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Alarm. The evolutionary jump of global political economy needed

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Introduction

Several major crises are shaking the global political economy. Each had its peak of public awareness in a certain year – finance (2008), migration (2015), climate (2019), corona virus (2020) – but all of them did spread, and will spread over a long period of time. Each will leave its distinctive mark on the working of the global political economy, on the way in which the human species as a whole lives. The fact that these critical global challenges are not only appearing in an accelerating speed but also are meeting at ever more helpless global political agents is alarming. This paper sets out to propose not only the need for an evolutionary jump of the global organization of the species – the unspecified outcry for change is already common sense – but also spells out what major elements have to change in which way.

As every useful concept, "change" needs two components. First, its starting point, its location in history, has to be determined; second, its direction, into which future it shall guide us, has to be formulated.[1] These two elements are complementary since the apparent contradictions of the current position influence the future direction of change as well as a vision of a future position determined by a certain direction influences what is perceived as a current contradiction.

A critical process is a compression of contradictory behaviours that is too fast to be controlled by an externally acting entity representing the welfare of the human species. Of course, this "welfare" is itself a problematic concept. For that reason, the first part of the paper deals with the vision of a desirable future human society, i.e. with the direction in which change should lead. This imagined secular paradise has to be as concrete as possible, since the speed-up of time does not allow for painting a lean-back version of utopia in the style of Thomas Morus 500 years ago (More, 1516). After having described the immediate hallmarks of what the species should aim at, it is straightforward to derive the corresponding pathways for a global revolution, which either brings mankind closer to a feasible secular paradise – or fails, letting the species disappear as just another evolutionary episode. Global revolution therefore is the topic of the second part of this paper.

1 A feasible vision

For human societies, contrary to other species, the direction of their development is always co-determined by the way that their members produce a *shared* interpretation of their environment in order to achieve a common goal[2]. How to find a commonly shared view of our global society has become increasingly difficult in the decades since 1945. *One reason*

[1] Note that change is a vector. Or better, it is an oscillating vector field carried by all individuals of the human species.
[2] It is the use of human language (also used for thought processes), which allows seeing a sharper borderline towards the non-human animal kingdom, compare (Chomsky, 1968).

certainly is the development of the global production system itself, which rapidly became so sophisticated and interwoven that even the most powerful global actors only can see a very small part of it. In most respects economic dynamics – those depending on different, semi-institutionalised market mechanisms – became intertwined with political dynamics – those where profit was to be made by simple exertion of power, or the threat to use it. The concept of political economy currently experiences a roaring revival. A *second reason* for our age of alienation is the surprisingly fast evolution of our global communication infrastructure. The possibilities to communicate whatever an entity is able to express have vastly surmounted the capacities of entities to understand the content of messages. Indeed, messages became disentangled from content and message exchange has replaced understanding[3]. Social careers follow successful message exchange, even so-called "losers" cement their position by appropriate messages. The emerging global noise has led to a chaotic confusion of singular opinions[4], streamlined only by media-imperia controlled and controlling current local political tsars.

Each crisis strikes because the limits of a dynamic process of political economy are not understood and thus could surprise the human species[5]. Local agents still follow their uninformed, message-driven activities; short-run incentives dominate whatever the missing long-run perspective would demand. While humanity in many respects already is one living material body, there is no co-ordinating brain.

In what follows five different important topics for a vision of our possible future are discussed: (1) world government, (2) democracy, (3) diversity, (4) alienation, (5) global brain. The sequence is not arbitrary but follows a red thread, as should become visible.

1.1 Democratic world government

If the analysis so far is correct, then the consequence is to develop a global brain and to equip it with enough capacity to understand dangerous dynamics and to execute interventions. In other words, we quickly need a **world government**, a ***democratic*** world government.

If this exists, it can cope with a global crisis in a new way:

In the case of a *pandemic* it can coordinate the isolation of the viral herds and arrange the support needed by health system in different parts of the world. How important this last point is has become evident when the corona virus spread to the poor South.

In the case of the *climate crisis* pivotal economic policy interventions will not have to remain in the hands of local national leaders, which usually weigh their short-run national popularity against the long-run goals of global welfare. Moreover ideological institutions, be it media or be it religious institutions, often are under the control of local national governments giving their decisions another local power-structure-stabilizing twist.

[3] Marshall McLuhan has been the prophet of this development: "The medium is the message" (McLuhan, 1967).
[4] Compare (Hanappi and Egger, 1993).
[5] Even the spread of a pandemic in the end is only possible because of the dense trade interactions in our global political economy.

In all three of the just mentioned crises it is challenging but imaginable to reconcile controversial opinions about concrete measures to be carried out by a world government. With respect to a new *global financial crisis* this will be a far more complicated case; this crisis will *go to the core of the current mode of production*, to the heart of capitalism. Why? Finance is about the use of surplus of more or less global production processes, which are expressed in a generally accepted sign system of social value, i.e. in terms of world money. In a traditional view surplus is always needed due to changing seasons, seasons of the year or other types of seasons of fate with a less foreseeable frequency. Capitalism is a mode of production which links the existence of a surplus to the existence of property, to ownership of the means of production: The owner of the means of production not only keeps the ownership of them but also owns the surplus. Moreover, – and this is the defining characteristic of capitalism – the owner of the surplus might use part of this surplus, as entrepreneur, to increase labour productivity. This explains why capitalism was extremely beneficial for the human species: The increase in labour productivity and the introduction of new products and services, of new utility dimensions, for several hundred years was brought about by capitalist entrepreneurial activity. It was the specific use of the surplus, namely innovation, which justified even the downsides of capitalism. These downsides of capitalism – pauperisation of classes, environmental catastrophes, and the like - consist of several dynamics, which now all reinforce each other in a way that will kill the capitalist mode of production.[6] This implies that a world government will have to govern a society in which the decisions on the use of surplus, physically existing surplus as well as its representation in social value signs, are to be taken in a non-capitalist manner. Instead of private profit maximization of property owners the principle of global welfare maximization will be the guideline. This leads directly to the second item on the wish list of the vision: *democratic mechanisms*.

1.2. Democracy

Democracy remains an underspecified concept if it is not explicitly stated what types of decision mechanisms for what types of decisions are prescribed. For a group of human individuals with almost equal problem solving capacity (be it physical strength, be it intellectual ability) facing a problem that concerns all of them to a similar extent, the mechanism of taking a majority vote seems to be a good choice. Once the decision is taken no voter can complain to have been heard less than any other voter. At least as long as all voters know and agree on the just mentioned preconditions. But the real strength of the majority-vote-mechanism is not to pre-empt complaints; as early parliaments in ancient Greece and in classic Great Britain show, it was the debate before the majority vote was taken, which enhanced the quality of the decision. This emerging “knowledge of the crowd” often turned out to be more convincing than each single opinion of each voter.[7] It goes without saying that the conditions necessary to consider a simple majority mechanism as most preferable restrict its applicability severely. It indeed implies that mainly small homogeneous groups, each voter similarly concerned by the decision, can resort to a simple majority-vote-mechanism. For large entities in political economy, e.g. for nation states, there are too many and too complicated interwoven decisions of non-homogenous people to be supported by a single overarching decision mechanism. Therefore, in the course of history

[6] The positive impact, the increase of labour productivity, is vanishing, and this will also lead to a fundamental change of the meaning of innovation. It will not disappear, but it will be a different concept, compare (Hanappi, 2010).

[7] In the European Union the unanimity mechanism took this advantage to the extreme by forcing the debate to be prolonged until everybody agrees. This quickly showed its downside: very slow reactions on urgently needed decisions.

since Rome, democracy was on the retreat: Feudalism was based on the development of rigid hierarchies organizing the exertion of direct power. Membership in the upper nodes of this hierarchy had to be linked to a non-political property, namely family bonds. From that point onwards, the concept of democracy survived as an underground concept demanding feedback loops from the wider population of a state to the governing feudal ruling class. The essence of the call for democracy that the population formulated became the wish for feedback algorithms. The existing feudal ruling class should be replaced by a temporarily governing group of elected politicians representing all parts of the population. The mechanics of how the population chooses its representatives as well as the means with which these representatives rule constitute a concrete set of measures, a specific form of democracy. The 20th century's experience with Fascism and Stalinism showed that specific sets of feedback mechanisms can easily fail. In particular, "national socialism" or "socialism in one country" – not to be summarized under the name of totalitarianism, they are very different historical phenomena - are examples of turning a seemingly preferable national feedback system into a hierarchical command system. What a large part of a local population first perceives as the prospect of welfare improvement – often promised by a strong authoritarian leader – might tip over towards an elimination of all feedback controls[8]. The fundamental question is how to link local (e.g. national) perception and internally experienced incentive structure with the long-run goals of a global human society.

Returning to the vision of a *democratic* handling of a global production surplus, of a generally accepted global financial system, it is evident that each described decision mechanism will have to *depend on the concrete decision on the table*. There is no single "democratic" mechanism, one algorithm, which fits for all. Moreover, the interdependence of decision-based production actions - in space and time – implies a sophisticated staggering of early enough action-taking followed immediately by feedbacks of possible corrections[9]. There clearly exists already a considerable part of such a decision framework for surplus allocation, though it often is hidden under some distorting principles of profit maximization. In capitalism surplus in the form of investment only is directed to activities where a product (or service) can be sold with a sufficient mark-up price, which in turn depends on sufficient effective demand, i.e. customers with money (eventually borrowed money). The mark-up can be increased either by reducing cost, in particular wage cost, or by raising prices. But low wages imply lower effective demand, so an important way out was to divide global demand into two parts. One part for effective demand, mainly living in OECD countries, which provided money via systematic government debt,[10] and a second part living in the global South held at minimum wage levels needed for subsistence consumption. Globalisation in the production sphere meant to link these two segments by so-called global value chains. Globalisation of production thus has been a transformation of the exploitation process addressed by classical political economy in the 19th century: After World War II the two new additional central components of exploitation were a global financial centre, i.e. international finance, and a global exchange rate system which enabled *exchange rate exploitation*. The material mirror images of this new arrangement of surplus management are the global value chains. They are governed by a conglomerate of firm headquarters and financial headquarters in the rich

[8] Contemporary examples abound; from Orban via Erdogan to Bolsonaro, and so on.
[9] In a sense riding a bicycle is a nice metaphor. It needs moving the pedals but it also needs permanent correction of the balance.
[10] It is revealing to see how practically *all* countries have a considerable government deficit. Who are the creditors? To a considerable part they are just pension funds or other financial constructs, which are place-holders for officially supported illusions of promised social value; compare (Hanappi, 2007).

North (mainly in the USA) and a staggered hierarchy of subordinated firms[11] reaching out to the poor South.[12]

This setting, of course, escapes any kind of feedback control; it acts outside any democratic mechanism, since it can jump between national legislatures. Looking for highest expected profit rates is as free flowing as it can be. Nevertheless, the severe recent crises show that it evidently disregards some major elements of global political economy dynamics. And it is crystal clear that this blind spot concerns the material, the almost physical needs of the global population: Health, nurture, education, a supporting environment, a satisfying share in products and services. These are the goals according to which surplus shall be invested. To make these goals comparable a common denominator is needed, call it social value. As argued in detail somewhere else (Hanappi, 2013a): There will be no future for human society without such a device. A future sign system representing social value differs substantially from the current system of world money, the US Dollar. Indeed, it turns the current design upside down. It starts with the human beings all over the world and determines their basic material needs. Then it adds all available labour times on earth, considering also the different geographical locations and educational preconditions. Feeding this data into the existing stock of "dead labour", i.e. the material capital stock, provides an estimate of the available material output. The excess of this aggregate over the basic material needs is the available material surplus. It belongs to mankind as a whole represented by a democratic world government. It can be used in many different ways. What consists of durable goods can be stored for bad times or local catastrophes. What has to be consumed rapidly can be immediately distributed to the poorest parts of the global society. If the material surplus appears to be too large for consumption,[13] then the labour time spent in production can be reduced resulting in more leisure time and education. It is exactly the determination of the management of global surplus for which the adjective "democratic" in "democratic global government" first of all stands. Different parts of the global population – structured according to continents, regions and economic classes – have to formulate their needs and wishes. Then these groups' demands are weighed by the number of individuals they represent and by the force of their necessity, i.e. how far above the basic needs they are. Additionally a second data set has to be collected presenting a measurement of socially necessary labour time contributed by each community. As with basic needs there has to be a clear definition of a specific minimum of globally necessary labour time provided for each community. Each community can decide itself how far above its minimum it wants to extend its contribution, or to have instead more leisure time. The distribution of surplus then has to be decided on the basis of these two data sets.

With respect to decision algorithms a lot of interesting work in mathematical voting theory exists. A particularly interesting starting point is the work on fair division by Steven Brams and Alan Taylor (Brams and Taylor, 2011).[14] Even the bulk of work done by social choice theory – despite its drawbacks due to its roots in methodological individualism and the neglect of communication processes – provides some important lessons. Kenneth Arrow's impossibility theorem points at the limits of finding an appropriate decision algorithm that fulfils the wish list

[11] How significant these local vassal firms are recently has been highlighted by Intan Suwandi (Suwandi, 2019).
[12] More recently China has developed into a middleman in this hierarchy.
[13] All this has to consider transport cost and adequate use of output in different locations.
[14] It starts as a generalisation of the solution of the traditional problem of a fair division of some hunting grounds between two tribes of American Indians: Let one tribe propose a specific division, and then let the other tribe chose which of the two territories it takes. It is extremely important to take the notion of fairness out of the realm of moral sentiments and into the light of concrete decision algorithms.

of (five) plausible properties it should have (Arrow, 1951). In 1975, in a similar vein Gibbard and Satterthwaite provided another negative result concerning the existence of a general voting algorithm that forces voters to reveal their true preferences,[15] compare (Reny, 2001). For the settings they propose such a voting procedure (excluding dictatorship and just two alternatives to choose from) does not exist. Finally, some hope on the possibility of clever algorithm design was provided by the Nobel Prize winner William Vickrey who proposed a specific algorithm for a well-defined auction setting, which for this setting indeed does force the bidders to reveal their true preferences (Vickrey, 1961).

All this leads back to the already mentioned issue: Decision algorithms have to be tailored to the decisions they are meant to support. Or even more precisely, the staggered and interwoven character of global decision-making requires not just tailored decision algorithms at each node of the overall process; it even requires a monitored computer simulation covering the relevant surrounding nodes and their feedback structure. Relief comes only from the adjective "relevant": The art of such decision and voting support systems consists of their help in determining what is (often quantitatively) irrelevant and can therefore be forgotten for the current decision. On the other hand, recent crises show that relevance today often can be linked upwards to the highest nodes, e.g. global climate, or survival of the human species. The necessity of the diversity of tailored democratic decision algorithms is a consequence of the diversity of life on earth itself. *Democracy* is not confronted with equilibrium mechanisms between participants with equal power, bargaining on equal footing in a neutral environment. It rather *is an additional device of civilized societies to accompany disequilibrium dynamics*. Disequilibrium is a necessary ingredient, it creates contradictions, new topics, new entities and is the force behind the flexibility, creativity and further (non-quantitative) development of the human species. In that way the closer look at democratic mechanisms leads to a consideration of the concept of diversity.

1.3 Diversity

The climate in different parts of the world is diverse and so are life circumstances of humans living in these different parts. In contradiction to this diversity they all belong to the same species. Even within each local region, diversity between the life supporting activities of the population evolves and leads to contradictions, eventually to conflicts and class struggles as the institutional setup built to tame contradictions is revolutionized. In fact, most new institutional setups can be interpreted as milestones of progress of the species.

