematics:

> 'Mathematics is language. I mean this quite literally… For in deepest logic – and leaving out all tactical and pedagogical considerations – the two media are strictly identical' (Samuelson, ibid, p. 40, his emphasis).

This is precisely what Wittgenstein had assumed in the algebraic truth functions, and claims for 'logical atomism« in language, in his Tractatus (1922), which also has a parallel in the claims for 'atomistic competition' in neoclassical microeconomics. Yet which he then abandoned in his Cambridge seminars which were to be published in his *Philosophical Investigations* (1953) and which thereafter influenced the evolution of post modernisms in philosophy and sociology (Sluga, 1999; Summerfield, 1999), and in law (Patterson, 2004) as well as influencing Keynes' *General Theory* (Coates, 1996; Davis, 1993, 1996).

Yet there has been no similar postwar evolution in mainstream economics which remained trapped in Samuelson's assumption that economics was a science, similar in its analytical and predictive power to physics (Holland & Oliveira, 2013). Compounded by many economists, such as Samuelson himself, coming to economics straight from mathematics, or others from physics, and many of them doing so with no grounding either in philosophy, the history of economic thought or economic history.

While several postwar Keynesians such as Solow (1997) conflated concepts that are entirely different, and thereby stripped the psychology from them. Such as in an assumed Harrod-Domar model of economic growth and employment. Whereas Roy Harrod (1939, 1948) had given a central role in his model to a 'warranted' growth rate, or that rate of

growth of investment that entrepreneurs would judge to be warranted by the current and prospective rate of growth of demand which was an extension of the expectations - and psychology - of Keynes' marginal efficiency of capital. While Evesey Domar (1946) had not. But with entirely different implications. Domar's model was compatible with macro equilibrium. Harrod's stressed not only that an economy could easily be on a knife edge, but that whether or not it was so depended on unpredictable expectations.

Irrational Expectations and Inefficient Markets

Key reasons for 'too big to fail' not only were pressures that leading financial institutions brought to bear on the US Treasury to reduce capital reserves and on Congress to repeal the Glass-Steagall Act, but also that this was encouraged by Nobel benedictions for theorists of 'efficient markets' and 'rational expectations' (Fama, 1965; Fama, & French, 1992; Lucas, 1972, 1976, 1996: Merton, 1973, 1997; Scholes, 1997).

There have been many critiques of these theories since their failure, if fewer before it, in how they paved the path to the subprime crisis and thereafter the greatest financial crisis of the western world since 1929. Yet one of the most basic was that rational expectations theory presumed perfect information for individual agents not only in their own but all markets, with an omniscience normally reserved only for deities, and not even this for those already all too human in classical Greek mythology. While rational expectations also had leapt from being an ungrounded assumption in micro theory to macroeconomics without any bridge between them (Muth, 1961).

This then immediately was criticised less by economists than by several management theorists (e.g., Cyert and March, 1963; Edwards & Tversky, 1967; Vroom & Yetton, 1974). Simon (1978, 1979) stressed that the theory was normative and lacked evidence on how decisions in business environments actually were made, while he had claimed that decision-makers do not sum weighted probabilities of all possible outcomes but ‘satisfice’ with the first that either fits or fits well enough (Simon, 1987). With widespread resonance also in management theory but not in the economics mainstream, despite Simon gaining a Nobel and also being published in the *American Economic Review* (Simon, 1979).

Displacements and Denials

Self-interest also is supposed to be the premise of rationality in markets, yet in practice may defeat it, as in the subprime crisis. Meso level leading banks, hedge funds and the world's biggest insurer - AIG - were institutionally path dependent (Deeg, 2001) and locked into am institutional logic of selling worthless financial derivatives so long as they were gaining major profits for shareholders (Oliveira & Holland, 2013). As in banks offering credit to companies or countries which were known, or should have been known, to be insolvent, such as ongoing lending by French and German banks to Greece before the onset of the post 2008 Eurozone crisis.

The outcome was not only displacement of risk but, when challenged, its denial. As with Chuck Prince, at the time chief executive of Citi-Group, which gained a $45 billion bail-out after the crisis, claiming to a congressional commission that there was nothing wrong with the bank's risk management. The commission chair Phil Angelinides commented: 'You were either pulling the levers or were asleep at the switch'. Its vice-chair Bill Thomas scathingly commented: "Apparently you can get to the top without ever having experienced all these things that the people below you do. What do you get paid for if you don't have some understanding, intuition, knowledge?" (Politi, Guerrera & Rappeport, 2010). Yet intuition did not feature in theories of alleged rational expectations or efficient markets.

Before the subprime crisis, some operational managers in leading banks already had realised that there was systemic risk. But when they said so, this was displaced and denied by higher level management (Skapinker, 2009). Which in one sense it had to be. In July 2007, days before the onset of the subprime crisis, Chuck Prince admitted that: "When the music stops, in terms of liquidity, things will be complicated. But as long as the music is playing, you've got to get up and dance" (Politi & Guerrera, 2007).

On which, from the perspective of the bank, he was justified. If, as its chief executive he had announced in the run up to the crisis that it no longer was going to sell toxic financial derivatives this could have been the height of rationality but not recognised as such by stock markets and risked an overnight collapse in Citi's share price. The question would not have been whether he might be right, but what had gone wrong? Other banks and hedge funds still were making fortunes from such derivatives for their shareholders. Why was Citi 'out of line' in no longer doing so unless it had mismanaged its portfolios?

Which not only confirms Keynes in questioning in chapter 12 of *The General Theory* how rational stock markets are, but is of greater significance now in relation to the vastly increased scale of meso financial institutions. A small - micro - investor not dependent on shareholders could afford to stop. Such as one who had disdained subprime and other derivatives and commented to Financial Times journalists that: "anyone using a human brain, rather than algorithms could have foreseen the ensuing crisis" (Tett & Gangahar, 2007).

We suggest also that path dependency and inertial institutional logics are relevant to the payment of bonuses *ex ante* and unrelated to performance which not only was a feature of the subprime fiasco, but also has been since. Much of the press reaction to the crisis has commented on greed, and greed abundant there evidently was. Yet the defence made by banks and hedge funds was then and still is that they have to attract and retain the talent of the brightest people in the market and even, gratuitously, to maintain that those seeking to restrain them by regulation are driven by envy (Arnold, Binham & Jenkins, 2017). Without recognising that those granting them are locked into a practice that is rational for retaining those gaining the bonuses but irrational in terms of the addiction of

those that they hire and retain to theories that are not grounded in realities other than risk to whole societies.