In the long-run this stepwise evolution thus again and again is characterized by new class constellations. First they have been dispersed around the globe without much interaction,[16] but with the capitalist mode of production class relationships became interwoven too. As sketched above, to be located – to be born into – the global South with a very high probability determines that one belongs to a kind of global working class. The overlapping of a specific geographical position and a global economic class status produces a specific class consciousness, in the end a sub-class of the global working class, hence its diversity increases. On the other end of economic status the global capitalist class of the super rich families becomes smaller and reigns over an incredible amount of social value. Distributing it over the lower ranks of the capitalist hierarchy produces another kind of diversity. As

[15] This result has been further extended in (Duggan and Schwartz, 2000) to include more than a single winner.
[16] Of course, the existence of ruling classes and exploited classes could have been found in different forms in most societies. But they first were rarely linked to each other.

explained elsewhere[17] three factions of the ruling class can be distinguished: (i) firm owners, (ii) capitalist state managers, (iii) bankers. Within each faction again hierarchies exist. The diversification of the functions of a globally ruling capitalist class again mirrors the diversity of the global production process itself. But what is a property owed to the capitalist character of the current system is that in the centre of many of these functions the exploitative aspect – pay the one below your production position as less as possible – is essential. What is more: To keep low paid workers cheap they also have to be actively excluded from education systems. And: to keep managers obeying capitalist rules you have to actively indoctrinate them in appropriate schools and universities. The diversity between the three factions of the capitalist class therefore largely is ironed out by a globally installed ideological education system. Its worldwide proclaimed message is: there is no alternative to capitalism!

But it has to be insisted: On number three of the wish list proposed in this vision there is openness, there is diversity! In an evolutionary perspective life forms proceed in a sequence of steps.[18] During the so-called "crystal growth"-stages the tamed oscillations in social systems cause and are caused by redundancy-using modifications of standard behaviour. They maintain a growing field of memorized and actualized diversity. In capitalism this effect is narrowed down to unorthodox innovative entrepreneurial activity introducing surprising new production methods or new products and services. Then this risky creative behaviour of such a deviant capitalist is either extraordinarily rewarded by extra profits, or punished by bankruptcy.[19]

Point 3 on the wish list of the vision here aims at a much broader understanding of diversity. It is not an expected profit rate, some extra profit, which motivates deviations from standard activities. Diversity rather is a feature of living systems, which has developed over a very long evolutionary time sheltering a species from complete extinction by sudden unforeseen environmental catastrophes: Too much uniformity of the members of a species would reduce the chance that at least some members would survive a catastrophe that destroys the core of this uniform setup.[20] In that sense diversity is a safeguard against unpredictable challenges. Since it has to stimulate deviations from generally accepted behaviour (which is drawing individuals into the mainstream of perceived "optimal" actions) it was developing as the evolution of a special psychological trait: curiosity. It is evident that a loss of optimally acting individuals is only possible if there is enough surplus, if there is enough room for seemingly redundant explorations.[21]

In the vision of a future world this room is available. Each member of the human species shall be given the possibility to develop its own creativity – alone or together with others. The beauty of a diverse world, as it was originally populated by the human species and still produces the physical diversity of people around the world, shall be reflected in the scope of possible interests and self-realizations given to each member of the species.

[17] See (Hanappi, 2013b).
[18] Compare (Hanappi and Wäckerle, 2017).
[19] This, of course, is Schumpeter's story of the heroic entrepreneur adjusted to Darwin's "survival of the fittest", see (Schumpeter, 1939).
[20] Compare (Hanappi and Hanappi-Egger, 2004).
[21] Basic sciences, not aiming at quickly achievable applications generating profits, are probably the clearest example of the fruits of diversity.

1.4 Division of labour – alienation

For each individual the use of its lifetime is of eminent importance. There is little else to be considered as essential as that. To choose between diverse fields of joyful activity is a luxury, which in almost all cases is only possible *after* some necessary contribution of labour time in a more or less global production process has been accomplished. This activity, i.e. work time, is by itself no fun. One of the few things, which neoclassical economic theory got right is that the partial derivative of a production function with respect to labour is negative, more labour time implies less utility for a worker. When middle management psychologists postulate the opposite it either just is simple ideological manipulation to motivate subordinated workers, or it is a subtle threat with a comparison to the state of being fired. But the possibility of firing workers is identical with a constitution of society which guarantees private ownership of the large means of production offering employment for the majority of the population. And this latter state of affairs, private ownership of means of production, is an essential part - its main appearance in the field of law – of the capitalist mode of production. It is the danger of losing the work place which drives wages to their respective achievable minimum; and profits to their corresponding maximum. In that way a class contradiction is always inscribed in each capitalist production process. The exploiting class is necessarily in charge of the surplus, it *owns* the surplus just like – and because – it owns the means of production. Property structures[22] can only be stabilized by supporting power structures, by brute directly coercive police power as well as by more subtle ideological power.

Class division by exploitation is a form of diversity too. The historical justification of the exploiting class of factory owners comes like a side issue: In minimizing total cost they try to introduce ever more labour time saving techniques. What soon proved to be even more important was that with the first wave of globalisation of the production system at the end of the 19th century the sources of *very* cheap labour in the colonies became available. As a consequence, wages in the industrialized countries could rise a bit by allowing to give a small part of the surplus back to the workers there.[23] This was the catalyst to a massive rise in consumer demand, which crucially was helped by new techniques of finance and credit. It was the emerging expectation of broad masses of consumers which spurred the boom of the second goody of entrepreneurial activity: product and service innovation. After World War 1 the ruling class of exploiters thus diversified.[24] For the class of exploited workers a diversification occurred too. Contrary to the widely visible work force in the industrial world, the workers outside the realm of industrial centres remained in the dark. They not only still play almost no role in the major public media world, they also remain separated in between their immediate environments in different continents, different regions. They are only connected by the global value chains with which they are exploited.

The strong progressive push of labour productivity and possible new dimensions of sources of welfare (by product and service innovation) thus had a concurrent downside. The general global class contradiction between exploited and exploiting parts of the population was deepened and at the same time became blurred, became less visible for both exploiters and

[22] See Davis, 2015 for an excellent investigation of the role of property structures.
[23] A century earlier Adam Smith had disregarded the impact of colonial surplus extraction since he held that slave labour always will be less productive than free labour (Smith, 1776, 33–34, 159–60, 241–42, 284–85). But in the second half of the 19th century exchange rate exploitation of the British Empire was clearly dominating all productivity comparisons.
[24] This is the empirical background for Rudolf Hilferding's attempt to update Karl Marx book on capital (Hilferding, 1910).

exploited.[25] There is a more general point behind this build-up of a global contradiction: *alienation*.

As the ***worldwide division of labour*** enables the human species to produce its commodities and services with less and less labour time, it also divides the overall contribution of total labour time into ever smaller pieces of extremely specialized individual activities. This implies a ***first type of alienation***. It has severe consequences, consequences which a concrete vision for a future world must not neglect.

First, it is evident that splitting up and spreading complicated production processes all over the world implies a tremendous organizational effort. Leaving this effort to a handful of innovative entrepreneurs never was a realistic scenario. From merchant capitalism onwards it needed the very active intervention of the other faction of the ruling class, of the militarily organized state power of a nation state. After WWI, nation state governments inherited colonial empires from the feudal class. One, two, at most three hegemonic states rule and regulate the world. Only under their wings the large transnational capitalist organizations could develop their global reach. It is straightforward that the complementary activity of a hegemonic state and its large firms became what in the USA was called the "military-industrial complex".[26] Conclusion: In capitalism progressive, labour time saving division of labour is overshadowed by latent fights by nation states for global hegemony. For the wish list of the vision the point is that the nation state, the "military-industrial complex" has to vanish.[27]

Second, the profit maximizing fluid capital streams – most of them eventually competing in the financial hubs of New York and London – did produce their own sub-class of the ruling classes, often called "international finance".[28] Closely linked to "international finance" is the emergence of a hegemonic currency. The existence of "world money" is the final step towards a global sign system for social value implicit in all aspects of the life of the species. It is somewhat mysterious that social value signs - money, i.e. information on a carrier system – are so extremely important, even loved, and at the same time only exist as long as they are accepted in the brains of those who use them. But seen from a different angle it is much less surprising that the unity of the species breeds a common means of measurable reproductive and productive (surplus generation!) value, social value. In a vision of a future world, world money certainly will play a central role. But it will not be the currency of a hegemonic nation state. Its management to smoothen transactions, to allow for savings and credit of social institutions will follow democratic feedback rules. We will still live in a monetary political economy – but instead of furthering speculative bubbles of competing chaotic capital accumulators bolstered by autocratic nation states, a global central bank will accommodate reconciled democratically coordinated needs and wishes of the population.

[25] Rising income inequality is a *symptom* of this development, which is very visible for statistical offices. But class consciousness is not really created by that kind of data as long as people's brains are filled up with diverting content.
[26] Similarly, Vladimir Putin and his oligarchs as well as Xi Jinping and his industrial leaders can be considered as globally active units.
[27] Immediately after WWII the US made a related claim: All nations should become – actually are already – on their way to become like the US, compare (Rostow, 1960). But this, of course, was simply the proposal to become the sole hegemonic state in a world challenged by the existence of a strong Soviet Union.
[28] To immunize this global agent against accusations of missing democratic control, it sometimes is called "financial markets". This should give the impression of an unavoidable natural force, like bad or good weather – while it actually simply consists of a group of individuals (representing capital owners) with very particular risk-variance optimizing behaviour.

Third, the separation between local experiences of human individuals of the impacts of the global division of labour and its physical materialization as a highly complicated global network of production results in an *alienation of individual perception*. Locally, an average citizen in Germany might consume a cup of coffee paying for it roughly with an equivalent six minutes of work.[29] This labour time input, which in principle is easy to see – even to approximate intuitively - by the local consumer, hides the total amount of labour time, which actually was spent by the huge amount of workers involved till the cup is placed in front of the consumer. Adding all the frozen labour time that the capital goods (machinery, transport vehicles, etc.) and knowledge parts of the process had used it is immediately clear that this sum of heterogeneous labour activities gives a huge amount. Neither in its size nor in its heterogeneous diversity of concrete activities can this process – though it actually has taken place – be imagined by the individual consumer. In that sense this final product enters the perception of the human individual as an *alien* object. Note also that it appears to be absolutely absurd for this individual to produce a (porcelain) cup full of coffee with milk by itself. Today each one depends to an extremely high degree on society as a whole, on the evolution of the global division of labour. Alienation stemming from the separation of local perception and knowledge from an actually highly organized global production process that involves the historically grown and materialized knowledge of mankind therefore is unavoidable.

So while with respect to individual activities diversity is on the wish list, with respect to the more or less painful activities that contribute to the global production system the large bulk of diverse labour activities remains in the dark. And the fruits of the division of labour will *and should not* change in a future society; this type of alienation is closely related to limited information processing capacities of human individuals. That global production nevertheless works is due to the fact that missing omnipresent knowledge is substituted by social institutions with feedback mechanisms. These devices free us to be ignorant – as long and as far as we decide to stay so.[30]

With limited memory and restricted processing power hiding available knowledge is a necessity, from a personal perspective it often is even appreciated. It brings up the question of relevance.[31] For global political economy dynamics a central motor – and thus relevant – is how a unifying interpretation of the local environment can emerge in a group of individuals. In the Middle Ages the European feudal class and its ideological branch of the Church already had established a well-defined class consciousness. After 1848 the class of owners of means of production followed, Karl Marx and his followers as promoters of enlightenment wanted to follow suit and tried to inject class consciousness into the brains of workers. After 1918 the question of what is relevant culminated in the opposition between belonging to a nation (Germany, France, Italy, Russia[32] ...) or belonging to an economically determined class (worker or capitalist). Since nationalism was able to prevail, i.e. to become the only relevant interpretation scheme of local experiences, it could transmute into Fascism and lead straight

[29] Assuming an average monthly wage of gross 4000 € translating into 2500 € monthly net wage. With 230 work days of 8 hours this results in an hourly net wage of around 16 €, implying that six minutes of labour time result in 1,60 € - a typical price of a cup of coffee.
[30] In the last 40 years individual limits – at least potentially - have been considerable pushed back by the availability of personal computers, the use of the internet, and enhancements of education. To spread this larger individual capacity across all members of society is an important element of the proposed vision.
[31] Two songs of the Beatles express these ideas: “Fool on the Hill” and “Nowhere Man”.
[32] In the Soviet Union the nationalist view was represented by Stalin while Trotsky supported a global perspective.

into WWII. The above described first process of alienation as an opening up of the internal modelling process of human individuals – in the end it means the capitulation of understanding in the face of too complicated systems – increases the volatility of societies, makes them easier to manipulate in specific ideological directions. Ancient societies typically worked on a large difference between understanding and a complicated environment due to a low level of understanding; and therefore could develop a privileged class of priests preaching obscure religions. Today, in an enlightened world, the difference is again large; but now due to the extremely complicated global production system, which in principle still can be well understood.[33] The recent surge of religious movements – including neo-classical microeconomic theory[34] – is a sure sign of this state of affairs. Alienation due to the global division of labour therefore makes the world more vulnerable, not only because a missing world government makes necessary global responses impossible, but also because the emergence of social movements lead by irresponsible "political entrepreneurs", e.g. neo-fascists or terrorist religious leaders, can lead to wars. A *peaceful* world, of course, ranks high on the wish list for a future world. So the democratic management and regulation of "political entrepreneurship" has to be a prime goal.

But there is a ***second type of alienation*** that is hidden behind the first type, i.e. the one due the advance of the global division of labour. And this second type occurs only because the first one is part of a specific mode of production, part of capitalism. A more proper name for this second type of alienation is exploitation: If the workers in a factory have produced a certain amount of products these products are taken away and become the property of the factory owner. In other words, as products are leaving the production process in a society based on private ownership of means of production these products become *alien* to their immediate producers. At first sight the resulting alienation looks similar to the first type of alienation, since for a worker's perception in both cases a product looks alien. But at closer inspection the second type of alienation, i.e. exploitation, does not lead to a trade-off between having more goods and services at your disposal (because of global division of labour) and the need for more institutional feedback control due to a loss of overall individual understanding. *Exploitation*, the second type of alienation, *can be completely abolished* – high up in the rank of the wish list for a future society.

To be sure what the role of the exploitation process in a capitalist society is, recapitulate: (1) Workers are paid a wage sum as small as possible to maximize the profit rate, which is the goal variable of this mode of production. (2) Sell the product or service to achieve the highest possible revenue.[35] (3) Try to move the achieved profit to the production sectors with the highest profit rate in the last period.[36] It is interesting to consider who has the say in such exploitation processes distributed over all production units in the world. It certainly is not the working class, or what is euphemistically-mystically called "demand". Nor is it the individual

[33] This is the place where in the future global agent-based simulations could step in.
[34] The use of the popular term "neoliberal" is "neoliberal" propaganda, intended or unintended. This religion is neither "neo" (it builds on the marginalist theory of 1874), nor is it "liberal" today (which it was in 1874, when it was meant to free markets from feudal dominance). Today, its disguise in the form of the mathematical narrative of Newtonian physics enables it to misuse missing analytical skills of its more profane followers for religious purposes.
[35] Note that this implies that first the products for consumers with money have to be identified before they are produced, and that then the respective market conditions (oligopolistic conditions, political environments) have to be inspected and accordingly "treated". The capitalist class thus is enforcing a certain product and service structure as well as a specific political environment.
[36] Since political environments and their law systems are endogenous elements, it often is the case that businesses like drug business, prostitution, weapon production, or support of dictators turn out to be the most profitable ones.

firm owner, or firm owner group, which is forced to follow the rules of successful exploitation *vis-à-vis* competitors to stay in the market.[37]

As a consequence, this second type of alienation drives the global production system right into the blind spots of a generalized, though individual, short-run profit-maximizing capitalist firm structure. These are the reasons for global crises. As there are: A believe system of expected profit rates (first in US housing markets, later in a plethora of "bad assets") that decouples money owners excessively from the content of the assets they trade with will regularly produce a substantial global finance crisis. An exploitation system that is per definition (short-run maximization!) insensitive to limited natural resources will necessarily provoke a sequence of climate crises. Globalized exploitation, the worldwide implementation of the *capitalist algorithm* (Hanappi, 2013a, pp. 262-263), also has led to a concentration of the poorest part of mankind in specific continents and areas. If they suddenly live too far away from means of production where they can be employed – the global production structure can change almost overnight – then large migration streams and the emergence of a migration crisis cannot be avoided. In a more and more interconnected world the health of the human species is challenged by diseases that are able to spread better exactly due to that higher connectedness. Threads of this kind could only be anticipated if the myopia of short-run profit-maximization is substituted by a kind of "central nervous system" of the whole species, in which a scientific community consults a democratically legitimated world government.