3. Regaining Realities

Foreign Investment Not Comparative Advantage Drives Trade

Moreover, while oligopoly theory has sought to qualify the premises of neoclassical micro theory, only some of its exponents have related it to the FDI of foreign direct investment. Yet UNCTAD evidence (1973, 1991, 2009, 2011, 2013) shows that it has been FDI rather than comparative advantage that has been the driver of postwar global trade. While such investment includes extensive value chains including also small micro companies, its driver has been the meso multinational company sub-contracting to them, with macro global outcomes.

Further, while Keynes was right on key issues such as effective demand, he was wrong in assuming - like Ricardo - and with Keynesians such as Kaldor - that trade was between different companies in different countries (Holland, 1987a, 2015b; 2017). Asymmetric outcomes from FDI outflow question whether balance in international trade can be achieved by the managed exchange rate changes that underlay Keynes' proposals for the Bretton Woods system. For three main reasons.

1. There will be an 'export substitution' effect if companies which had been exporting from one country then invest in, produce and export from others.

2. If companies are producing in other countries and then export to the country of investment outflow, this will increase its imports, with an 'import promotion' effect.

3. For such companies to follow through a devaluation or depreciation by any country with lower prices in others would be to compete globally against themselves or an 'own competitor' effect (Holland, 2015b).

The 'own competitor' effect from foreign direct investment was suggested in findings decades ago from the devaluation of sterling in 1967 which signalled the beginning of the end for the managed exchange rate system of Bretton Woods. For, at the time, foreign production by leading firms in the UK was more than double visible exports, whereas that for Germany or Japan was only two fifths of exports (Holland, 1987b).

Two analyses in the 1970s of the effects of the 1967 sterling devaluation, including a study of the top 220 exporters which accounted for two thirds of British visible exports, found that none of them had chosen to lower export prices because of the devaluation, and that where some of them had done so this had been for other reasons, such as price strategies either to gain foreign market entry or to deter new entrants (Hague, Oakeshott, & Strain, 1974; Holmes, 1978).

Export substitution and import promotion effects from FDI also in large part explain the long standing postwar US trade deficits. Since, for decades, it has been the most multinational of all economies, with foreign production by its firms more than four times its visible exports. Robert Lipsey and Irving Kravis showed in 1985 that exports from the US by American multinational companies had fallen by the later 70s to less than half their total exports from other already global locations (Lipsey & Kravis, 1985).

Such effects also give more explanatory power to the slowdown in growth of the Japanese economy than the alleged Heckscher-Ohlin-Samuelson axiom. In a survey of 3,200 subsidiaries of 1,250 major companies in Japan in the 1980s for the Japanese Ministry of International Trade and Industry, it was found that 78% of them had located abroad to replace exports, such as by direct investment in the US to avoid the risk of protection, or other less developed Asian economies to access lower cost labour, before then importing back to Japan (Kono, 1984).

This is not to claim that exchange rate changes are unimportant. They are vital for countries with little foreign direct investment, and denying devaluation as a means of adjusting trade imbalances has been a critical disadvantage for the economies of peripheral Europe (Varoufakis & Holland, 2010, 2011, 2012). But the effects, again, are asymmetric. A revaluation or appreciation of a currency will tend to reduce export competitiveness. A devaluation or depreciation will in principle increase it for micro firms although they may hesitate to increase export volume for a range of reasons, including lack of capacity or of sufficient representation in foreign markets or simply opting to increase cash flow. But it will not necessarily do so for meso corporations with a high degree of outward foreign direct investment, such as the US.

Limits to Monetary Policy

Another example of misleading conflation has been wrongly giving a central place in macro theory to an alleged Hicks-Hansen IS/LM investment-savings and liquidity-money model (Hicks, 1950; Hansen, 1953). This was central to one of the few postwar textbooks to compete with Samuelson's *Economics* by Stanley Fischer and Rudiger Dornbusch, later to be joined by David Begg (Begg, Fischer & Dornbusch 1987). But it made no distinction between bigger firms with market power and smaller firms without it, and also wrongly presumed that investment decisions for all firms were interest rate sensitive.

Whereas Hicks (1980-81) not only later repudiated claims ascribed to him for IS/LM, but already had done so in 1965 at one of his last seminars as Drummond Professor at Oxford, in which one of us was a graduate student, protesting that all he had done in an appendix to his Trade Cycle (1950) was to suggest such a relationship *if* investment were interest rate sensitive. While UK evidence published in the *Oxford Studies in the Price Mechanism* (Wilson & Andrews,1951) had found that no firm in its research sample was influenced in its investment decisions by any interest rate rather than prospective demand.

Related to this we submit that the meso-micro distinction is relevant to the limits of quantitative easing and to either very low or even negative interest rates. QE has injected liquidity into banks but not recovered private sector investment to its pre-crisis trends on a sustained basis in either the US or Europe. The Eurozone's QE programme has been a massive asset-liability management exercise, in which debt is reshuffled from one part of the public sector (governments) to another part (a national central bank) or to private sector banks, or pension funds. While the sums involved are large - a total of about €2 trillion ($2.44 trillion) at the time of writing - its real economy impact has been minimal (Gros, 2018).

Not least since, as Knibbe (2017) has put it, pension funds do not necessarily recycle such refinancing in a productive way. They tend to buy other bonds and financial assets with the money. Yet this is not unreasonable. Both they and sovereign wealth funds have lacked adequate private sector outlets since the financial crisis. The China Investment Corporation, at the time the biggest sovereign wealth fund in Asia, lost a fortune by still investing in private equities in the three to four years after the crisis and then declared in that it would desist, and was looking to invest in longer term public investment projects (Business News, 2012) Which is not to say that the ECB, at the highest level, has presumed that QE alone will recover the European economy. Senior officials in the bank have recognised that this alone, rather than Eurobond issues to finance a social investment driven recovery, and recycle global surpluses, may not do so (Holland, 2015).

Deconstructing Fiscal Policy

One of the problems of mainstream macroeconomics also has been its conflation of differences in the two words 'fiscal policy'. Thus macro fiscal policy can mean changes in tax and interest rates, or public expenditure or public investment. All of which are different in both their claims on resources and their economic and social impact. For example, lower personal taxes may simply increase wealth for those who have it. Lower corporate taxes may only increase retained earnings for corporations. Lower interest rates may increase a propensity to consume, but also encourage unsustainable investment in property as they did in the run up to the subprime crisis.

Besides which the hold-all concept of fiscal policy as both public investment and expenditure masks key differences between them. Current public expenditure can have beneficial effects, not least if it is spending for health and education, or social or local services. Yet which means claims on current government revenues. Whereas bond financed public investment can generate future tax revenues as well as jobs in both the public and private sectors through multipliers which tend to be higher than those from fiscal policy in the sense of reducing taxes.

For example, the 2009 Obama American Recovery and Reinvestment Act was undertaken on the basis of a multiplier of close to unity for tax cuts, and of 1,6 on from public

expenditures. Yet the multipliers from public investment projects can be up to double or treble these. Those from European Investment Bank projects range from 2.5 to 3.00, rather than the fiscal multipliers that Keynes stressed which tend to range from 1.1 to 1.8 (Blot, Creel, Rifflart & Schweisguth, 2009; Blanchard et al, 2012).

Fournier (2016) has shown that, in a typical advanced economy, government allocating a larger share of total expenditure to good-quality public investment tends to boost growth and productivity over the long term. Fournier and Johansson (2016) also have found that households in many countries could experience income gains of up to a seventh by a shift from current public spending towards public investment.

Yet if public spending is cut, as has been the case in Europe due to misguided theories of 'structural adjustment' and alleged 'structural reforms', which have been well criticised by the OECD (2017), it is not surprising that negative multipliers contract private demand including investment demand. Which also has been well demonstrated by a series of studies which were published by the research department of the IMF under the leadership of Olivier Blanchard, but with no actual impact on IMF policies as a partner in the 'Troikas' of itself, the ECB and the European Commission (Blanchard & Leigh, 2013; Abiad, Furceri, & Topalova, 2015; IMF,2015).

While also public investment, or even fiscal policy, is hardly analysed in mainstream economic theory. In a Lionel Robbins Memorial Lecture in 2009, Paul Krugman well illustrated this by citing that of some seven thousand articles published by the National Bureau for Economic Research in the US since 1980, only five referred to fiscal policy at all (Krugman, 2009a).

4. Recovering Precedents

The New Deal

The title of the conference organised by the Boston Fed and which Ms. Yellen addressed in 2016 was *The Elusive 'Great Recovery': Causes and Implications for Future Business Cycle Dynamics*. Yet there was no reference in Ms. Yellen's address to the role of public investment as countering either recession or depression. Nor to the role of public finance in enabling the New Deal recovery of the US from the crash of 1929 which was through US Treasury bonds funding federal programmes and to which Minsky (1986) paid extensive credit in his *Stabilizing an Unstable Economy.*

Moreover, the multiple 'alphabet agencies' that enabled the success of the New Deal were not 'micro' with no macro significance but institutionally meso in the sense of in between private sector firms and macro outcomes. And, being public and concerned to recover investment and employment, rather than speculating in finance, were big enough to succeed rather than too big to fail.

Nor was this Keynesian deficit spending. The average fiscal deficit of the US from 1933 to the outbreak of war was only 3% coincidentally, but also significantly, the target rate of the deflationary Stability and Growth pact of the EU. While Keynes himself initially was remiss on the New Deal. In *The General Theory* his early observations were that it probably would destabilise financial markets rather than recover them.

One of the recoveries of the US New Deal in Europe has been by Holland and Varoufakis including 'Eurobonds' to be issued by a European Investment Fund, now part of the European Investment Bank Group, which was set up in 1994 and, despite opposition to bond issues by Angela Merkel, is being supported by Emmanuel Macron (Varoufakis & Holland, 2010, 2011, 2012; Varoufakis, Holland & Galbraith, 2013; Holland, 2015, 2016).

One of the insights underlying its design (Holland, 1993) was realisation that European Investment Bank bonds do not count on the debt of member states of the EU any more than US Treasury bonds count on the debt of member states of the American Union such as California or Delaware. And that, thereby, a European New Deal could be achieved without the need for fiscal federalism

With also the macroeconomic aim of recycling global surpluses in pension funds and sovereign wealth funds, whereas the European Investment Bank has had a mainly project finance psychology. As well as that, while part of a meso institution, European Investment Fund bonds could finance a non-profit EU venture capital programme for small and medium micro firms which, if only recently, it has been is doing. Yet only on a relatively small scale since proposals by Emmanuel Macron when economy minister of France and then by Varoufakis as finance minister of Greece, were opposed by the German and Dutch finance ministers Wolfgang Schäuble and Jeroen Dijsselbloem and not supported by others in the Eurogroup of eurozone finance ministers.

Which again, though the inverse of Keynes' animal spirits, is deeply psychological and not unrrelated to the word for debt in German and Dutch - Schuld - also meaning guilt whereas the word in Latin based languages for borrowing - credit - reflects the Credo of belief (Holland, 2015). Macron also has grasped that such opposition was deeper than a mere unwillingness to consider the case. Leading him in September 2015 to call the struggle in the Eurozone a new Thirty Years War between Calvinists and Catholics, saying that:

> “The Calvinists want to make others pay until the end of their life. They want reforms or no contributions toward any solidarity. On the other side are the Catholics, largely on the periphery … At every Eurozone summit, at every Eurogroup, we have this same dilemma between member states. We have to end this religious war” (Evans-Pritchard, 2015).

Recovering Walras

Both Ferguson and Johnson, and we, among many others, have criticised the hold of equilibrium theory on the mainstream. Yet there are as near to as many macroeconomists who make ritual reference to Walrasian general equilibrium as never have read Walras. Thereby displacing his warning that this was an intellectual device rather than realistic and that markets, if not countervailed, would promote increased inequality in income and wealth. In his 1898 *Studies in Applied Political Economy* Walras recognised that he had not managed a dynamic theory of equilibrium, rather than only a comparison of static equilibria, that this was a major limit to any analysis of production, distribution and exchange, and needed to be overcome. As he put it:

> 'All aspects of social wealth, other than land, are subject to constant movement, of appearance and disappearance. But for my equations of production, as in my *Elements of Pure Political Economy*, I supposed the movement of economic production and consumption stopped for an instant in order to consider the conditions for an equilibrium'. (Walras, 1898, p. 336).

Then adding that:

> 'In working this way I have done what mathematicians do who, to rationalise mechanics elaborate the static *before* the *dynamic*. If there are savants who have found a way to reverse this in economics, one can only wish that they decide, before too long, to include us in their remarkable discovery'.(Walras, ibid, his italics).

But, since him, the savants of neoclassical economics neither have made such a discovery nor can do so as long as they stay trapped by partial and general equilibrium presumptions.