The conclusion is crystal clear: The second type of alienation, generalized exploitation, has to be abolished. For the trade-off implied by the first type of alienation a democratic world government has to find solutions.

1.5 Division of knowledge – the global brain

In the area of non-living systems the increase of entropy, a loss of order, in the long-run cannot be stopped. But since this is only a stochastic trend living system can temporarily build-up order. A species like the human species can do so for quite some time, existing for substantially longer than a single life time. In the course of transmitting order from single carrier systems (human individuals) to longer living social carrier systems (societies), a major ingredient is knowledge. To interpret the observed past in order to anticipate future challenges has been the specific advantage that has led to the dominance of the human species on the planet. It is obvious that the above mentioned surge in the global division of labour did not stop with respect to the production of knowledge. Producing knowledge has become a specialized type of work as any other work activity. And as with any other work activity the capitalist mode of production has shaped the types of products that are thought to be sold best, and in the sequel also the types of scientific labour processes that are needed to do so. Chemists work in a specific way to support mainly pharmaceutical industries, engineers work on problems of the motor industries, physicists work for the energy businesses, and so on. Also the social sciences - economics, political science, sociology, and others – work for specific audiences.

The resulting amount of very specific knowledge that has been produced under capitalism is extremely impressive. To master the understanding of the knowledge even of a very narrow

[37] Marx himself frees the human individual that owns a factory from its responsibility to exploit other human individuals by calling capitalist behaviour a "character mask". There is no moral involved; it is behaviour enforced by the exploitative character of the capitalist system. It is the system that has to be abolished, not single human individuals or their moral attitudes.

specialized field is surmounting the capacity of a single researcher, not to speak about broader areas or the inclusion of the historical development of the field. For the aims of large *capitalist* production units such a split in highly specialized, isolated islands of knowledge, often is sufficient to stay in the circle of the dominant oligopoly in the field, e.g. the pharmaceutical industry. Interdisciplinary links are just installed with the respective finance and marketing departments *within* the firm. Knowledge linked to production techniques differs somewhat to knowledge concerning the organisation of the production process and sales. The latter is more closely linked to appropriate knowledge in the social sciences including in particular social psychology (e.g. in marketing and finance) and political sciences (e.g. political risks, tax systems, etc.). While the technical part of knowledge production certainly receives strong impacts on its direction of research from marketing departments – determining what is to be investigated next,[38] the frame, which technological possibilities graft on organisational designs plays an important role too: In global value chains different strata of education of the globally distributed workforce (a necessity coming from production techniques) are a most important side constraint for their organizational design.[39] In that way transnational *capitalist* production units limit not only the range of possible innovative products, they also freeze the hierarchical education structure of the global workforce. Both of these tendencies evidently run counter the vision of a better future world. Knowledge has to be freed from its fetters, its existence as nothing more than a tool in inter-firm competition between oligopolistic firms. New products and services, the investigations on how to produce them, have to be adjusted to the needs of the entire species – independently of the momentous wealth status of certain consumer groups.

In this respect the vision is to have a highly creative ***global class of organic intellectuals,***[40] with excellent education and talent paired with tight roots in the rest of the population. This "brain of the human species" will have to stay in repeated communication and *democratic* feedback control with *all* other parts of society from which new members are recruited as old members pass away.[41]

Within the knowledge producing class the different spearhead groups of specialized research to some extent – where the topic promises to contribute to the vision – must be kept alive. But their agenda must be amended with contacts to institutionalized "speculative researchers"[42]. The latter should be already established, experienced scientists with two major tasks: First, look out for transdisciplinary issues and proposals that might synthesize knowledge that emerged in unconnected special fields; second, to propose entirely new fields of research that in the course of social evolution pop up.

[38] New products under capitalism therefore mostly follow the expected demand wishes of consumer segments with money, or at least living in states with credible collaterals.
[39] More recently China's workers moved upwards in the hierarchy of educational standards: first production steps are performed in lower graded countries and then are brought to China for the next production step, compare (Suwandi, 2019).
[40] Compare (Hanappi, 2019b) for a more detailed description of this update of Antonio Gramsci's concept of "organic intellectuals". It has nothing in common with Richard Florida's "creative class" of young urban capitalists (Florida, 2002).
[41] Nevertheless, there has to be some split in the activities of this class, providing a mix of intellectual and less intellectual work to allow for the cultivation of organic rootedness. There also should be a range of average age within this class, keeping a mixture of enough more experienced scientists combined with enough fresh minds.
[42] The idea of "speculative reason" ("spekulative Vernunft" as opposed to "Verstand", rationality) was already emphasized by Immanuel Kant. It should be taken serious for the proposed vision.

It is almost a side issue that the organisation of this class, of our species' brain, needs an appropriate communication structure, i.e. the internet, as badly as the democratic world government needs it. Hardware and software will always be tools, though their abilities to find patterns in empirically observed data and to provide possible scenarios via simulations will be enhanced substantially. The ability to use these tools will turn out to be the common ground on which the bridge-building between specialized researchers will thrive.[43]

As a consequence of all this, global education processes will have to be in place, which enable young people not only to take part in some specialized global production process, but also to take part in *global knowledge sharing* and *democratic governance*. More to the point, the latter two fields – in capitalism almost completely missing – will be of pivotal importance. They will be the pre-condition on which the self-governance of the entire species can be established. This also shows clearly how this vision is a contrast to the racist-nationalist vision, whose proponents will have to be defeated on the way to this vision. In a racist future the human species is split between a superior race organized as a nation and the inferior part of the human species commanded by the former. Instead of democratic governance structures it relies on strictly hierarchical military control and a rigid police force. Science is only needed to refine control mechanisms. A propagated "ethical" direction of society is equivalent to the inborn moral attitude of members of the superior class; their education coincides with the cultivation of their racist-nationalist class consciousness. It should be reminded that it was this type of racist and nationalist vision, which in the 20th century has led to two world wars.

2 A global revolution

To propose a feasible vision how the global political economy should work is an important element of the process of making it real. It is a necessary condition, since it makes important choices concerning the direction of change and serves as motivating image for the progressive classes bringing about this change. If it is specific enough it also splits the set of existing classes in supporters and enemies. In the current situation a specific group of enemies of the just proposed vision would insist that capitalist behaviour, i.e. individual profit maximization, is a deeply ingrained feature of each member of humanity.[44] They would insist that even if the vision would be desirable it would never be a realistic goal since it contradicts what they think is "the human nature". So for them what remains to do is a deeply fatalistic striving for personal advantage. In other words, they propose to retain and to rebuild the pre-crisis status quo with some minor amendments – and implicitly wait for the next crisis. With nationalist forces and their short-sighted aggressions, raising the global military potential makes it rather probable that a third World War leads to an extinction of the human species; compare (Hanappi, 2019a).

To put forward a progressive vision thus coincides with the wish to preserve the human species. Nevertheless, the vision is just a necessary (and not a sufficient) condition, which must be supplemented by proposals on how to bring about the necessary changes to get

[43]It is telling that it also was a formal tool, calculus, which supported the general surge of all sciences in the 17th century.
[44] The most precise formulation of this view was provided by neoclassical economics, in particular by microeconomic theory. This microtheology (compare (Hanappi, 1994, pp. 9-11)) clearly presents an isomorphism between capitalist firms and human individuals, this is its central assumption.

from here to there; how to achieve the pending evolutionary jump; how to initiate a global revolution. This second part of the paper provides some ideas.

As a starting point, one of the essential findings of classical political economy in the 19th century has to be revived: The core dynamics of human societies are not adequately described by aggregating the behaviour of human individuals, which are thought to be more or less all equal to a so-called representative individual. The essence of historical development rather is to be found in the dynamic interaction between classes consisting of individuals grouped together due to their position in societies' reproduction processes. The analysis of classes – from Adam Smith's "nation analysis" via Marx's classes even to Schumpeter's entrepreneurial class – is a pre-condition for an adequate description of contemporary human evolution.[45] But while classical analysis was mostly confined to certain predetermined political settings, a contemporary analysis can – and has to – go beyond such borders. Smith looked for the reasons of an "England first" in his book on the wealth of nations, taking the feudal political order as given. Marx suggested a shrinking of the number of classes due to the overriding systemic force of capital, which only left two classes: a capital class[46] and the working class, which it exploits. But then, rigidly sticking to Hegelian logic, Marx simply predicts that a victorious global revolution will collapse the two antagonistic classes into one large working class. In this case it were the limits of Hegel's logic - as Marx grafted them on his theories of observed class struggles - which produced a mistaken forecast. Already after the failed revolution in 1848 Marx partially revised his analysis[47], though he only could provide some bits and pieces of a more sophisticated new version. Schumpeter took on board Marx euphoric praise of the historic mission of big industry in Marx manifesto and stylized it to form a class of "entrepreneurial human individuals". But when Schumpeter re-framed Marx's observation of the 19th century it was already the 20th century. Schumpeter fell out of time.[48] His one-sided iteration of Marx's insight was only good enough as an ideological metaphor used at occasions by some capitalist representatives of the newly emerging integrated capitalism of the 20th century – as Harold Robbins pointedly remarked, Schumpeter was perceived as a "footnote economist" (Robbins, 1970). In the mid of the 20th century Schumpeter himself already anticipated the fall of his "entrepreneurial class".

But after World War II neither classes nor political empires have disappeared. Their struggles still are the elements that allow a theoretical structuring, a learned understanding of how progress and temporary drawbacks of progress of the human species proceed.

2.1 The ruling classes

To exert power lies at the heart of every exploitation process. Even in developed OECD countries profit occurs not only mediated by anonymous market powers, it also often is the result of – eventually only expected – direct coercive power. If the measures of this direct coercive power go beyond the limits set by the state monopoly of power, then this power can be labelled as criminal power – but these limits are themselves set by groups who are already

[45] Compare (Hanappi, 2019c).
[46] It is interesting to see that he already disentangles the force of capital from the single human individual which serves it as its carrier. Capitalism for him thus is already a systematic ensemble of social relations that forces human individuals into predefined roles. To arrive at capital's opponent, i.e. the working class, the labour theory of value – an idea Adam Smith already had introduced – is used to define exploitation, to define the exploited.
[47] Marx's doubts after 1848 have been carefully retold in the excellent biography of Gareth Stedman Jones (Jones, 2016).
[48] This explains Schumpeter's cynic world view and his fatalistic attitude towards socialism.

belonging to the ruling class of the state. There thus usually is a delicate relationship between different kinds of power exertion. The capitalist state therefore is the locus where democratic governance first stepped in. And after 1918 the state, of course, still was the nation state. The ruling class of this nation state was the national bourgeoisie; it consisted of the nation's firm owners and the nation's bankers, but also of the nation's military, police and administrative personal, which it had inherited from its feudal forerunner. Furthermore, this nation state had to allow for some political influence of the revolting masses of workers and farmers to stabilize its political institutions. Such were the roots of the new stage of capitalism, which I have named "integrated capitalism".

During the interwar period the ruling class was indeed a large scale experiment of the newly acquired political dominance of non-feudal social groups. And since it took place within each nation more or less separately,[49] its respective fate was also somewhat nation specific. Integration of working class institutions, e.g. unions or socialist political parties, was a two-fold effort. On the one hand it was a national organizational task, i.e. building state institutions which gave representatives of the working class sufficient influence to prevent social upheavals. On the other hand, there was the need for a broad ideological initiative which could catch the emotions of each citizen and focus them on the "goals of his own nation". For both tasks the faction of the ruling class which organized administration – and had to do that via successes in national elections – was responsible. For those firms, which already had spread their wings beyond national borders – a sub-division of the firm-owing faction of the ruling class – national class compromises were only of interest if they were preferable to a transfer of production or sales abroad. From this perspective of global capitalist action, the third faction of the ruling class became important: international finance. If there are global hubs arranging capital flows to go to those places on earth where expected profits are highest, then capital as a global systematic force has finally arrived at its most abstract stage. Nation states and their local administrators, the locally ruling administrative faction of the ruling class, start to fall prey to global capitalism. That this process does not occur without calamities has been shown dramatically by World War II.

If nationalist state leaders get sufficient support from the faction of local firm owners then a nations ruling class can become strong enough to dare a military conflict with other nationalist states, currency questions and finance might be circumvented in the short-run by a fall-back on a nationally defined currency (e.g. Hitler's "Reichsmark") and state expenditure for military goods combined with a hierarchical national command economy. Nationalist dominance within the ruling class breeds Fascism – also for an additional reason. The broad ideological initiative mentioned above was motivated to a considerable extent by the fear of a spread of the Russian revolution; its baseline was nationalism as an antivenom against internationalist communism. This is why Hitler's party called itself "national-socialist", since part of the working class of a country could be ideologically seduced to believe that by pursuing national supremacy they could improve or maintain their global class position. Till today this is the major source of re-appearing fascist tendencies.

In an age of advanced information technology it is comparatively easy to convince the workers of a country, which in its total belongs to the exploiting part of the global production system, that they better should join forces with their national leader of the national ruling class to prevent a loss of their global welfare position. It therefore is only straight forward that

[49] Common features were the influence of messages from the Russian revolution and the implied fear of national capitalist circles from a similar event in their country.

nationalist leaders first of all seize media dominance, a part of power that usually is exempt from the mechanisms of democratic control. If they succeed in this area, then they can allow for regulated representative democracy with elections into political offices – the voters can be channelled into the choice between mildly different styles of governance. For political leaders of this kind politics degenerates into the ***art of efficient media manipulation***. This is exactly what in many countries has happened in the last 50 years. During integrated capitalism in OECD countries the ruling class redefined itself as the "political class", consisting of political parties, which differed less and less because they all had to adjust to the average voter, who was targeted by more and more aggressive forms of media manipulation.

In the West during the long reconstruction period after World War II this arrangement of class forces worked pretty well. It rested on two main pillars: an unchallenged hegemony of the USA, and steady increase of government debt in the leading capitalist countries. With the first in place competition between countries could be reduced to different adjustment to US rules. The second pillar was necessary to sell the mass of produced commodities, while securing that the indebted households and small firms in principle could always be taxed by the administrative factions of the nationally ruling classes. But then – in the late 70s – new political entrepreneurs from within the nationally ruling classes entered the scene. Margret Thatcher and Ronald Reagan successfully organized the unrest in those parts of the population that felt left behind in the compromises of integrated capitalism. It had become only too visible that the ruling "political class" had become impenetrable for the desires of "the people" – at least newspaper moguls and TV stations jumping on that train were able to make it "only too visible". What followed was a worldwide campaign that dismantled the representative character of Western democracies and replaced it by the voice of singular leaders preaching the benefits of privatisation of formerly public goods and services. Despite the fact that these leaders again belonged to the administrative faction of the ruling class, *they could promise*: (1) to the small shop owners that the influence of unions, social democrats and the like could be eliminated, i.e. to implement radical private ownership rules, and (2) to the unemployed the old narrative that "the good people" (again a reference to nationalism) will prevail in a fully privatized society. Not only in the two large Anglo-Saxon countries new social strata of supporters of the national ruling class had been established.[50]

In the meantime the ruling class in the Soviet Union had firmly established its Stalinist production system. The reproduction of the ruling class was rigidly organized and followed the principles of hierarchical military organization. The most remarkable feature of this new type of ruling class was that it combined military, administrative, economic and ideological dominance all in one organisational unit, the ruling communist party. The ideological trick to propagate this unified social power on the top as the institutional expression of the working class was hard to sell to those on the bottom, who did not get access to decision power. Self-recruitment of the ruling class instead of democratic election procedures allowing for participation and upward mobility of every aspiring citizen became quickly a characteristic of Stalinist production systems. The definite success of this type of social organization as a form of capitalism, sometimes called *state capitalism*, came not with its persistence in Russia but with the rise of China to an economic superpower. Given the problems that contemporary capitalism started to produce regularly on the global level – see the worldwide crises mentioned in the beginning of this text – the Stalinist production system amended by several

[50] It is obvious that privatisation and John-Wayne-style conservative views are counter-visions directed against the worldwide cultural rebellion of the late 60s. While social democrats in Europe and democrats in the USA had tried to integrate this rebellion and its vision, the new right-wing political entrepreneurs set out to extinguish this vision.

new features that Chinese leaders since Deng Xiao Ping have introduced at first glance seems to be the most apt form of capitalism. A form that can preserve class rule in the largest country of the world even if massive global disasters strike. The capitalist mode of production in this form seems to have achieved its most developed form. Montesquieu's vision of the division of power at the top of the ruling class has been reversed and Marx's vision of the dictatorship of the proletariat has been perverted, both were combined into a new form of capitalism, of a monolithic rule of the different factions of old style rulers in integrated capitalism.