Moreover, Walras was not only a macroeconomist. He not only not only had a theory of the firm and institutions, but warned at length that if financial institutions were not in either public or social ownership they would speculate with people's savings and could cause systemic financial crises. He countered the case for limited liability companies with the case for mutual societies. He allowed that these would not be immune from risk, not least in the case of external events beyond their control, but that costs of this would be shared proportionately between their members (Walras, 1865), which contrasts markedly with whole societies paying for the outcome of the subprime crisis when top bankers escaped unscathed and continued to pay themselves bonuses unrelated to performance.

There also has been displacement that Walras was an advocate of public ownership of land, public infrastructure, and utilities including water, gas, electricity and rail transport (Walras, 1875) in a manner which later would come to be known as a social or mixed economy but which differs entirely from the perfect competition model of

microeconomics. Thus he claimed that private rail transport rather than a single integrated public system would raise user costs since needing to generate profits for shareholders, and therefore be socially suboptimal (Walras, ibid).

Recognising the already evident trend to dominance by big business in his own time, and the risk of private sector cartels, Walras also anticipated Hodgson (2013) on moral communities in the sense of mutual societies with shared values, but explicitly made the case for 'moral monopolies' and 'public economic monopolies' which would be non-profit:

> '[I]n the case of a moral monopoly run by the state for the benefit of the community, the products which are public services can and often must be given away free while, in the case of [public] economic monopolies… it is enough for products to be sold at cost and not at a profit maximising price' (Walras, 1875, p. 85).

Thus while Walras recognised that competitive markets could maximise utility in exchange in the case of private goods and services, they could not be relied on to do the same for public goods, stressing that private and public goods and services could not be treated in the same way:

> 'There is an absolute difference between them. The need for private goods or services is felt by individuals; the need for public goods or services is felt in its entirety by the community or the state" (Walras, ibid. p. 187).

Whereas, of 75 papers in two volumes totalling some 1,270 pages, edited by David Walker (2001) only 3 directly address Walras on social economy rather than his general equilibrium theory. The *New Palgrave Dictionary of Economics*, since 1987, proudly claiming up to 7,680 pages. has devoted only two lines on one page to what are called Walras' 'normative convictions' which then wrongly are claimed to be 'carefully segregated… from his economic theories'. The *International Encyclopaedia of the Social Sciences* (1968, p. 451) merely mentions his *Etudes d'Economie Sociale* once without giving any indication of what it is about.

Recovering Pareto

Mainstream macroeconomists also ritually cite Pareto yet, as ritually, tend to misrepresent him. As with Walras' 'general equilibrium', the mainstream has taken the two words 'Pareto optimality' out of context and consigned most of the rest of Pareto's thought to the library of the great unread. As Warren Samuels, has put it, "Pareto optimality constitutes an infinitesimally small part of Pareto's total social system and neither optimality nor equilibrium figure prominently in his later sociological writing in which he warns of the risk of a false determinism from excessive reliance on axiomatic deductions" (Samuels, 2001, xi).

For example, theorists of efficient markets and of rational expectations have claimed that correlation of past 'strings' of prices could predict future market outcomes. This has neglected Pareto's warning that that to presume that the past could be projected into the future was displacement of risk. He related this to a psychological disposition to wish that the future will replicate the past. Thus, in chapter 1 of his *Les Principes Générales de l'Evolution Sociale* (1916a) he allowed that we tend to equate current utility with what previously was useful to us, which we know from experience. But that projecting this into what we expect the future to be is different for two main reasons. First, no individual actually can foresee the consequences of a present decision. Second, that:

> 'something that risks being bad in the future is not represented with sufficient intensity in consciousness to balance what may be good in the present' (Pareto, ibid, p. 46).

He then commented that this can lead to ungrounded optimism that "ends by resembling that of Dr. Pangloss in Voltaire's *Candide*" (Pareto, ibid.). Voltaire's most famous claim for Pangloss, surveying the ruins of Lisbon after the earthquake of 1755, was his insistence to Candide that he still was convinced that 'all is for the best in the best of all possible worlds'. Which is comparable to theories of rational expectations and efficient markets still gaining prominence since the financial crisis of 2008, such as in the 2013 Economics Nobel for Eugene Fama, despite their having enabled it.

Pareto would not have referred to Pangloss without knowing that the reiteration of this phrase throughout *Candide* was Voltaire's parody of the same claim in Leibniz whose linear calculus could not readily 'integrate' catastrophic outcomes from 'fractal' events such as shifts in tectonic plates and earthquakes. Further, while Pareto reasoned in terms of derivatives as in calculus, and used it, he stressed that such derivatives are not facts but a 'conceptual scheme of the mind' (Pareto, 1916a].

He also extended the concept of derivatives beyond calculus to what may be derived from commonality in what people say and the beliefs that they hold, i.e. precisely the 'narratives' that Samuelson disdained, which is the method that since has become known as discourse analysis in grounded theory (Charmaz, 1990, 1994; Shah & Corley, 2006) and consistent with Hayek's claim that finding that different people: "perceive different things in a similar manner… must be regarded as a significant datum of experience which must be the starting point in any discussion of human behaviour" (Hayek, 1942, p. 37).

Besides which, when Pareto moved from neoclassical economics into sociology and political theory, which constituted the bulk of his life's work (Pareto 1916a,b) near to none of the mainstream followed him. But apart from translation of this into English being delayed (Pareto, 1935), there are other reasons why it might not choose to do so since, in it, he challenged some of its most cherished presumptions.

Such as his affirming that social phenomena are not 'caused' by any single factor - which is consistent with Hume's warning not to mistake correlation with cause (Hume, 1748) - and implies that much of the regression analysis considered *de rigeur* in both economics and econometrics after WW2 may not be rigorous. Second that, regardless of constitutional forms, a minority elite in every society governs the majority non-elite and tends to exclude entry to, or otherwise deny promotion within it, which has been typical of mainstream economics faculties. Third, that much to most social behaviour is not necessarily rational or logical rather than 'logicalised' which is consistent again with Hume (ibid) that we do not come to beliefs by reason, even though we may seek to rationalise them, and thereby questions whether formal logic can adequately represent economic or other social behaviour.

Further, Pareto criticised parliamentary democracy in Italy before WW1 as less democratic rather than an oligarchic 'plutodemocracy' which, had it been recognised by mainstream economists thereafter, might have prepared them for how trickle-down claims in the US were to be countered by the rushing-up of wealth to the top one per cent. With warnings also that abuse of democracy by plutocrats could risk its survival which, combined with failure of the governing elite to recover Italy after WW1 was a factor in its overthrow by Mussolini (Mack Smith, 1997) and has resonance now in a rise of populist politics and increasing disillusion with a European Union that, since the financial crisis, has safeguarded banks and shareholders rather than the wellbeing and employment of many electorates.