It is not too farfetched to interpret the recent development in the third global superpower, in the USA, as assimilation to this new model. Donald Trump indeed tried to dominate all democratic feedback loops by an unbelievable wave of manipulative information power. Nevertheless, the streamlining of the firm owner faction in the USA still remains a complicated process, soaring unemployment of weapon stuffed unorganized workers is a menace, turmoil and rather anarchic circumstances in some cities characterized the first half of 2020. Conflicts between the three strongest countries – USA, China, and Russia – now are conflicts between three examples of a similar new form of autocratic (disintegrating) capitalism – even if Trump now is replaced by Joe Biden. Foreign policy of the USA is still caught in the same triangle of superpowers struggling for global capitalist hegemony. In military terms the ruling national classes of European countries and their loose organisational link of the European Union are squeezed to irrelevance between the strategies of USA, China, and Russia.

Europe's importance in a capitalist world economy is mainly to act as the largest pool of consumption. Since profits are depending on low wages, which in turn reduce potential sales to wage earners. Consumption as well as investment demand of firms have to be supported by national government expenditure. While global supply chains can dislocate work to the low-wage South, the rising government deficits in Europe have been supported by global international finance. The collateral for this tremendous amount of credit[51] has been the promise of the respective national administrative faction of the ruling class (including social-democratic partners) to secure the capitalist rules of the game; if needed by tax increases or drastic reduction of the social welfare net. In Europe the global finance faction of the ruling class is split into a group closer related to integrated capitalism (including social-democratic bankers and saving banks focussing on small national business customers) and internationally-oriented banks. Europe's firm owner faction is similarly divided into those with local national focus and those interwoven in international production networks. A considerable part of the former are very small firms, even one-person-firms, which often had been given firm status only to embrace them ideologically as "entrepreneurs", as (fake) ruling class members. In case of a crisis their true status as depending almost exclusively on state subsidies – either directly or via import restrictions – is revealed. And their links to the state administrators' faction of the ruling class are strengthened.[52]

These considerations lead to a more fine-grained view of the ruling class. Even within each of the three large factions – firm-owners, bankers, state administrators ("politicians") –

[51] In the first decades after 1945 the collateral was more of a military kind, namely to support strong NATO presence on the European peninsula in the face of the Soviet Bloc in its east. But with the advance of NATO towards the east since 1990 this military argument has been supplemented by economic collaterals.

[52] If their trust in state institutions is frustrated, then parts of these social strata easily turn to fascist political entrepreneurs. The emergence of the NSDAP in the interwar period is a well-studied historical phenomenon highlighting this process.

differences in each continent and in each country have to be taken serious. They are pivotal as soon as coalition perspectives are getting important.

2.2 The working classes

The proletariat was a concept that Marx had jumped on to explain the revolution of the capitalist mode of production in Hegelian terms: the negation (of capitalism) of the negation (of being deprived of the possession of the fruits of one's own labour process) needed a subject, a class, a motor driving this process. The notion of the working class was the logical solution to this problem of Hegelian logic. Visiting the factories of his friend Engels gave Marx the empirical perceptions that justified his strong hypothesis, compare e.g. (Jones, 2016). Workers living under miserable life conditions had nothing else to lose but their fetters, an observation which stipulated the belief in the courage of the working class, courage necessary to overcome the military and ideological power of the ruling class. Exceptional courage was needed because contrary to the decaying remainders of the feudal class in the late 19th century, the capitalist ruling class after 1848 was young and full of aspiration; even more so after World War I.

But besides the fascinating omnipresence of Hegelian triads, social systems are particularly characterized by the capacity of social agents – like classes – to anticipate what might happen next. In the years after Marx's theoretical interventions the British ruling class increased workman's wages and reformed labour laws somewhat. The planned revolutions were postponed and finally imploded in the nationalist battles of WWI. Even the Bolshevist revolution in Russia some years later was proclaimed as a *nationalist* triumph by Stalin in 1924. Chinese nationalism was to follow this pattern a few decades later. In Europe the respective national working classes having mostly lost their revolutionary potential had to arrange with the national state administrative faction of the ruling class. And their representative social agents – political parties and unions – did. This is the core of the emergence of integrated capitalism. To a considerable extent, the workers themselves were soaked up in this process of being represented by "their" politicians. "Their politicians" could fight for social rights and distribute improvements in wage and status. A first shock came with the Great Depression of 1929, when workers, discouraged from the failures of integrated capitalism (mainly due to its respective national scope), were left only to the choice of either joining the ranks of Fascism or being politically persecuted. Even 75 years after the end of WWII the ideological hallmark of Fascist thought, namely to misinterpret one's own misery as the signal for a mission to prove one's racist and nationalist superiority, has left its traces in many brains. It currently reappears as the quest for the "true Hungarians", the "true Germans", the "true Swedes", the "true British", the "true Americans" etc. in political right-wing groups all over the world. These movements are spurred by the increasing angst of people in the upper layer of the global income distribution – though mostly not in the upper layer within their own rich country – to lose relative to their current economic position. For them their enemy usually is obscured by clouds, they clean their restricted horizon by constructing scapegoats. As WWII demonstrated a major danger for the survival of the species occurs if such groups get into state power in states commanding mass destruction military power – including biological weapons. A foremost ("human" not only "humanitarian") task thus must be to prevent such a development. ***Anti-fascism is the most urgent action needed in the moment***.

But what has happened to the global working class, the former prime address to lead the way to human progress? Communist thought had linked its outstanding role with the fact that this

class consists of the groups in society that are ***exploited***, i.e. more labour (measured in labour time) is extracted from their work than what they receive in the form of wages (again measured in labour time embodied in the commodities they buy). Has exploitation disappeared? Has the global working class – as theoretical concept as well as empirically observed phenomenon - disappeared in thin air? Certainly not.

Theoretically it is still possible, though enormously more difficult than in the agriculture dominated societies of the 19th century, to calculate the exploitation status of each group in the global production system.[53] In that sense the notion of a global working class remains as valid as it always was. But the step from *having been* exploited during the last year to *knowing* that one has been exploited, the step to recognize that one belongs to a class of exploited individuals, the step from class in itself to a class for itself, this step has turned out to be definitely much more demanding than the last great representatives of the French enlightenment (this includes Marx) thought. It is possible to display the mechanisms of the global exchange rate system – a major institutional lever for exploitation of the global South – to groups of exploited, but what they are willing and able to fight for is not the change of an abstract theory on the global arrangement of labour value exchanges. They are caught and alienated in their local perceptions, dispersed across geographical and cultural barriers.

The split-up of the working class is something that has happened in the real material world, not only a mental delusion of exploited groups that can be overcome by simply presenting them a more adequate interpretation – interpretation of what (?), by the way. The link between local perceptions and the tightly interwoven constraints of the existing global production system turns out to be the key to the development of working class consciousness of a broad variety of working class divisions. And there will be *many* such divisions.

It is in this context that Gramsci's concept of the "***organic intellectual***" needs to be reconsidered. The adjective "organic" points at the capacity of an intelligent progressive individual to perceive its local environment very similar to the way that it is perceived by other, less educated working class groups. Individuals capable to function as organic intellectuals therefore have to speak at least two languages, one needed to understand locality and a second one to translate to and fro to the a more abstract scientific language reconstructing global class dynamics. Given the deep language barriers between the global working class divisions, organic intellectuals also will have to command a third language, e.g. English, to act as docking stations between these divisions.[54] To acknowledge that the global working class divisions need an extra layer of organic intellectuals evidently is an update of the old doctrine of class structure that dominated classical political economy in the 19th century. With the eminent drive towards globalized production and the concurrent surge of the role of mass media and information power – in short: with the coming of the age of alienation – such an update cannot be avoided.[55] It is only straight forward that such a global class of organic intellectuals will recruit its members from the diverse scientific communities which worldwide already exist.

[53] Compare (Hanappi and Hanappi-Egger, 2012) and (Hanappi, 2018).
[54] One might be tempted to consider the ILO as a possible hub that could serve to coordinate organic intellectuals. But this ignores its current mission, namely to "bring together governments, employers and workers representatives". There are thus two factions of the ruling classes and one group of representatives of workers bringing in some features of "integrated capitalism" – no more.
[55] Compare again (Hanappi, 2019a).

2.3 Coalition strategies

To bring about a global revolutionary change, an evolutionary jump of the species, it will be indispensable to look out for coalition strategies.[56] As has been sketched the ruling classes are not only split into factions by function but also divided by continents and nation states. On the other hand the global working class divisions are not united either. The global class of organic intellectuals is only starting to emerge. What unquestionably will ***speed up all processes*** are the ***recurring global crises***. The ***next one***, the ***economic collapse after the current pandemics***, is already waiting at the door. A return to something like an integrated capitalism on a global level seems to be very unlikely. Its basic premise, namely the need and the possibility to rebuild a new capital stock after a global war with the help of workers' representatives in the West ready to compromise in the face of Stalinism, this premise simply is not there.

What is here and what is getting more and more clearly visible is *exploitation*. As global value chains will falter autocratic regimes with fascist tendency will gain support, ***anti-fascism*** will have to become ***the major goal of the global class of organic intellectuals***. But not only exploitation of man by man will start to glare, exploitation of nature as targeted by ***environmentalist groups*** has entered the stage of a visible climate crisis. This probably will show up as a series of crisis events on several frontiers, from water shortage via air pollution to health crisis (including new pandemics), famines and large-scale migration. Thus there is an ***immediate coalition partner*** of the global class of organic intellectuals within the scientific communities, namely all those concerned with sustainable environmental conditions needed for the human species.

Alas, *sustainability* is an extremely vague concept. In its weakest meaning it just refers to a process which lasts longer than it currently does, e.g. an investment done with high-speed trading is less "sustainable" than an investment in a factory's enlargement with new buildings. "Sustainable capitalism" then is just the same old capitalist mode of production with a stronger focus on non-financial, so-called "real", assets. Another misleading connotation of sustainability comes from biology: Often a so-called biological equilibrium between different species is thought to be self-regulatory and to occupy what is then called a biotope. With this meaning of sustainability in the back of the head it is claimed that the human species needs to return to a naturally given static relation to all other species. As part of nature our species then is sustainable if it is made subject to an assumed self-regulating feedback of (a static) nature. Such an interpretation not only fails to be supported by modern biology, there are only transitory examples of biotopes, it also frames human evolution as a disturbance of a given (by some God?) order.[57] To claim "sustainable" environmental conditions for the human species therefore has to specify clear borderlines between possible coalition partners that come with different foci.

It also is helpful to take a look at the object that should strive for sustainability. If it is an exemplary single human individual then sustainability boils down to healthy eating and reasonable body care. This is not a prime task on the agenda of the global class of organic intellectuals. If, on the other hand, the object of sustainability is "the planet", the whole earth, then this again reduces to the trust in a naturally given biological equilibrium – a view that just

[56] The classic example is Lenin's strategy to build a coalition between workers and farmers against the Czar. Without that coalition – symbolized by hammer and sickle – the Russian Revolution would have failed.
[57] This explains the religious bias in some environmentalist groups.

was criticized. The level on which a debate with our partners coming from environmental protection groups makes sense would be the debate on how changing evolutionary trajectories of living systems (e.g. the human species) and available non-living resources needed by them can be maintained in the longer run; of say, the next decades. Highly sophisticated dynamic systems – like life on earth – have the property that radical change can occur as fast as an avalanche due to self-amplifying circles. The enormous amount of such possible self-amplifying circles makes it literally unforeseeable where in the mid-run the next will take place. It is thus a common task of the coalition partners to build models, which in the short-run can use scenario techniques (simulations) to be used as safeguards against unpleasant surprises. Indeed the mentioned short-run initiative of anti-fascism is such a warning. The self-amplifying circuit producing authoritarian movements, of course, is not restricted to OECD countries. It also happens with vassals of the superpowers, like Bolsonaro in Brazil, and often is entangled with environmental self-amplifying disasters, like the Brazilian rain wood. This calls for common analysis and action of the two coalition partners.

A ***second important coalition partner*** for the global class of organic intellectuals surprisingly comes from a corner of global cultural development that usually is thought to be far away from politics and largely lost in history. It comes from those who still remember the worldwide cultural rebellion of the sixties of the last century. This is surprising since in the memory of those engaged in this movement in their youth the visions that emerged then were so far away from what seems to be possible today that they appear to them to be completely irrelevant. But this is true for any vision, and the carriers of this vision are badly needed today to check which parts of their vision can now be transformed into *feasible* visions. But there is even more to sustain this idea: This group, let me call them the ***beat-rebels***, had developed their own global language, namely music, cloth, political attitude, and style. It was spoken on all continents – in France often as English with a French accent, in India as English with Indian timbre, etc. – and it united people of a certain age group. Everywhere this age group came into conflict with the generation of their parents and the local culture they represented. The global cultural upheaval had hit the beat-rebels in the middle of their process of socialisation, this often has left durable marks in their behaviour.

First of all, they are the natural enemies of authoritarian behaviour, they criticize whatever is brought to the fore. This is one of the reasons why they never were able to organize durable political parties. They therefore will not be a partner of the global class of organic intellectuals in the form of a political party partnership. They will remain as singularities, or small circles distributed all over the world. But as such they can easily join local movements or jump on the train of big science – they are highly flexible. As they have experienced in their youth their currency is of an aesthetic kind, pre-rational attraction, even “beauty”. While organic intellectuals will have troubles with the unstable behaviour of these partners – some of them artists; musicians and writers – they nevertheless are a welcome complement that can hinder a pre-mature fixation on the results of stubborn ratio. And they form a second global network to be well distinguished from the one held together by a common scientific methodology.

Moreover, and this is an important point, they are apt to speak to today’s youth. Their past generation conflict is still present due to their preserved rebel status. Alienation was directly felt, was sensed then – just as it is sensed by today’s youth. An occupy movement, an Arab Spring, a Fridays for Future, and the like are all simple utterances of discontent without much of a vision. It is ***vision***, which is the level on which the debate with the beat-rebels can be fruitful.

As with the environmental movement a clear demarcation line between beat-rebels and the global class of organic intellectuals is helpful. Beat-rebels are just a mass of uncontrolled elements held together by shared memories. In that respect they do not differ too much from British veterans from WWII or other kinds of memory-based communities. Therefore, only specific parts of the group of beat-rebels can qualify as coalition partners, namely those for whom the memory of the rebellion includes not only superficially remembering songs, movies and personalities, but also is vividly centred on the social issues that were on the table. Social life, political life, how to live life were inseparably intermingled with beauty and style at the time; and this is at stake when new forms of global communication are our topic today, are needed to overcome the age of alienation. The spirit of those members of the group of beat-rebels that can contribute in this respect is of pivotal importance.

This faction of cultural rebellion in the coalition built by the global class of organic intellectuals might have some (hopefully creative) conflicts with local working class divisions. Local culture by its very definition often recurs to traditional patterns, implicitly praising its local status. In this way it provides identity to the local population, a fact happily exploited by fascist movements today again. Cultural rebellion fights this in the name of global rebellion, having to accept that some local people for whom this stipulated identity is too important, will not follow them.[58] While local organic intellectuals translate local exploitation and keep the communication with other working class divisions alive, our coalition partner can help to unite the younger rebellious workers via the sign systems of culture. And above all this partner is a fierce enemy of the cultural conservativism that all authoritarian and fascist movements have in their DNA.

Of course, it has to remain a speculation that the proposed three partner coalition can work. We are just at the beginning of the deepest crisis in global political economy since the end of WWII. Scenarios of what will happen in the next five years are all built on very strong assumptions that can easily be found to be obsolete in a few months.