5. Regaining Accountability

The Case for a Meso Accounting Framework

Yet there also are outstanding issues of accounting and accountability in terms of 'too big to fail' which merit recovery of the meso concept. Thus, while the theoreticians of rational expectations had premised their models on perfect information, when the credit crunch came in August 2007, no one knew how much money had been lost or was at risk for whom or where. The dilemma was how to address an information deficit (Tett, 2007), not least since the Fed had not been concerned to track what major banks, hedge funds or an insurer such as AIG were doing.

Traders in financial markets referred at the time of the credit crunch to a ‘correlation crisis’ between credit and risk despite the Nobel awards to Lucas, Merton and Scholes having been based on claims to be able correlate them with precision (Scholtes, Mackenzie & Ishmael, 2007). It then took four years, until 2011, for the still precarious European Banking Authority to be able to publish ‘stress tests’ on 91 banks after which 9 that passed them promptly failed and on which it then committed itself to try again to determine which banks actually were solvent or insolvent (Finch, Martinuzzi, & Penty, 2011).

Two decades before the financial crisis and 'too big to fail', it had been proposed that there should be a meso dimension to national and international accounts tracing the multinational reach of banks and big business as well as that this could be informed by a meso dimension to input-output (Holland, 1987a, chapter 9.4). The project was supported by Jacques Delors when he was President of the European Commission, by Yves Franchet, the then head of Eurostat, and also gained the interest of Leontief since it could add a new dimension to input-output analysis, i.e. tracing most of activity through only some rather than all banks or enterprise (Holland, 2015).

There also was, and still is, an institutional basis for doing this in terms of the remit of the Competition Directorate General of the EU Commission which, since the provisions of articles 85 and 86 of the Rome Treaty, has had extensive powers to require information from any enterprise that could, *prima facie*, be assumed to be abusing a 'dominant position' in a market. While meso accounting also could achieve transparency on tax avoidance by big business - and its micro subsidiaries - in that its scale and the multinational range of its value chains enables it to transfer price in a manner not open to smaller national firms.

The proposal lost momentum after Delors retired from the Commission. However, without using the concept, in seeking to implement the EU proposal for a banking union, the ECB is endorsing the meso principle in that it is not seeking to gain detailed information from some 6.000 financial institutions in Europe, but from the 130 of them that dominate macro financial outcomes (Holland, 2015).

Meso-Macro and the Environment

One of the major challenges that outstrips even another financial crisis is existential in the prospect that asymmetric climate change may be irreversible within as little as thirty to forty years, that environmental protection through new technologies alone will not deliver a technological fix and that what it needed is to 'take out' carbon both from current emissions and those accumulated from the past. Among many of the environmentalists who have voiced such warnings Tim Jackson not only has been among the most vocal but also has factored the need for this into a Keynesian macroeconomic model (Jackson, 2009, chapter 7 Keynesianism and the 'Green New Deal' and Appendix 2 'Towards an Ecological Macroeconomics'). In which he has recognised both the case for input-output analysis and the need to map the carbon emissions and resource implications of different levels and compositions of aggregate demand.

Yet, to be effective, and operational in terms of alternatives, such input-output needs to be both inter and intra sectoral, identifying the meso actors and their macro impact. But which in terms of basic information already is feasible. Thus the outset of this paper drew on a report from the Carbon Disclosure Project (CDP, 2017) which showed that 100 corporations have been sourcing over 70% and 25 over 50% of global carbon emissions.

One of the most interesting implications of this comes from Richard Heede (2014) who, as with the CDP report, has deemed such corporations as 'carbon majors' rather than 'meso'. But his case, and findings, coincide precisely with what we are forwarding as mesoeconomic analysis. As he rightly suggests, focusing attention on a 'manageable number of entities' rather than only on countries also has practical policy applications. The United Nations Framework Convention on Climate Change focuses on responsibility at the country level. But major emitters or carbon are not all located in the well-known oil producing state such as Saudi Arabia, Iran, Venezuela, Algeria or Russia. Thirty-one are state-owned companies such as Saudi Aramco and Statoil, and nine are government-run industries in countries such as China, Poland, and the Russia. But fifty are investor-owned companies such as ExxonMobil, Chevron, Shell, and BP.

Whether some member states can meet the challenge of reducing such emissions, with sufficient leverage on the key corporations, including some of their own, clearly is open to question. Yet the pressures to do so are rising. This is not only because of possible shifts in the Gulf Stream which might affect northern Europe, and also further desertification in African Sahel, contributing to refugee flows that already are confounding joint policies on their reception - or exclusion - in the EU. But also already evident drought in some of the oil producing Middle Eastern states and lack of rainfall in others such as South Africa in 2017 to which the government had no remedial strategy other than to hope for rain.

While things are due to get worse. As the biologists Daniel Brooks and Eric Holberg have submitted with extensive evidence in a volume to be published in January 2019 by the University of Chicago Press, climate change is likely to unleash diseases to which there as yet are no known antidotes. And to affect crop production not only in drought areas such as the Sahel, but also in temperate zones such as those of the US, Europe and Russia. Such as already known fungicides affecting wheat, of which Russia currently is the world's largest producer, and to which, despite intense research, there as yet are no known antidotes.

Whose political impact cannot at this stage be foreseen. In the case of the US, if still under the presidency of Donald Trump, it may outcome in yet further denial. Although states within the US, such as California and others, already have committed themselves to pursue low or zero emission agendas. Elsewhere it may imply displacement rather than denial on the grounds that smaller or weaker states can do little on their own. Yet which they could do together if there is a clearer agenda set by those that can, and jointly involve them.

Meso Institutions, the Environment and Finance

One of the cases that Tim Jackson makes is for Green Bonds to fund major carbon reduction programmes. Yet he recognises that if these were to be national they would be unlikely to be able to address the scale of the challenge. Which is realistic where bond

finance counts on national debt - which is limited in principle for EU member states by the Maastricht debt and deficit conditions - and, in practice, in many other countries, constrained by competing claims on national borrowing.

Whereas US Treasury bonds do not count on the debt of the member states of the American Union such as California or Delaware, and one of the central cases made by Varoufakis and Holland (2010, 2011, 2012), as well as by the employers', trades unions' and civil society representatives on the Economic and Social Committee of the EU, is that bonds issued by the European Investment Bank Group, including the European Investment Funds, do not do so. While, since the Essen European Council of 1997, the EIB has had a specific remit to fund both investments protecting and enhancing the environment and urban regeneration which helped it thereafter until the financial crisis to quadruple it investment finance.