3 Afterthoughts

Starting with a vision in the first part of the paper immediately showed how preliminary the formulation of such a vision necessarily is. In identifying certain traits of the future to aim at, a whole plethora of additional puzzles to be solved pops up. Visions thus have to rely on many short-cuts, on assumptions that the difficulties they are discovering by being spelled out can and will be solved – without being able to further develop these solutions. The main purpose of the proposed vision nevertheless is to make clear that a jump towards a global political economy with substantially enhanced welfare of all members of the human species is possible, that ***optimism is possible***. Even a very preliminary analysis shows that this goal will not be achieved easily, that there are currently strong forces at work, which point into the direction of a third world war eventually ending the long evolution of our species – or at least throwing us back into a dark age again. This justifies the verb “jump”. In evolutionary terms a jump, a short period of radical change, is a social revolution. And in the current situation it is necessarily a global revolution. To get closer to the preferred vision at the horizon, to escape from threatening accelerating sequences of global crises and war, a rapid move of large parts of the human population will have to occur. This leads to the second part of the paper.

[58] An important left-wing philosopher expressing this tension was Ernst Bloch, who ended his major book with a hope for a (spiritual) home; a concept combining locality and universality (Bloch, 1986).

As a starting point for the study of global political economy dynamics the view that social history is the history of class struggles is chosen. This interpretation, going back to Marx and his precursors in classical political economy, proposes to study how disequilibria in the interaction between large groups, i.e. classes, evolve over time; passing through temporary stable constellations that then are broken and structured by social revolutions.[59] The only serious challenger to such a view is methodological individualism, which insists that there is some inherited characteristic in each human individual that quickly and without being mediated by social institutions is translated in the ensemble of life circumstances we perceive in reality. Even this short description shows why methodological individualism – despite its dominance in mainstream economic theory – in the end is not a serious challenger either. So part 2 starts with class analysis.

To update the classical analysis of the 19th century and to enrich it by a global focus again would go far beyond the possibilities of a single research paper. What can be done is to provide a rough and ready road map: How did the ruling classes develop, in which factions and geographical split-ups can they be grouped. What happened to the exploited classes, how did the interplay between economic base and ideological superstructure evolve? And finally: What are the strategic options given the current situation? Which class coalitions can act as historical subjects driving the dynamics towards the vision proposed in part 1?

There is one thing that an analysis of the contemporary global class structure will certainly show, no matter how it is approached: This class structure is complicated; it consists of multi-layered sub-structures on the side of the ruling classes and of an emerging, knowledge- and locality-encompassing emergent substructure on the side of the exploited classes. Right across the both opposing poles of ruling and being ruled spans the internet-generated new world of ideological superstructures. The extremely fragile character of this web of opinions carries not only the hope to become the central nervous system of the positive vision of part one, it is also at the same time a mainstay of authoritarian rule and right-wing propaganda as long as it is not made an completely democratic device. The latter task – developing a more sophisticated understanding of democracy – proves to be particularly hard: “power to the people” loses its charm if the brains of these people are distorted by a centrally steered manipulation device. The quest for self-governance proves to be the quest for a next step of social knowledge. And it is this mission that enables the social evolutionary jump – the current alarm signs are ever harder to ignore.

Bibliography

Arrow K. J. (1951) *Social Choice and Individual Values.* New Jersey: John Wiley & Sons.

Bloch E. (1986) *The Principle of Hope.* Blackwell Publishers, Oxford (UK).

Brams S. J and Taylor A. D. (2011) *Fair Division. From Cake-Cutting to Dispute Resolution.* New York: Cambridge University Press.

Chomsky N. (1968) *Language and Mind*. New York: Harcourt Brace Jovanovich, Inc.,.

Davis A. E. (2015) *The Evolution of the Property Relation. Understanding Paradigms, Debates, and Prospects*. New York: Pagrave Macmillan.

Duggan J. and Schwartz Th. (2000) “Strategic manipulability without resoluteness or shared beliefs: Gibbard- Satterthwaite generalized.” *Social Choice and Welfare*, 17 (1): 85–93.

Florida R. (2002) *The Rise of the Creative Class.* New York: Basic Books.

[59] Compare (Hanappi and Scholz-Wäckerle, 2017).

Hanappi H. (1994) *Evolutionary Economics. The Evolutionary Revolution in the Social Sciences.* Aldershot (UK): Avebury Publishers.

Hanappi H. (2007) "Public Funds as Capital. Hegelian Dynamics on a Global Scale." Working paper presented at the International Conference of EAEPE in Porto (Portugal), November 1-3, 2007.

Hanappi H. (2010) "From Growth to Innovative Reproduction. A Roadmap for a European Model of Evolution." Paper presented at the EAEPE Conference 2010, October 28-30 in Bordeaux. Published as MPRA Paper No. 29062.

Hanappi H. (2013a) "Money, Credit, Capital, and the State. On the evolution of money and institutions." In: Buenstorf G. et al. (Eds) *The Two Sides of Innovation. Economic Complexity and Evolution*, Springer, pp. 255-282. Enhanced version of an invited paper at the Verein für Socialpolitik (Ausschuss für Evolutorische Ökonomik) July 2009 in Jena. Working paper published as (MPRA Paper No. 47166).

Hanappi H. (2013b) "Future Methods of Political Economy. From Hicks' Equation Systems to Evolutionary Macroeconomic Simulation." Paper contributed to the Research Project "Futures of the Eurozone" Research Project 14261 of the Jubiläumsfonds of the Austrian National Bank. Published as MPRA Paper No. 47181.

Hanappi H. (2018) "(Neo-) Marxistische Alternativen zur Standardökonomie." In List Forum Springer, volume 44, issue 4, pp 597-622 (download working paper version).

Hanappi H. (2019a) "From Integrated Capitalism to Disintegrating Capitalism. Scenarios of a Third World War." *SCIREA Journal of Sociology* Volume 3, Number 3 (2019), working paper version as MPRA 91397.

Hanappi H. (2019b) "A Global Revolutionary Class will ride the Tiger of Alienation." Book chapter forthcoming in Digital/Communicative Socialism Special issue of tripleC: *Communication, Capitalism & Critique* (http://www.triple-c.at), edited by Christian Fuchs.

Hanappi H. (2019c) "Classes - From National to Global Class Formation." Introductory chapter of the open access book with the same title edited by Hanappi H., Intech Publishers (UK).

Hanappi H. and Hanappi-Egger E. (2012) "Middle Class or in the middle of a Class ?" Paper presented at the joint AHE/FAPE/IIPPE conference in Paris, 5-8 July 2012 (download working paper).

Hanappi H. and Scholz-Wäckerle M. (2017) *Evolutionary Political Economy: Content and Methods*. Forum for Social Economics, Spring 2017.

Hilferding R. (1910) *Das Finanzkapital, Eine Studie zur jüngsten Entwicklung des Kapitalismus.* Wien: Verlag der Wiener Volksbuchhandlung Ignaz Brand & Co.

Jones G. S. (2016) *Karl Marx. Greatness and illusion.* London: Allen Lane Publishers.

McLuhan M. (1967) *The Medium is the Message.* London: Penguin Books.

More T. (Morus) (1995[1516]) *Utopia*. Translated and edited by G. M. Logan, R. M. Adams, and C. H. Miller. Cambridge: Cambridge University Press.

Reny Ph. J. (2001) "Arrow's Theorem and the Gibbard-Satterthwaite Theorem: A Unified Approach." *Economics Letters,* 70 (1): 99-105.

Rostow W. W. (1960) *The Stages of Economic Growth. A Non-Communist Manifesto*. London: Cambridge University Press.

Smith A. (1852[1776]) *An Inquiry into the Nature and Causes of Wealth of Nations*. T. Nelson and Sons, London.

Suwandi I. (2019) *Value Chains. The New Economic Imperialism*. New York: Monthly Review Press.

Schumpeter J. (1939) *Business Cycles*. McGraw Hill, New York.

Vickrey W. (1961) "Counterspeculation, Auctions, and Competitive Sealed Tenders." *Journal of Finance*, 16, 8-37.

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Neoliberalism must die because it does not serve humanity

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This short article on neoliberalism comprises three brief sections which discuss key theoretical notions, general practical issues, and worldwide experiences respectively while offering a facts-based assessment. Brief concluding remarks end the article.

Theory

Neoliberalism gained momentum in the 1980s and became distinct and recognizable as an ideology by the 1990s as the "Washington Consensus".[1] Neoliberal theorists would suggest that their theories are universal in nature and that assumptions that underpin them are unimportant. This can only be true when the assumptions truly do not matter because they are compatible with all possible socio-cultural and institutional matrices. Neoliberalism seeks unrestrained accumulation of capital through a rollback of the state, and limits its functions to minimal security and maintenance of law, fiscal and monetary discipline, flexible labour markets, and liberalization of trade and capital flows. Neoliberalism stands in contrast to classical liberalism in that it views the market system as a goal in itself as opposed to being something that is a means to the goals of higher economic growth and higher standards of living.

Neoliberalism came to public attention in the early 1980s, starting with Margaret Thatcher in the United Kingdom and Ronald Reagan in the United States, and the minimalist state belief entered the political lexicon. It was during that period that witnessed the ascendancy of Thatcherism and Reaganomics. Both Thatcher and Reagan shared a common vision: to remake their societies through a retreat of the big government and allow the private sector to come into its own. Domestically, it consisted of "supply-side policies", such as deregulation, privatization, and massive reductions in tax rates, in order to spur growth. Internationally, it meant the negotiation of free trade agreements and subsequent rounds of multilateral tariff reductions as well as harmonization of policies across countries.[2] New Zealand, Australia, and Canada also adopted similar policies, as did much of Western Europe.

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[1] Williamson, J. (ed.) (1989). *Latin American Readjustment: How Much has Happened*, Washington: Peterson Institute for International Economics, November.

[2] Karagiannis, N. and Z. Madjd-Sadjadi (2013) "Why is Neoliberalism Dangerous? Criticism, Alternative Perspectives, and Government Policy Implications", pp. 11-31 in *The US Economy and Neoliberalism: Alternative Strategies and Policies*, edited by N. Karagiannis, Z. Madjd-Sadjadi and S. Sen, London & New York: Routledge (Advances in Heterodox Economics), March.

Practice

The practical use of the term "neoliberal" exploded in the 1990s, when it became closely associated with two developments. One of these was financial deregulation, which would culminate in the 2008 financial crash and in the still-lingering euro debacle. The second was economic hyper-globalization, which accelerated thanks to free flows of finance and to new, more ambitious types of trade agreements. Financialization and hyper-globalization have become the most overt manifestations of neoliberalism in today's world.[3]

That neoliberalism is a highly biased concept does not mean that it is irrelevant or unreal. Who can deny that the world has experienced a decisive shift towards markets from the 1980s on? Or that centre-left politicians – Democrats in the US, socialists and social democrats in Europe – enthusiastically adopted some of the central creeds of Thatcherism and Reaganism, such as deregulation, privatization, financial liberalization and individual enterprise? Much of contemporary policy discussions remain infused with free market principles. However, the looseness of the term neoliberalism also means that criticism of it often misses key points. The real trouble is that neoliberal economics shades too easily into ideology, constraining the choices that different countries appear to have and providing cookie-cutter solutions.[4]

However, neoliberalism decouples political liberalism from economic liberalism and promotes commoditization of everything and the needs of transnational corporations over those of individuals. A proper understanding of the economics that lie behind neoliberalism would allow us to identify – and to reject – ideology when it masquerades vexing contemporary realities: slim economic growth in general, limited job creation, massive production disparities, transnationalism, increasing socioeconomic inequalities and misery, asymmetry of economic and political power, and environmental degradation.

What, after all, are Western institutions? The size of the public sector in OECD countries varies, from a third of the economy in Korea to over 60% in Sweden and nearly 60% in Finland. In Iceland, 86% of workers are members of a trade union; the comparable number in Switzerland is just 16%. In the US, firms can fire workers almost at will. French labour laws have historically required employers to jump through many loops first. Stock markets have grown to a total value of nearly one-and-a-half times GDP in the US. In Germany, they are only a third as large, equivalent to just 50% of GDP.

What the history of both Keynesianism and neoliberalism shows is that it's not enough to oppose a broken system. A coherent alternative has to be proposed. For Labour, the Democrats and the wider Left, the central task should be to develop an economic programme, a conscious attempt to design a new system, tailored to the demands of people for the 21st century.

[3] Karagiannis, N. and J. E. King (eds) (2019) *A Modern Guide to State Intervention: Economic Policies for Growth and Sustainability*, Cheltenham, UK & Northampton MA, USA: Edward Elgar (Modern Guides Series), pp. 1-6, October.
[4] Rodrik, D. (2017). "Rescuing Economics from Neoliberalism", Boston Review, November 06. http://bostonreview.net/class-inequality/dani-rodrik-rescuing-economics-neoliberalism.

Experiences: a critical assessment

With the 2008 financial crash and the Great Recession, the ideology of neoliberalism lost its force. The approach to politics, global trade, and social philosophy that defined an era led not to never-ending prosperity but utter disaster. "Laissez-faire is finished," declared former French President Nicolas Sarkozy. Former Federal Reserve Chairman Alan Greenspan admitted in testimony before Congress that his ideology was flawed. In an extraordinary statement, former Australian Prime Minister Kevin Rudd declared that the crash "called into question the prevailing neoliberal economic orthodoxy of the past 30 years – the orthodoxy that has underpinned the national and global regulatory frameworks that have so spectacularly failed to prevent the economic mayhem which has been visited upon us".[5]

For some, and especially for those in the millennial generation, the Great Recession, the wars in Iraq and Afghanistan, and the more recent economic conditions of the trade, technological, tariff, and the coronavirus confrontations started a process of reflection on what the neoliberal era had delivered. Disappointment would be an understatement: the complete wreckage of economic, social, and political life would be more accurate. In each of these arenas, looking at the outcomes that neoliberalism delivered increasingly called into question the worldview itself. During the neoliberal era, the racial wealth gap did not fare much better.[6]

Despite its alleged commitment to market competition, the neoliberal economic agenda instead brought the decline of competition and the rise of close to monopoly power in vast swaths of the economy: pharmaceuticals, telecom, airlines, agriculture, banking, industrials, retail, utilities, and even beer. A study by *the Economist* found that between 1997 and 2012, two-thirds of industries became more concentrated. Why is it that neoliberalism requires the taxpayer to carry the risk while the corporations receive the reward?

Rising economic inequality and the creation of monopolistic mega-corporations also threaten democracy. In study after study, political scientists have shown that the U.S. government is highly responsive to the policy preferences of the wealthiest people, corporations, and trade associations – and that it is largely unresponsive to the views and needs of ordinary people. The wealthiest people, corporations, and their interest groups participate more in politics, spend more on politics, and lobby governments more. Leading social and political scientists have declared that the U.S. is no longer best characterized as a democracy or a republic but as a "social oligarchy" – a government of the rich, by the rich, and for the rich.[7] Neoliberalism's immoral war on society, by pushing towards the privatization and marketization of everything, indirectly facilitates a retreat into tribalism. With the world in crisis, neoliberalism no longer has even plausible solutions to today's problems.[8]

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[5] Pearse, W. (2019) "A Critique of Neoliberalism", *Inomics*, April 09.
https://inomics.com/blog/a-critique-of-neoliberalism-1379580
[6] Pearse (2019). Op cit.
[7] About 47-51 percent of the Federal revenue comes from individual income taxes, around 6-11 percent from corporate income taxes, and another 33-35 percent from payroll taxes that fund social insurance programmes (Tax Policy Center and Office of Management and Budget, various fiscal years). Office of Management and Budget (OMB). Washington, DC:
http://www.whitehouse.gov/omb/budget/HISTORICALS and
https://www.google.com/search?q=where+does+the+federal+revenue+come+from&rlz=1C1CHBD_enUS853US853&oq=where+does+the+federal+revenue+come+from&aqs=chrome..69i57j0l7.32431j0j15&sourceid=chrome&ie=UTF-8
[8] Rodrik (2017). Op cit.