Meso-Cities and Green Demand

There also is another meso institutional dimension to the environment which, again, is not national - cities. And which has implications for generating green production which does not depend on macro demand management

In the spring of 1998, as part of the British presidency of the European Council, and advised by one of us, the Deputy Prime Minister of the incoming Labour Government, John Prescott, launched an *Alternative Traffic in Towns - Alter* - project which managed within months to gain the commitment and over 130 European cities including London, Paris, Berlin, Rome, Lisbon and Athens to introduce LEZ low emission zones, with interest also from New York and Moscow. On the rationale that if they did so this would give a message to the major vehicle producers that there would be a macro demand shift to 'green'. Which, already, a company such as Volvo, part of the original project, has recognised by producing only low or zero emission vehicles.

Initially the project stalled. In part because the EU Commission, in a classic case of the inertial institutional logic illustrated earlier for banks, claimed that it could not fund more than three cities in an environmental safeguard project. While the EIB had not yet got its act together to bond finance environmental protection or its parallel 1997 remit to fund urban regeneration and without such finance counting on national debt.

But by now there are more than 200 active or planned LEZs in Europe, even if their impact varies depending on the design and size of the zone and also its enforcement (BUND 2015; Obrecht, Rosi & Potric 2017). Also, and encouragingly, there is increasing concern to introduce such zones in China (WRI, 2016).

While low emission zones reinforce the meso concept in terms of both institutions and corporations. For example, a city such as São Paulo has a population in its greater urban area equivalent to that of Benelux. In its strategic master plan (São Paulo, 2014) its

government is admirably concerned with both social development and enhancing its metropolitan environment.

Yet its measures are mainly remedial such as solutions for contaminated land and Interventions to improve environmental and landscape conditions. It also recommends more use of public transport. If it were progressively to introduce and then widen a central area low emission zone, it would not be in the interest of any auto major to seek to sell any vehicles in Brazil that were not low emission. While it could initiate this without waiting for the federal government to introduce legislation.

6. Why So Wrong?

Missing Links

As already indicated in the cases of misrepresentation of Walras and Pareto a central error in the economics mainstream has been its neglect of the history of economic thought. Which ranges further back, including ritual reference to 'an invisible hand' rather than reading Adam Smith. For Smith, rightly renowned as a pioneering advocate of free trade, only once used the metaphor of an invisible hand in his Wealth of Nations in a parenthesis within a paragraph of a chapter on Restraints on Importation of Goods, in which he recognised the right of a nation to protect itself in the event that foreign trade was destroying its manufactures (Smith Bk IV, chapter II.).

It also has been well recognised in philosophy, rather than economics, that Hume influenced Adam Smith in terms of his 'mitigated scepticism'. Such as his recommending a sequence of questioning to determine cognitive content. Begin with a term and ask what concept is connected to it. If there are no evident grounds for one, then recognise that it may have no basis, however prominently it figures in someone else's belief system. If there are connected concepts break them down into their constituent parts and, especially, search for the assumptions that may underlie them (Hume, 1748).

Such 'mitigated scepticism' anticipated what has become one of the main principles of organisational psychology in the case for 'reflective practice' and 'reflection-on-practice' (Argyris & Schön, 1974, 1978, 1996), by contrast with near to none in the economics mainstream.

Hume also castigated a "passion for hypotheses and systems and found that they were a common source of illusion and error" (Hume, 1751, pp. 173, 175). Drawing on this, Smith observed that those disposed to systems thinking "attempt, to no purpose, to direct, by precise rules, what it belongs to feelings and sentiments only to judge of". He denounced their "frivolous accuracy", claiming that this almost necessarily betrayed them into "dangerous errors" (Smith, 1759, pp. 499-450).

We already have submitted that Ricardo's claim that comparative advantage would increase welfare in trade while denying capital movements between countries was a

dangerous error in the sense that its widespread acceptance, without recognition that foreign direct investment could displace exports, did not prepare the West for major de-industrialisation. But such errors, warned against by both Hume and Smith, have been typical of a mainstream economics presuming itself to be scientific. Such as:

- the construction of theory a priori rather than deriving it from experience;
- consequent circular reasoning which may be erroneous or metaphysical;
- the claim that that knowledge can be objective, value free and uninfluenced by habitual thinking, feelings or beliefs;
- the presumption that cognition and inference are neutral, rather than influenced by personal or professional dispositions;
- assuming that conclusions drawn from premise dependent reasoning can be generalised to explain human behaviour without regard for understanding meanings in context, which later was to be criticised with major influence on the emergence of post modernisms by Wittgenstein (1953, 1958, 1980, 1982).
- presuming that correlation demonstrates cause and effect, and therefore proof, when what it correlates may only be coincidence.

Splitting and Projective Identification

We already have submitted that one of the main reasons for the misdirection of several Keynesian postwar micro-macro syntheses was Samuelson's stripping the psychology from Keynes. But understanding what went wrong in term of both theory and policies in the postwar mainstream merits deepening in terms not only of displacement and denial, which has been a theme throughout this paper, and common in psychology, but also of splitting and projective identification, stressed by Melanie Klein (Klein 1932, 1952, 1961).

Klein developed these concepts from her studies in child psychology. But Dinnerstein (1978) has extended Kleinian splitting in terms of splits between private and public and where private is deemed good and public bad, such was persistently asserted, with little to no foundation, by Milton Friedman. Both Schneider (1975) and Richards (1989) have related displacement and projective identification to behaviour on markets, of which an example is rating agencies displacing that subprime and other financial derivatives could be toxic and projecting them as safe as government bonds.

In rational expectations theory there was a projection of an ‘idealised rationality' in terms of assuming that decision-makers had perfect information. Yet then also was a collective splitting from and denial of the failure of Long Term Capital Management in 1998. The splicing of income streams from mortgages which were prime because serviced by borrowers who had regular incomes was projected as securing those which were subprime, while displacing that these might be toxic for both. The splitting also had

another dimension. It split lenders from needing to know borrowers since the commissions on selling the derivatives were paid 'up front' and then sold on to others, such as European banks, on the wrong assumption that efficient market and rational expectations theories had eliminated risk.

The Matter of the Mind

When Pareto's later work finally was translated into English, with good reason, it was translated as *The Mind and Society* and we suggest that another reason arguably explaining why so much has gone wrong with the mainstream can be the hold of left hemispheric thinking in the matter of the mind itself. It has been known since the 1840s that the left hemisphere of the brain is the area of conceptualisation, conscious calculation, and language and that the right is the area of sensing, feeling and intuition. But more recent advances in neuro-imaging indicate that they not only play different roles but also different values.

For example, inhibition, displacement and denial as in Kleinian psychology, are left hemispheric attributes. Cooperation and trust are right hemispheric, as are empathy and social understanding. Picturing the world in a manner suiting one's own values - or what is valued by one's peer group or profession - are left hemispheric. Intuition that something is not making sense, such as the intuition that congressional committee vice-chair Bill Thomas claimed that Chuck Prince should have shown before the subprime crisis, is right hemispheric. The left hemisphere narrows, reduces and conflates complex meanings to what it can more easily manage. As with Samuelson displacing capital mobility and the mainstream thereafter wrongly conflating him with Heckscher and Ohlin, or with Solow not only wrongly conflating Harrod and Domar and stripping psychology from post Keynesian economic dynamics but also reducing markets to an utterly unrealistic two good model.

These economic examples are ours rather than those of neurologists such as such as Cutting (1994), Panksepp (2003) and McGilchrist (2009) from whom we have drawn the left and right hemispheric distinctions. But one of the most striking is their finding that while the right-hemisphere can think intuitively, elliptically and by analogy, the left-hemisphere actually prefers linear, premise dependent - and comparative static - thinking of the kind that Walras lamented he could not resolve.

Mind Sets and Defence Mechanisms

Freud stressed irrationality and Keynes was impressed by Freud's claim that obsession with holding gold was an example of anal retention and compared this with what he otherwise deemed an irrational obsession with the gold standard. But otherwise judged that Freud probably invented most of what he claimed to have found in his clinical work, for which there have been parallel supporting evidence (Webster, 1995).

The influential US cognitive psychologist Seymour Epstein also has alleged that the Freudian conscious is maladaptive and makes little sense from an evolutionary perspective, submitting instead that:

> 'Everyone develops an implicit theory of reality that contains sub-divisions of a self-theory, a world theory, and propositions connecting the two. A personal theory of reality is a hierarchically organized set of schemas and networks of schemas' (Epstein, 1990 p. 165).

Epstein's use of schema echoes the same in the earlier cognitive and social psychology of Frederick Bartlett (1932, 1995) in that how we frame what we assume to be realities without being conscious of how we do so. But, like Dinnerstein, Epstein also allows for differences in how the mind is disposed to conceptualise the world as benign or malevolent and needing to displace threats by seeking to make it meaningful and predictable (Epstein, ibid).

Epstein and Rosemary Pacini also have submitted that:

> 'People have beliefs in both the rational and experiential systems about themselves, the world, and the connections between them, which constitute their implicit and explicit theories of reality' (Epstein & Pacini, 1999, p. 464).

This is consistent with other cognitive and social psychology such as Plaks, Levy and Dweck's (2009) claim that people - and groups - construct worlds for themselves with each world being entirely logical and internally consistent within the framework of either explicit or implicit theory regardless of whether this bears a meaningful relation to realities. As also with Bourdieu's concepts of personal, practical and normative logics which, at varying levels of consciousness, influence what we want, how we try to do it and social and institutional norms that we may assume are not open to challenge (Bourdieu, 1977, 1984, 1990). Grawe (2007), drawing on Epstein, and his own neural research, finds that the human mind strives to avoid inconsistency, is risk averse and develops various defence mechanisms to avoid dissonant states and to restore a more familiar, albeit often unreal, sense of harmony.

Institutional Barriers

Bourdieu also is directly relevant to barriers blocking new thinking in economics. In his *Homo Academicus* (1984), he elaborates how entrenched academic hierarchies block either entry to those whose views either do not coincide with or disagree with their own, thereby paralleling the later Pareto on how elites tend to exclude non-elites. In institutional terms, also, Ferguson and Johnson (2018) have highlit that a problem for a more realistic economics is from 'risk-averse' editors in leading, mainly US, economic journals who "can drive up their impact factors by snapping up guaranteed blockbusters produced by brand names and articles that embellish conventional themes" (Ferguson &

Johnson, p. 4). While also, although neoclassical economics has premised free entry to markets, this has proved less so in the market for new ideas in economics. As Krugman (2008) recounts, his earlier efforts to get published were rejected by established journals such as *The Quarterly Journal of Economics.*

Moreover, even if new or controversial ideas are reviewed in such journals, they may make no impact on the mainstream. A concern to distinguish meso from micro economics, and stress the macroeconomic dominance of meso firms, was elaborated in some depth in two volumes some three decades ago (Holland 1987a, b). In each case, when there were mainstream reviews, they were favourable, including in *The Economic Journal* (Singer, 1989) and a double column two-and-a-half-page lead review in the *Journal of Economic Literature* which claimed that: "In scope, comprehensiveness, accessibility and insight, these books have no equal. Economists, especially teachers of economics, are in his debt" (Elliott, 1990, p. 67).

Yet which was not to be the case. On which one comment was that they were too early at a time when many economists, including some who deemed themselves Keynesians, were being seduced by rational expectations and efficient markets and stayed wedded to standard micro-macro syntheses. There had as yet been no financial crisis, nor the austerity imposed in the Eurozone on pre-Keynesian assumptions of the need for balanced budgets, nor as yet an increasing concern that a neoliberal paradigm of globalisation was not bringing the mutual gains from comparative advantage which hitherto had been assumed to be axiomatic. Nor the recent protests from many students of economics that there should be alternative more realistic approaches.

Philosophy, Mathematics and Language

Besides which, also, there was a lack of philosophy for many of those coming straight to economics from mathematics. Such as in the mistaken claim of Samuelson (1942) that language and mathematics are identical, and replicating this in his influential 1947. *Foundations of Economic Analysis*.

Which recently has been echoed by Romer (2016) in claiming that mathematics "cannot establish the truth value of a fact. Never has. Never will". Also that "The trouble is not so much that macroeconomists say things that are inconsistent with the facts. The real trouble is that other economists do not care that the macroeconomists do not care about the facts. An indifferent tolerance of obvious error is even more corrosive to science than committed advocacy of error" (Romer, ibid, 12, 22).

Krugman (2008) has observed that mainstream economics creates blind spots by ignoring what it cannot formalise, that economic models are metaphors, not truths, and that much of its failure to reflect what is happening in the world stems not from lack of sophisticated answers, but from asking the wrong questions, which was a central claim of the later Wittgenstein (1953). Krugman also has recognised that these are games that aspirant

economists need to play if they are to be accepted by the mainstream, also thereby echoing Wittgenstein on language games, and the degree to which we may tacitly or otherwise become trapped by them. Like Romer, Krugman (2008) also has admitted that these have about as much relation to the real world as do creation myths.