The EU/IMF rescue programmes that Greece, Ireland, Portugal, and Spain entered into were designed, above all, to provide a "firewall" for the protection of the European banking system and thus the single currency itself, rather than solve the economic problems facing those nations. The rescue programmes demanded great sacrifices on the part of average citizens in those countries due to the reckless practices of banks and the financial sector – while the banks themselves came out clean and the Eurozone returned to being a playground for bond investors.

In this context, the EU/IMF duo pressed hard for austerity and structural reforms for the bailed-out countries purely on the basis of an ideological conviction (for there was no empirical evidence to back these claims) that such measures would enhance confidence, which in turn would create the proper conditions for a return to growth and higher employment. Therefore, the crisis in the Eurozone periphery not only continues, but it could also intensify in the near future, especially once the citizenry in those countries realizes that the game is rigged in favour of finance capital and big business. For this is exactly what the current EU policies are designed to do, to the detriment of a decent standard of living for the average citizen.[9]

The record of developing countries' experiences of the last three decades, after many of these countries had adopted neoliberal economic policies, is very poor. Chile in the 1980s under Pinochet, followed the neoliberal recommendation of a rapid opening-up to imports. But Chile's neoliberal experiment eventually produced the worst economic crisis in all of Latin America. The Argentine economic crisis of 1999-2002 is also held out as an example of the economic devastation to have been wrought by application of the "Washington Consensus".

Caribbean and most African countries have been facing exacerbation of economic instability, rising current account and fiscal deficits alongside high debt obligations, a slowdown in productivity growth, limited adjustment in traditional sectors, high unemployment and underemployment, reduction and deterioration of public services and the quality of infrastructure, degradation of the environment and natural resources, social problems (including crime and violence), the growing distance between rich and poor, marginalization and social exclusion, and unfair competition arrangements. All these highly undesirable and vexing consequences have put less developed nations in a situation of ever increasing inferiority and have created new forms of external vulnerability and dependency.

Despite the disastrous experiences of neoliberal polices, especially in Latin American, Caribbean and African countries, still the international institutions, such as, IMF, World Bank, and their close co-operation with World Trade Organization (WTO), are imposing neoliberal policies on the developing countries. It seems that little lesson has been learned from the many unsuccessful experiences world-wide during the past 40 years or so. In recent years, a number of Latin American countries have abandoned neoliberalism and adopted polices to be suitable to their national interests rather than foreign capital.

Therefore, neoliberal versions of the "globalization" narrative have been challenged. In complete contrast, national-level economic process remains central and that the international economy is far from ungovernable. What is required within each particular nation is the

[9] Polychroniou, C. J. (2015) "Dead Economic Dogmas Trump Recovery: The Continuing Crisis in the Eurozone Periphery", pp. 241-257 in *Europe in Crisis: Problems, Challenges, and Alternative Perspectives*, edited by A. Bitzenis, N. Karagiannis and J. Marangos, London & New York: Palgrave Macmillan, May.

spread of a social movement that believes in an alternative future but relies on its own national experience to overcome economic pressures, social injustice and underdevelopment, while building bridges of international solidarity with other like-minded movements and governments.[10] Ecuador's attempt to opt out of neoliberal policies and chart out new economic policies is a promising case that has aimed towards more national economic control of resources and with active state intervention in favour of under privileged classes in the country.

Conclusion

Neoliberalism is immoral and must be turned back because, at theoretical and policy levels, does not serve humanity. Challenging neoliberalism at the intellectual and ideological level alone is hardly sufficient for compelling policy-makers and submissive cheerleaders to confront the deadly shortcomings of the dominant socio-economic policies and embark in turn on development strategies that help improve the overall conditions of modern societies.

Challenging neoliberal globalization does not imply a rejection of globalization itself but reflects a wider global project of counter-hegemonic resistance which calls into question the nature of economic, social, and cultural interconnectedness that define the contemporary world. Social movements and activists bent on weakening or even overthrowing neoliberal policies in their respective territories should study the contemporary history of anti-globalization struggles for useful insights and appropriate strategies. As recent experience in several developed and developing countries has demonstrated, an alternative future to "barbaric neoliberalism" is very much possible.[11]

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[10] Karagiannis, N. and C. J. Polychroniou (2016) "Towards a Holistic Development Framework for the Caribbean: Key Theoretical Notions and Policy Implications", pp. 23-41 in *The Modern Caribbean Economy* Vol. I*: Alternative Perspectives and Policy Implications*, edited by N. Karagiannis and D. A. Mohammed, New York: Business Expert Press, September.
[11] Karagiannis and Polychroniou (2016) Op cit.

Climate arsonist Xi Jinping: a carbon-neutral China with a 6% growth rate?

Richard Smith [System Change Not Climate Change, USA]

"Did Xi just save the world?"[1]

With California and Oregon on fire as Climate Week opened in New York on September 21st "climate arsonist" Donald Trump took to the virtual floor of the UN General Assembly and slammed China for its environmental record while ignoring his own efforts to save the coal industry and boost fossil fuel consumption – actions that earned him that sobriquet from Joe Biden. Barely an hour later, in a speech that could not have been more opposite to Trump's, President Xi Jinping gave hope to despairing environmentalists with his stunning announcement to the UN that

> "Humankind can no longer afford to ignore the repeated warnings of Nature and go down the beaten path of extracting resources without investing in conservation, pursuing development at the expense of protection, and exploiting resources without restoration. The Paris Agreement on climate change charts the course for the world to transition to green and low-carbon development. It outlines the minimum steps to be taken to protect the Earth, our shared homeland, and all countries must take decisive steps to honor this Agreement. China will scale up its Intended Nationally Determined Contributions by adopting more vigorous policies and measures. We aim to have CO_2 emissions peak before 2030 and achieve carbon neutrality before 2060."[2]

Nevertheless, Xi's pledge raised more questions than it answered. What did he mean by "carbon neutrality"? How can he keep growing China's emissions for another decade – and then throw his immense coal-fired dreadnaught into reverse to force emissions down to zero in just 30 years? China's CO_2 emissions are already more than double those of the United States (with GDP just 63% as large) and are currently growing by 4-5% per year.[3] America's cumulative and per capita emissions still exceed those of China. But after three decades of breakneck growth China is catching up fast. Its annual emissions now account for 30 percent of the global total against 15% for the US, 10% for the EU, and 7%for India, the next biggest emitters.[4] If they continue growing by just 4% p.a. (which would less than their average growth rate over the past three decades), they will be nearly 50% larger by 2030, triple the

[1] Adam Tooze, *Foreign Policy*, September 25, 2020, https://foreignpolicy.com/2020/09/25/xi-chinaclimate-change-saved-the-world%E2%80%A8/.
[2] "Full text: Xi Jinping's speech at the General Debate of the 75th session of the United Nations General Assembly," CGTN, September 23, 2020, https://news.cgtn.com/news/2020-09-23/Full-text-Xi-Jinping-s-speech-at-General-Debate-of-UNGA-U07X2dn8Ag/index.html.
[3] Climate Action Tracker, https://climateactiontracker.org/countries/china/, https://climateactiontracker.org/countries/usa/; Bloomberg, "China's carbon dioxide emissions expand fastest since 2011," June 17, 2020, https://www.bnnbloomberg.ca/china-s-carbon-dioxide-emissions-expand-fastest-since-2011-1.1451806; Lauri Myllyvirta, "China's CO2 emissions surged past pre-coronovirus levels in May," *Carbon Brief*, June 29, 2020, https://www.carbonbrief.org/analysis-chinas-co2-emissions-surged-past-pre-coronavirus-levels-in-may.
[4] EPA, Global greenhouse gas emissions data, https://www.epa.gov/ghgemissions/global-greenhouse-gas-emissions-data.

level of US emissions today – and enough to precipitate climate collapse regardless of what other countries do.

In their race to set the world on fire, Donald Trump is a distant second behind climate arsonist Xi Jinping.

Many observers think Xi is well-positioned to force through the transition to renewables. Thus historian Adam Tooze writes:

> "It is precisely because the Communist Party regime is bent on shaping the next century that its leader takes climate change seriously. In the calculus of the regime, Yangtze river floods are, like Hong Kong rights protestors, a threat to its grip on power. The future for Beijing's authoritarian China Dream looks far more uncertain in a world of runaway global warming."

Tooze, like many, thinks that Xi will be able to impose his will because he's boss of the world's most powerful police state: "No other state, rich or poor, can match the authoritarian capacity of the Chinese regime to repress dissent among the domestic losers of transition." [5]

My argument in brief

I contend that regardless of his stated intentions, Xi cannot meet this carbon-neutral goal because the Communist Party's overriding priority since Mao's day has been to "catch up and overtake the United States" by turning China into the world's leading superpower. To this end he has no choice but to maximize the growth of the very industries that are driving China's emissions off the charts, including coal-fired electricity generation, even if this accelerates global warming dooming China and the planet too. Furthermore, I claim that there are technical and political barriers to decarbonizing electricity generation in China. As regards the political barriers, I maintain that Xi cannot systematically enforce his will against theoretically subordinate officials (including those putative coal-based "loosers") because he is not an absolute dictator but rather the primus inter pares in a collective ruling class in which power is widely dispersed such that local officials can and often do defy Beijing when it suits their interests. Lastly, I contend that Xi himself is disinclined to force through the transition to renewables even if he could, because this would disrupt and undermine his higher priorities.[6]

I. The "hard-to-abate" industries

Let's start with what are collectively termed the "hard-to-abate" industries that account for about 40% of global greenhouse gas (GHG) emissions and most of China's emissions.[7] Xi's first problem is that China is home to the world's largest concentration of carbon-intensive hard-to-abate industries like steel, cement etc. Thermal electricity generation (90% coal, 10%

[5] Adam Tooze, "Welcome to the final battle for the climate," *Foreign Policy*, October 17, 2020, https://foreignpolicy.com/2020/10/17/great-power-competition-climate-china-europe-japan/.
[6] This essay draws on my new book *China's Engine of Environmental Collapse* (Pluto Press, 2020).
[7] Energy Transition Commission (ETC), Mission Possible, Report Summary, (November 2018), https://www.energy-transitions.org/wp-content/uploads/2020/08/ETC_MissionPossible_ReportSummary_English.pdf.

gas and oil) accounts for around 32% of China's total CO_2 emissions.[8] Thus replacing coal-fired power plants with solar- and wind-powered generators could reduce China's emissions by about a third, a huge gain. But this is the low-hanging fruit of carbon mitigation. Forty-seven percent of China's GHG emissions come from carbon intensive manufacturing and other industries,[9] most of which cannot be decarbonized with current or anticipated technology either *at all* or *in time* to avert runaway global warming and climate collapse. Steel, aluminum, cement, aviation, shipping, chemicals, plastics, textiles and electronics stand out.

Steel production requires extreme heat and chemical processes that with current mass production technology can only be done with coal and coke. Every ton of steel emits 1.8 tons of carbon dioxide and steel accounts for about 9% of global CO_2 emissions. China produces more than half, 53%, of the world's steel[10] and this production currently accounts for more than 10% of China's total CO_2 emissions.[11]

Steel industry carbon mitigation efforts to date have largely failed. According to the International Energy Agency (IEA), the carbon intensity of steel has been relatively constant for the past two decades. Engineers have managed to reduce carbon intensity by about 1.3% per year on average since 2010, mainly by improving energy efficiency. But those alone can't achieve the deep emissions cuts the industry needs to make and in any case those gains have been rapidly outstripped by growth.[12] Global steel demand plateaued during 2013-2016 with China's economic slowdown but returned to growth in 2017, growing by 6-8% annually from 2017 to 2019. Thus the IEA concludes that "longer term (post 2030), shifting towards innovative primary production incorporating hydrogen or CCUS [carbon capture utilization and storage] will be required to achieve greater emissions reduction."[13]

What are the prospects for those technologies? There appear to be few if any remaining technical hurdles to producing steel with hydrogen in place of coke and coal. European steelmakers, who lead the world in hydrogen steel technology, already produce some specialty steels with hydrogen in demonstration plants, though the technology has yet to be tried at scale.[14] And the Chinese are jumping into the fray with their usual techno-optimism and synchronized euphoria around a new Party initiative.[15] However, many experts evince

[8] Zhu Liu, "China carbon emissions report 2015," Sustainability Science Program and Energy Technology Innovation Policy research group, Belfer Center Discussion Paper #2015-02, Harvard Kennedy Center School, Cambridge MA, 2015 (in Chinese), 4, Table 3, https://www.belfercenter.org/sites/default/files/files/publication/carbon-emissions-report-2015-final-chinese.pdf.
[9] Ibid.
[10]Global Steel Trade Monitor, Global Steel Report, November 2019, https://legacy.trade.gov/steel/pdfs/global-monitor-report-2018.pdf.
[11] China Power Project, How is China managing its greenhouse gas emissions? (Washington D.C.: Center for Strategic & International Studies, 2020), https://chinapower.csis.org/china-greenhouse-gas-emissions/.
[12] Christian Hoffmann et al., "Decarbonization challenge for steel," McKinsey, June 3, 2020, https://www.mckinsey.com/industries/metals-and-mining/our-insights/decarbonization-challenge-for-steel.
[13] Peter Levi et al., "Iron and steel: more efforts needed," EIA, June 2020, https://www.iea.org/reports/iron-and-steel.
[14] Leigh Collins, "'World first' as hydrogen used to power commercial steel production," *Recharge*, April 20, 2020, https://www.rechargenews.com/transition/-world-first-as-hydrogen-used-to-power-commercial-steel-production/2-1-799308.
[15] Frank Zhong, "How hydrogen is gaining momentum in the Chinese steel industry," World Steel Association Blog, September 16, 2020, https://www.worldsteel.org/media-centre/blog/2020/hydrogen-technology-momentum-Chinese-steel-industry.html#.X63syM4CVH8.twitter.

skepticism about hydrogen over concerns about safety, handling, storage, transportation and fugitive emissions, issues that have dogged this technology for decades.[16]

Apart from those concerns, another daunting problem is that 96% of the world's commercially produced hydrogen is derived from fossil fuels. Of the four methods for commercial production of hydrogen, the only one that does not use fossil fuel is electrolysis, which separates water into its constituent elements (hydrogen and oxygen).[17] This is an electricity-intensive process and the three main electrolyzer technologies are still in their infancy.[18] Scaling up "green hydrogen" steel mills would require construction of a massive infrastructure of industrial-scale electrolyzers along with an enormous expansion of renewable electricity to provide the "immense" amounts of power it's said those electrolyzers and steel mills will require.[19] The International Renewable Energy Agency (IRENA) says that the world will need some 19 exajoules of green hydrogen in the energy system by 2050 to decarbonize industry, transportation and other sectors. That would equal the output of 2,243GW of onshore wind farms or 4,240GW of solar PV. To put that in perspective, in 2018 the world had installed capacity of just 540GW of onshore wind power and 480GW of solar PV – and all of that capacity is used to generate electricity, not green hydrogen.[20]

In short, transitioning to green hydrogen steel is not going to happen overnight, if ever. Bloomberg's New Energy Frontier analysts estimate that the global steel industry could adopt hydrogen for between 10% and 50% of output by mid-century given the right pricing.[21] But that's way too little too and late to meet the IPCC's target of net zero CO_2 emissions by 2050, or even Xi Jinping's target of 2060. As to carbon capture and storage, McKinsey concludes that this is unlikely: "At present, carbon capture and usage remains technologically premature and yet to be proven economically."[22]

Cement production emits CO_2 from both high temperature heating and chemical processes. China produces three-quarters of the world's cement, more than the next 19 countries combined, and this accounts for 8% of China's CO_2 emissions.[23] Scientists and engineers are

[16] Eg. Joseph J. Romm, "The hype about hydrogen," *Issues and Technology*, 20.3 (Spring 2004), https://issues.org/romm/; Michael Liebreich, "Liebreich: separating hype from hydrogen – part one: the supply side," *Bloomberg NEF*, October , 2020, https://about.bnef.com/blog/liebreich-separating-hype-from-hydrogen-part-one-the-supply-side/; Bloomberg, "China defies Elon Musk's warnings and pushes ahead with hydrogen," November 19, 2020, https://www.bloomberg.com/news/articles/2020-11-19/china-defies-elon-musk-s-warnings-and-pushes-ahead-with-hydrogen?sref=4KuSK5Q1.
[17] U.S. Department of Energy, Hydrogen Production: Electrolysis, https://www.energy.gov/eere/fuelcells/hydrogen-production-electrolysis.
[18] International Renewable Energy Agency (IRENA), Hydrogen from renewable power (September 2018), 18-30; Patrick Molloy and LeeAnn Baronett, "The truth about hydrogen," Rocky Mountain Institute, August 20, 2019, https://rmi.org/the-truth-about-hydrogen/.
[19] Leigh Collins, "A wake-up call on green hydrogen: the amount of wind and solar needed is immense," *Recharge*, March 20, 2020, https://www.rechargenews.com/transition/a-wake-up-call-on-green-hydrogen-the-amount-of-wind-and-solar-needed-is-immense/2-1-776481.
[20] Collins, "Wake-up call."
[21] "How hydrogen could solve steel's climate test and hobble coal," Bloomberg NEF, September 2, 2019, https://about.bnef.com/blog/hydrogen-solve-steels-climate-test-hobble-coal/.
[22] Hoffman, "Decarbonization." Critics complain that CCUS is just a smoke and mirrors PR scam to keep coal plants in operation. See Lu Guang, "Carbon capture scam," Greenpeace, April 2015, http://www.greenpeace.org/usa/wp-content/uploads/legacy/Global/usa/planet3/PDFs/Carbon-Capture-Scam.pdf; Katie Fehrenbacher, "Carbon capture suffers a huge setback as Kemper Plant suspends work," *Green Tech Media*, June 29, 2017, https://www.greentechmedia.com/articles/read/carbon-capture-suffers-a-huge-setback-as-kemper-plant-suspends-work. For a list of failed projects see MIT http://sequestration.mit.edu/tools/projects/index_cancelled.html.
[23] Jocylyn Timperley, "Q&A: Why cement emissions matter for climate change," *Carbon Brief*, September 13, 2018; https://www.carbonbrief.org/qa-why-cement-emissions-matter-for-climate-change.

working on technologies to mitigate emissions from cement production. But the few gains in mitigation that have been achieved to date have been outstripped by soaring demand, while hopes for greening cement via "novel cements" and such, have failed to gain commercial viability.[24] Chatham House, the author of a major study on decarbonizing cement concedes that "there's no silver bullet," and moreover, when considering alternatives to Portland cement where safety and longevity are top concerns: "New approaches and especially new industry standards require a lot of discussion and testing. For example, it can take decades for a new standard to be approved and implemented in the EU."[25] We don't have decades before we *begin* suppressing cement emissions, particularly in an industry that's growing at 7-10% per year.[26]

A November 2019 OECD paper on greening the steel and cement industries states that while new emissions reduction technologies are being tested, none will be available until at least 2030 (and then would have to be tested, approved and adopted). Thus the author of the report concludes "The most effective way to reduce steel and concrete emissions is to *use them only for necessary applications* in new products, vehicles, and structures" and "maximize recycling".[27] In other words, suppress their production and ration what we do produce.

Aluminum production releases CO_2, methane, nitrous oxide, hydrocarbons, perfluorocarbons and sulfur hexafluoride. While the industry has reduced emissions in recent decades, a recent study concludes that "the target to cut down carbon emissions up to 50% by 2050 cannot be accomplished by just making policies and regulations, but could only be achieved through *reduced demand for final goods*, and other existing and developing strategies to mitigate carbon emissions."[28] And that's just to achieve a 50% reduction, which seems to be the most the industry thinks it can achieve by 2050. Global aluminum output is expected to fall this year to an annual growth rate of "only" 11.5 percent. At this reduced rate, aluminum output (and its emissions) will only double every six and a half years, outstripping the gains of mitigation as it rises. China produces 56% of the world's aluminum and it has grown at double-digit rates for decades.[29] Again, barring some dramatic breakthrough, the

[24] Timperley, "Q&A". The Global Cement and Concrete Association roadmap to decarbonization: "Concrete – the world's most widely-used material – targets carbon neutrality," is just a statement of ambitions with no methodology or timetable: https://gccassociation.org/news/concrete-the-worlds-most-widely-used-material-targets-carbon-neutral-future/.
[25] Chatham House, Johanna Lehne and Felix Preston, "Making concrete change: innovation in low-carbon cement and concrete," Chatham House Report, June 13, 2018, https://www.chathamhouse.org/2018/06/making-concrete-change-innovation-low-carbon-cement-and-concrete.
[26] "Global cement & concrete market report, 2019", *Businesswire*, September 12, 2019, https://www.businesswire.com/news/home/20190919005567/en/Global-Cement-Concrete-Market-Report-2019-Key-Opportunities-Strategies-to-2022---ResearchAndMarkets.com.
[27] Chris Bataille, "Low and zero emissions in the steel and cement industries," OECD, November 26, 2019, 5-6, https://www.oecd.org/greengrowth/GGSD2019_IssuePaper_CementSteel.pdf (my italics).
[28] Meenu Gautam, et al., Chapter 8 – Carbon Footprint of Aluminum Production: Emissions and Mitigation, Environmental Carbon Footprints, *Environmental Carbon Footprints* (Elsevier, 2018), 197-228, https://doi.org/10.1016/B978-0-12-812849-7.00008-8.
[29] Liebriech, "Part one"; "Outlook on the worldwide alumina and aluminum production and processing to 2030," *Businesswire*, May 13, 2020, https://www.businesswire.com/news/home/20200513005301/en/Outlook-on-the-Worldwide-Alumina-and-Aluminum-Production-and-Processing-Industry-to-2030---Benchmark-Performance-Against-Key-Competitors---ResearchAndMarkets.com; Andy Home, "The aluminum giant that's still growing," *Reuters*, July 20, 2015, https://www.reuters.com/article/us-aluminium-production-ahome/china-the-aluminum-giant-thats-still-growing-andy-home-idUSKCN0PU21C20150720.

only feasible means of drastically suppressing this sector's emissions in the near term is to drastically suppress production.

Same with **aviation**. In 2018 China's aircraft emissions accounted for 13% of global aviation emissions though they accounted for just 0.7% of the nation's total CO_2 emissions.[30] However, China's commercial air-travel industry is the fastest growing in the world. From virtually nothing in 1980 it's grown by an average of 13% per year and is now second only to the US. In line with the 12th Five Year Plan's stated goal that China should strive to become a "major aerospace and air-travel power,"[31] the government has been spending lavishly to grow this industry, "firmly supporting" leisure air-travel "to enhance people's happiness".[32] Xi Jinping earmarked aerospace and aviation as one of ten strategic industries targeted in his Made in China 2025 initiative and China is also striving to build its own domestic jet airliners to free it from dependence on Boeing and Europe's Airbus Industries and to provide another economic growth driver.[33] At current growth rates China's commercial aviation could quadruple by 2050 in which case its aviation CO_2 emissions could approach 400 million metric tons annually, as compared to 182 million metric tons from the US aviation sector in 2018.[34]

The Aviation Environment Federation warns that growth of the scale expected in China "won't be compatible with achieving net-zero emissions or limiting global warming to 1.5°or 2°C."[35] With aviation, there's just no alternative to kerosene jet fuel. Replacing jet fuel with biofuels as the industry Air Transport Action Group TC proposes[36] would just hasten the obliteration of what's left of the world's tropical forests to grow palm oil for jet fuel while also pitting food production against fuel production.[37] Electric airliners are scheduled to take off only in the pages of sci-fi magazines for decades if not forever. Jet fuel contains 43 times more energy pound for pound than the best current batteries. Battery efficiency is improving but nowhere near fast enough to power commercial airliners in any time frame that matters for climate change.[38]

Thus, the *Guardian*'s George Monbiot writes,

> "there is no technofix. The growth in aviation and the need to address climate change cannot be reconciled... a 90 percent cut in emissions requires not only that growth stops, but that most of the planes which are flying today are

[30] International Council on Clean Transportation (ICCT), "CO_2 emissions from commercial aviation, 2018," Fact sheet, September 19, 2019, https://theicct.org/publications/co2-emissions-commercial-aviation-2018.
[31] See discussion of this in Smith, *China's Engine*, p. 31.
[32] "Growth of China's tourism sector adds a lot to people's happiness," *People's Daily*, September 26, 2019, http://en.people.cn/n3/2019/0926/c90000-9618243.html; "China's international aviation market set to take off," *People's Daily*, October 28, 2019; http://en.people.cn/n3/2019/1028/c90000-9626915.html.
[33] China Power, "How is commercial aviation propelling China's economic development?" September 26, 2018, https://chinapower.csis.org/china-commercial-aviation/.
[34] Jinglie Yu et al., "China's aircraft-related CO_2 emissions: decomposition analysis, decoupling status, and future trends," *Energy Policy*, 138, March 2020, https://www.sciencedirect.com/science/article/abs/pii/S0301421519307979;
[35] Josh Gabbatiss, "Emissions from Chinese aviation 'could quadrulple by 2050," *Carbon Brief*, January 21, 2020, https://www.carbonbrief.org/emissions-from-chinese-aviation-could-quadruple-by-2050.
[36] ATAG, Waypoint 2050 (September 2020), https://aviationbenefits.org/media/167116/w2050_full.pdf.
[37] Maria Mellor, "Biofuels are meant to clean up flying's carbon crisis. They won't," *Wired*, February 12, 2020, https://www.wired.co.uk/article/biofuels-aviation-carbon-emissions.
[38] Andrew J. Hawkins, "Electric flight is coming, but the batteries aren't ready," *The Verge*, August 14, 2018, https://www.theverge.com/2018/8/14/17686706/electric-airplane-flying-car-battery-weight-green-energy-travel.

> grounded. I recognize that this will not be a popular message. But it is hard to see how a different conclusion could be extracted from the available evidence."[39]

Shipping faces similar constraints. Shipping emissions account for about 3% of global CO_2 emissions, about the equivalent of Germany, and shipping to and from China accounts for about 25% of global shipping.[40] There are no battery-powered tankers or container ships on any naval architect's drawing boards. It's been proposed that ships be powered by biodiesel as a transitional replacement for bunker fuel until something better, like hydrogen, becomes feasible.[41] But biodiesel is no more an environmentally acceptable substitute for ships than for aircraft. Hydrogen-powered ships might be technically feasible some day but producing enough "green" hydrogen to power the world's fleets is a long way off, if ever. Looking to 2050, the *Economist* Environmental Editor concludes: "there are no obvious solutions for how to run a global shipping fleet without relying on fossil fuels".[42] Thus again, the only way to radically suppress those emissions in the here and now is to radically suppress shipping and global trade and haul out the cruise ships.

Textiles production, heavily concentrated in China, "is one of the most polluting industries, producing 1.2 billion tonnes of CO_2 equivalent (CO_2e) per year, which is more emissions than international flights and maritime shipping."[43] They account for 4% of China's manufacturing CO_2 emissions.[44] Textile mills also account for a fifth of the world's industrial water pollution and use some 20,000 chemicals, many of them carcinogenic, and most end up dumped into the environment. Considerable efforts are being made to reduce the pollution and carbon footprint of textiles by promoting more use of natural fibers, less polluting processes of washing, dyeing, finishing, and so on. But the industry is inherently polluting and dominated by petroleum-based synthetics like polyester. Fiercely competitive "fast fashion" manufacturers dominate the industry and this works against costly mitigation and limits organic cottons and such to niche markets. Industry critics say that the only way to reduce pollution from textiles is to "decelerate production": abolish the needless waste of "trashion

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[39] UN IPCC, "Aviation and the global atmosphere: A special report of the Intergovernmental Panel on Climate Change" (1999); George Monbiot, *Heat: How We Can Stop the Planet Burning* (Cambridge, UK: Penguin, 2007), 174.
[40] Hualong Yang et al., "Trends in CO_2 emissions from China-oriented international marine transportation activities and policy implications," *Energies*, July 12, 2017, https://www.mdpi.com/1996-1073/10/7/980.
[41] ETC, Mission Possible, 36.
[42] "Shipping faces uncertain route to zero-carbon future," *Economist*, September 18, 2019, https://www.woi.economist.com/shipping-faces-uncertain-route-to-zero-carbon-future/; Editorial, "The climate issue," *Economist*, October 19, 2020, https://view.e.economist.com/?qs=e16eb9fcef65dd0624628cdeab901ad6207ef4ae78adecb4bbfe97c80ba5708ec27e5ffc2da17d15d82a98eee7797088b012f9ee91967a5aee4b686be08ae3f698adf30d58439097aeb248c1a84fb104; Hualong Yang et al., "Trends in CO2 emissions from China-oriented international marine transportation activities and policy implications," *Energies*, July 12, 2017.
[43] Editorial, "The price of fast fashion," *Nature Climate Change*, January 2, 2018, https://www.nature.com/articles/s41558-017-0058-9; Sohel Rana et al. "Carbon Footprint of Textile and Clothing Products," *Handbook of Sustainable Apparel Production*, S. Muthu ed. (CRC Press, 2015), 141-166, https://www.researchgate.net/publication/276193965_Carbon_Footprint_of_Textile_and_Clothing_Products.
[44] Hong Lu and Lynn Price, "China's industrial carbon dioxide emissions in manufacturing subsectors and selected provinces," Lawrence Berkeley National Laboratory, September 11, 2014, 8, https://china.lbl.gov/sites/all/files/lbl-5575e-industrial-co2-emissionsjune-2012.pdf.

fashion" disposable clothes, and "return to slow fashion, with higher quality garments with longer product life and utilization."[45]

Electronics production accounts for a tiny fraction of global greenhouse gas emissions, less than 1%. But those emissions include high global warming potential molecules (High GWP gasses) that resist mitigation.[46] Electronics emissions result from factory electricity consumption and from industrial processes. Renewable power could conceivably eliminate the former. The latter is the main difficulty. Manufacturers use fluorinated compounds (mostly PFCs), nitrous oxide, and sulfur hexafluoride in producing semiconductor devices, microelectromechanical systems (MEMS), photovoltaic (PV) devices, and displays, which in turn consist of thin-film-transistors (TFTs) for displays and organic light emitting diodes (OLEDs).[47] The amounts are tiny per unit of output but they have a big impact on the climate. Nitrous oxide is nearly 300 times as powerful a greenhouse gas as CO_2 and remains in the atmosphere for more than a hundred years. PFCs and sulfur hexafluoride molecules trap thousands to tens of thousands of times more heat than CO_2 and can remain in the atmosphere for thousands to tens of thousands of years (versus 300-1,000 years for CO_2).[48]

Though some reductions have been achieved, engineers say that PFCs are "difficult to either remove from the process or abate from the fab [microchip fabricators] emissions stream."[49] They remain irreplaceable for many uses and abatement progress is slow.[50] In a 2018 study of US electronics manufacturers, the EPA reported that mitigation efforts reduced emissions from 2011-2017 by just 1.9% per year.[51] This in an industry that's expected to grow by 4.8% per year from 2020 to 2025.[52] Electronics products also contribute massively to the global waste crisis and generate toxic pollution from manufacture to disposal. The Institute of Electronics Engineers reports that "Recycling semiconductor materials at device end-of-life continues to prove difficult, as does the need to produce semiconductor devices using more

[45] Kirsi Ninimaki et al., "The environmental price of fast fashion," *Nature Reviews*, April 7, 2020, https://www.nature.com/articles/s43017-020-0039-9; Editorial, "The price of fast fashion," *Nature Climate Change*, January 2, 2018,; https://www.nature.com/articles/s41558-017-0058-9; Elizabeth Cline, *The Shockingly High Cost of Cheap Fashions* (New York: Penguin, 2012); Mark Angelo, *Riverblue* (2018), riverbluethemovie.eco; Smith, *China's Engine*, 11-13 and the sources cited therein; Alex Scott, "Cutting out textile pollution," *Chemistry & Engineering*, 93.41, October 19,2015, https://cen.acs.org/articles/93/i41/Cutting-Textile-Pollution.html; "Carbon footprint considerations," Two Sisters Ecotextiles, https://www.twosistersecotextiles.com/pages/carbon-footprint-considerations; Suzanne Kapner, "In gifts: old clothes are the newest trend," *Wall Street Journal*, December 23, 2019.
[46] EPA, Overview of Greenhouse Gases, https://www.epa.gov/ghgemissions/overview-greenhouse-gases.
[47] IPCC, 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories, 6.7, https://www.ipcc-nggip.iges.or.jp/public/2019rf/pdf/3_Volume3/19R_V3_Ch06_Electronics.pdf; EPA, "Electronics," https://www.epa.gov/climateleadership/center-corporate-climate-leadership-sector-spotlight-electronics.
[48] EPA, "Understanding global warming potentials," https://www.epa.gov/ghgemissions/understanding-global-warming-potentials; Katherine Derbyshire, "More than just carbon dioxide," *Semiconductor Engineering*, December 14, 2016, https://semiengineering.com/more-than-just-carbon-dioxide/.
[49] Derbyshire, "More than carbon dioxide."
[50] Derbyshire, "More than carbon dioxide"; Francesca Illuzzi and Harry Thewissen, "Perfluorocompounds emission reduction in semiconductor industry," *Journal of Environmental Sciences*, 7.1 (August 18, 2010), https://www.tandfonline.com/doi/full/10.1080/19438151003621417.
[51] From 7MMT CO_2e to 6.1 MMT CO_2e. EPA, 2011-2017 Greenhouse Gas Reporting Program Industrial Profile: Electronics Manufacturing Sector, 6, figure 4, https://www.epa.gov/sites/production/files/2018-10/documents/electronics_manufacturing_2017_industrial_profile.pdf.
[52] "What is the growth rate of the electronics sector?" *Investopedia*, February 5, 2020, https://www.investopedia.com/ask/answers/052515/what-growth-rate-electronics-sector.asp.

sustainable processes to reduce the emissions of toxic pollutants during manufacturing process."[53]

"Foldable phones have arrived. But why?"[54]

Given these trends, here too, the only way to drastically reduce GHG and other pollutants from this industry in the near term is to stop making so many electronic devices, gadgets, and microchips: Start by abolishing designed-in obsolescence and repetitive consumption of iPhones 10,11,12, and abolishing the incessant invention and production of new tech products and services we don't really need including iWatches, VR headsets, Alexa, foldable phones, dashboard displays (unsafe at any speed!), drone deliveries, robot vacuum cleaners, "smart suitcases" that follow you around the airport, self-driving cars, air taxis, space tourism, etc.[55] As Greta Thunberg might put it: "The cost of that new iPhone is your children."