There also have been problems not only in the sense of being trapped by language games, such as 'abstracting from technical progress' or 'assuming constant returns to scale', meaning none. But also in in the sense of whether or not economists familiar with one or more languages can read others. Thus Walras' admission of the limits of his own general equilibrium analysis for decades remained available only in French. Pareto's 1916 challenges to economics as a 'science' were not published in English until 1935.

Swedish economists such as Wicksell, Myrdal and Ohlin, anticipated Keynes. But, with a rare exception by Ohlin in English, which Keynes to his credit accepted for *The Economic Journal,* (Ohlin, 1937), they published either in Swedish or German, and without the initial renown in Germany of Keynes as the author of *The Economic Consequences of the Peace.* Kalecki was disadvantaged both because his main claims initially were published in Polish, and that he had dressed - if not over-dressed - them with extensive algebra.

Perroux was published in Spanish, Italian, German, Portuguese, Polish, Hungarian, Rumanian and Japanese, and was nominated several times for a Nobel. But less than 3% of his work was published in English (Sandretto, 2009). While Blaug (1964) and Higgins (1988) were exceptions in seeking to evaluate the main corpus of his work at all, other than Myrdal (2001) in a very late posthumous paper.

7. What Can Be Done

It could be presumptive to suggest that Kant was wrong in claiming that intuition without a concept is blind, even though more recent findings from neural research have suggested that it is the outcome of preconscious referential and analogical processes that have their own rationality (Edelman, 1987, 1992). But, in line with Elsner and others as cited at the outset of this paper, we suggest that a concept such as meso can interrelate and reinforce what otherwise is diversity in several evolutionary, institutional and heterodox approaches. While also not only including contributions within such a perspective from economists, historians of economic thought and economic historians. But also from political scientists, sociologists, organisational psychologists, management specialists, international relations specialists and environmentalists.

We therefore invite responses to and suggestions for meso research themes such as those below while recognising, and welcoming, that there may well be others.

- Meso in a Post Keynesian Context

Analysing meso-macro dynamics by moving beyond earlier post Keynesian concerns to try to reconcile Chamberlin style monopolistic competition with macroeconomic equilibrium.

The degree to which Keynes' marginal efficiency of capital and Harrod's warranted growth, as well as capital stock adjustment principles, no longer are national rather than global for meso corporations.

How this may differ between different economies and regions of the world economy, extending therefore Ohlin's distinction between nations and global regions, and with differing policy implications.

- Meso in a Post Marxian and Post Kaleckian Context

Including relating 'too big to fail' to crisis theory in terms of declining rates of profit in traditional sectors in advanced economies and both the pressures and incentives for speculative finance with deregulation.

Confirming Marx on the now global role of a reserve army of labour as a lever of capital accumulation but qualifying assumptions of declining rates of profit for meso firms with multinational reach and price-making power.

Critiquing the commodification of labour and also of social services in advanced economies as capital seeks to privatise social institutions in health and education.

- Monetary Policy

In terms of qualifying IS/LM theory, to what extent are meso corporations influenced - or not influenced - in their investment decisions by interest rates?

- Fiscal Policy

Sample estimation of the fiscal loss for different countries from transfer pricing by meso corporations.

- Exchange Rate Policy

Assessing the degree to which multinational corporations follow through the devaluation or depreciation of a currency with lower prices or do not do so due to an 'own competitor effect'.

- Foreign Direct Investment

Evaluation of export substitution effects from multinational FDI as submitted by Ohlin but neglected in mainstream comparative advantage theory.

Assessment of import promotion effects from multinational FDI (importing back to the country of FDI outflow from lower cost global locations).

- ***Public and Social Sector Multipliers***

Evaluating public and sector matrix, employment and income multipliers. In the sense that construction of a hospital or high speed rail link with public funds generates private sector

contracts, jobs and income, including fiscal multipliers from both direct and indirect taxes revenues.

. ***Distinguishing National and Local from Global Multipliers***

To assess the degree to which most meso-micro multipliers may be national and local rather than global in terms of investment and expenditures on health, education and local services.

Such as that these cannot be relocated elsewhere in the international economy and the degree to which neither national nor local governments should be intimidated by unfounded claims that they have to reduce social investments and expenditures to be globally competitive.

- ***Meso Institutions and Finance***

Econometric evaluation of the crowding-in effects of bond-issuing public financial institutions both in the EU such as the EIB and the EIF, and in individual European countries, such as with the KfW in Germany, the Caisse des Depôts et Consignations in France and the Cassa Depositi e Prestiti in Italy, as well as of the BNDES in Brazil.

- Accounting and Accountability

Evaluation of the decision of the European Central Bank to directly assess only 130 - meso - banks rather than the 6000 financial institutions in the EU.

Assessment whether it would be more feasible to introduce a Tobin style Financial Transaction Tax for meso rather than for all international financial transactions.

- Meso and Input-Output

Prototyping a meso dimension to input-output analysis including meso-micro matrix multipliers to inform accountability of meso corporations and their global value chains.

- Meso Corporations and the Environment

Enhancing the work and findings of the Carbon Majors Report in the 2017 Carbon Disclosure Project by deploying input-output to trace the carbon footprints of meso corporations to inform policies on environmental protection and, especially, carbon reduction.

- Meso Financial Institutions and the Environment

To assess the scale on which meso financial institutions such as the EIB Group and Brazil's BNDES could meet the macro challenge posed by Jackson by bond finance not only for environmental protection but also to 'take out' carbon.

- Meso Cities and the Environment

Evaluating how cities such as London and Berlin are reducing carbon emissions by their introduction or low emission zones and the degree to which a major urban area such as São Paulo could do so with demand generation for zero emission vehicles.

- Economic Forecasting

Evaluating how a meso dimension to input-output could usefully inform economic forecasting including Harrod's 'warranted' growth rate in terms of the anticipation of meso corporations and financial institutions over the medium term of demand in different regions of the global economy.

- Meso Institutions and Global Governance

Assessing a meso institutional approach for more effective global economic governance, such as a permanent secretariat for the G20 rather than only UN General Assembly resolutions that lack institutional leverage.

Considering the potential for a G20 based World Development Organization or Economy and Environment Security Council with a proactive agenda rather than the mainly reactive agenda of the less representative UN Security Council.

Allowing that this might need to be a G20 minus 1 in the event that a US administration would not support such initiatives, yet recognising that a G19 nonetheless would include most of the world economy and that its decisions, not least on the environment, could register significant outcomes.

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