Chemicals: China is the world's largest manufacturer of chemicals and their production accounts for 16% of China's CO_2 emissions from manufacturing.[56] Chemicals are the worst polluting industry in China, responsible for horrific poisoning of farm soils, fresh water sources, and foods, in addition to their GHG emissions.[57] One study concludes that "by using the best technology... in the most favourable scenario, the potential for decreasing carbon intensity varies between 21% and 42%.[58] Not nothing. But in an industry where growth rates have averaged between 13% and 36% per year in China, even a 42% improvement would be easily outstripped by growth. Here again, the only way to radically suppress emissions from chemicals production in the next few decades is to radically reduce their production, abolish production of toxic pesticides, fabric treatments, flame retardants, many solvents and plastics, hormone disrupters, etc,[59] replace them where possible with non-toxics and non GHG emitters, ration and severely restrict the use of those chemicals we can't do without, or learn to live without them.[60]

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[53] IEEE, International Roadmap for Devices and Systems, 2020, https://irds.ieee.org/topics/new-challenges-facing-semiconductors.
[54] Brian X. Chen, "Foldable phones have arrived. But why?," *New York Times*, February 2, 2020.
[55] Kellen Browining, "Amazon drone films inside of your home. Is this good?" *New York Times*; Neal Pollack, "Your dashboard display is going to kill you," *The Drive*, July 10, 2018, https://www.thedrive.com/tech/22034/your-dashboard-display-is-going-to-kill-you; Bill Read, "Flying taxis in the dark," Royal Aeronautical Society, May 24, 2019, https://www.aerosociety.com/news/flying-taxis-in-the-dark/; Brian Garrett-Glaser, "It's time to consider the broader socioeconomic impact of air taxis," *Aviation Today*, June 11, 2020, https://www.aviationtoday.com/2020/06/11/time-consider-broader-socioeconomic-impact-air-taxis/. On the other hand: Helene Fouquet, "French consumers encouraged to stop spending on new smartphones," *Bloomberg*, October 9, 2020, https://www.bloomberg.com/news/articles/2020-10-09/french-consumers-encouraged-to-stop-spending-on-new-smartphones?sref=4KuSK5Q1.
[56] Lu and Price, "China's industrial carbon dioxide emissions".
[57] Elizabeth C. Economy, *The River Runs Black* (Ithaca: Cornell Univ. Press, 2004); Yanzhong Huang, *Toxic Politics* (Cambridge: CUP, 2020); Anna Lora-Wainright, *Fighting for Breath* (Honolulu: Univ. of Hawaii Press, 2013); William J. Kelly and Chip Jacobs, *The People's Republic of Chemicals* (Los Angeles: Vireo, 2014); Smith, *China's Engine*, chapter 3.
[58] Bing Zhu, et al., "CO_2 emissions and reduction potential in China's chemical industry," *Energy*, 35, 2010, 4663-4670, DOI: 10.1016/j.energy.2010.09.038, https://www.researchgate.net/publication/232394498_CO2_emissions_and_reduction_potential_in_China%27s_chemical_industry.
[59] NRDC, Toxic Chemicals, https://www.nrdc.org/issues/toxic-chemicals.
[60] For more on safer chemicals and alternatives see my *Green Capitalism: The God That Failed* (World Economic Association Press, 2016), 37-40 and the sources cited therein.

Plastics are a pollution nightmare. They pollute the planet, even plasticizing the oceans, wiping out marine life around the world.[61] We eat plastics, drink them, breathe them. They release CO_2 emissions at every stage of their life cycle from drilling oil and fracking natural gas to provide feedstocks, to manufacturing, to disposal. China is the world' biggest producer and consumer, the biggest incinerator, and the biggest dumper of plastics into the ocean. The Yangtze alone carries more plastic trash out to the Pacific Ocean than all the rivers of India and Africa combined.[62] China's government has banned imports of plastic trash and recently announced that it will reduce disposable plastic in e-commerce and express food deliveries, and to increase recycling. But these efforts barely touch the problem. The government can't stop the deluge of plastics when it's simultaneously promoting every imaginable form of mindless consumerism. It's not just the plastic bags and wrappers. As often as not what's inside them is plastic too: polyester-plastic garments, plastic toys, purses, belts, shoes, phones and electronic gadgets, etc. Homes are filled with plastic furniture, cabinets, trim, synthetic upholstery fabrics, plastic carpets, short-lived plastic appliances, plastic decorations and gizmos of every sort. Cars are increasingly made of plastic, even the fuselages of Boeing 787 airliners, not to mention the interiors. Plastic is *everywhere* in China and here too. Recycling is a global failure. Since they're just no way to make plastics without producing massive quantities of GHG emissions, the only solution is to just stop making so much plastic: abolish single-use plastics except for critical medical etc. uses, abolish disposable products across the economy, abolish production of plastic junk we don't need, produce what we need to be durable, repairable and completely recyclable, and so on. We got along fine without plastic everything in the 1940s and '50s and we weren't living in caves. But our children *will* be living in caves if we don't stop plasticizing the planet.

Metals, cement, aviation, shipping, long-haul road transportation, railroads, electronics, textiles, chemicals, plastics – the hard-to-abate industries are likely to remain hard to abate for decades to come if not for some, virtually forever. There are no magic bullets. Of course we can't rule the possibility that some unforeseen tech breakthroughs could permit continued growth of one or more of those industries without growing GHG emissions. But as no such miracles of dematerialization or decarbonization have appeared so far, barring such a deus ex machina, I contend that the only way China (and the industrialized West) can meet the urgent climate emergency we face is to immediately begin shutting down fossil fuel production and phasing out fossil fuel-dependent industries across the economy. Industrial shutdowns are coming one way or another. Either we organize this ourselves or Mother Nature is going to do it for us in a much less pleasant manner.[63]

Industry think tanks envision "degrowth"

Even *industry* think tank scenarios for decarbonizing industries begin with suppressing output as the first and usually the biggest step. The IEA's "Material efficiency in clean economy

[61] Eg. Simon Reddy, "Plastic pollution affects sea life throughout the ocean," PEW, September 24, 2018, https://www.pewtrusts.org/en/research-and-analysis/articles/2018/09/24/plastic-pollution-affects-sea-life-throughout-the-ocean.
[62] Center for International Environmental Law (CIEL), *Plastic & Planet: The Hidden Cost of a Plastic Planet* (May 2019), https://www.ciel.org/reports/plastic-health-the-hidden-costs-of-a-plastic-planet-may-2019/; Sarah-Jeane Royer et al., "Production of methane and ethylene from plastic in the environment," *Plos One*, August 1, 2018, https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0200574; Andrea Leonte, "China is burning away its ecological future," *Foreign Policy*, March 26, 2019, https://foreignpolicy.com/2019/03/26/china-is-burning-away-its-ecological-future/; "Plastic ocean input from top rivers, 2015, Our World in Data, https://ourworldindata.org/plastic-pollution.
[63] David Wallace-Wells, *The Uninhabitable Earth* (New York: Random House, 2019); Smith, *China's Engine*, chapter 8.

transitions" calls for reducing demand for steel by 24% and cement by 15%.[64] The Energy Transition Commission, commissioned by a group of European industries and NGOs including CEOs and VPs from Saint-Gobain, BP, ENGIE, Royal Dutch Shell, and World Resources Institute, has put forward the most comprehensive scenario for decarbonizing the "hard-to-abate" industries: **Mission Possible** (MP). The MP CO_2 mitigation "roadmap" sets out "three main routes" to decarbonizing hard-to-abate European industries by 2050: "1) reducing demand for carbon-intensive products and services, 2) improving energy efficiency, and 3) deploying decarbonization technologies across all sectors" – in that order.[65] Of these, suppressing demand (viz. production) accounts for the largest share of GHG emissions reductions in most industries considered in this scenario. MP calls for reducing demand in industries by an average of 40-45%, including steel by 38%, aluminum by 40%, cement by 34%, heavy road transportation by 35%, and plastics/chemicals by 56%.[66] It also calls for a surprisingly small 15% reduction in aviation and a mere 5% reduction in shipping, but that's only because MP proposes substituting biofuels for jet fuel and biodiesel as a transitional fuel for shipping to be replaced by electric battery or hydrogen fuel when those technologies become available. As noted above, there are no legitimate scientific grounds for labeling biofuels "sustainable". Thus, in truth, the only way to suppress emissions from those sectors in the next decades is, again, to ground most planes and dock most ships.

Of course, these industry brain trusts are not looking to put companies out of business. They're not calling – as I do – for wholesale nationalization of coal and oil companies, petrochemical firms, plastic junk makers, petrochemical companies, auto companies and others in order to rapidly phase out some and downsize others. The MP envisions "demand reduction" by means of improved efficiencies, reduced waste, and recycling. That's a hopeless chimera in my view, but at least they've grasped the need to slash production to save the planet

No carbon industries, no Made in China 2025 industrial supremacy, no Silk Road empire

Yet these industries have been indispensable to China's rise and underpin Xi Jinping's ambitious growth plans to Make China Great Again. Xi has no intention of suppressing any of them and cannot do so because he wants to double China's GDP in the next 15 years to make China "a mid-level advanced country" by 2035 – to the ever-lasting glory of Chinese Communist Party.[67]

China's economy stands on two legs: manufacturing and construction. Construction is accounts for around 7.5% of China's GDP and around 30% of its carbon emissions (including embodied emissions from energy inputs).[68] Manufacturing accounts for 27% of GDP and 58%

[64] In OECD, "Low and zero emissions in the steel and cement industries," 15-18.
[65] ETC, Mission Possible, 6.
[66] ETC, Mission Possible, 9,12, 32-38.
[67] Frank Tang and Zhou Xin, "China GDP: Xi Jinping says 'completely possible' to double size of economy by 2035, despite foreign hostility," *South China Morning Post*, November 8, 2020, https://www.scmp.com/economy/china-economy/article/3108767/china-gdp-xi-jinping-says-completely-possible-double-size; Xie Jun, "China to accelerate infrastructure investment to rev up GDP," *Global Times*, February 27, 2020, https://www.globaltimes.cn/content/1180975.shtml.
[68] CECI, China GDP:SI: Construction (2020), https://www.ceicdata.com/en/china/gross-domestic-product-quarterly/gdp-si-construction; Chuai X., Huang X., Zhang M., Lu Q., Zhao R., Lu J. "Spatiotemporal changes of built-up land expansion and carbon emissions caused by the Chinese construction industry," *Environmental Science and Technology*, September 30, 2015, https://pubs.acs.org/doi/abs/10.1021/acs.est.5b01732; Qiang Du et al. "Carbon emissions in China's

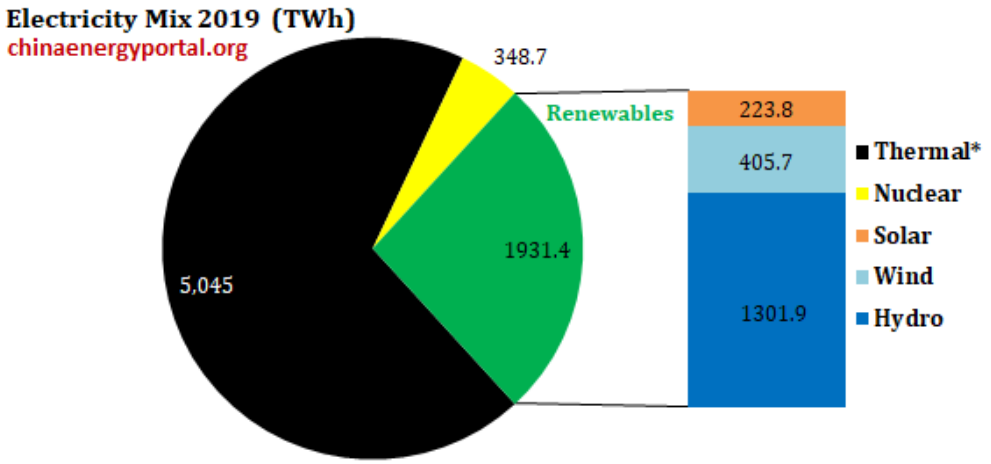
of CO_2 emissions (including embodied energy emissions).[69] Xi Jinping's **Made in China 2025 initiative** aims to enable China to dominate global high tech manufacturing across ten fields: IT, high-end machinery and robotics, aerospace, marine equipment and ships, advanced rail transport, new-energy vehicles, electric power, agricultural machinery, new materials, and bio-medical industries – every one of which requires steel and many other carbon-based inputs.[70] Xi's infrastructure-heavy **Belt and Road initiative (aka New Silk Road)** is binge pouring cement over tons of steel framing damming rivers and paving over forests from Southeast Asia to South America.

So this is the first roadblock Xi faces. Even if all of China's factories were powered with solar and wind, his entire economy, his high-tech industrial supremacy drive, and his global imperial ambitions would all remain massively and inextricably dependent on fossil fuels, and China's mighty exports would still ship out on bunker fuel and kerosene.

II. Abandoning the transition to renewables

The second roadblock is decarbonizing power generation itself. In theory, this is the one sector where Xi ought to be able to suppress emissions without great difficulty. After all, China is the world's leading producer of PV panels, wind turbines and electric cars. Yet this is not happening either. As can be seen in Figure 1 below, for all of China's investments in renewable energy in recent decades, the vast majority of electricity is still produced with coal. In 2019 thermal produced 5,045 Terawatt hours of electricity (TWh) as compared with hydropower 1,309 TWh, wind 405.7 TWh, nuclear 348.7 TWh, and solar 223.8 TWh.

Figure 1



[*: 'Thermal' power generation includes coal, gas, oil, and biomass]

Source: NBS, 2019 List of basic annual electricity statistics, China Energy Portal, https://chinaenergyportal.org/en/2019-electricity-other-energy-statistics-preliminary/.

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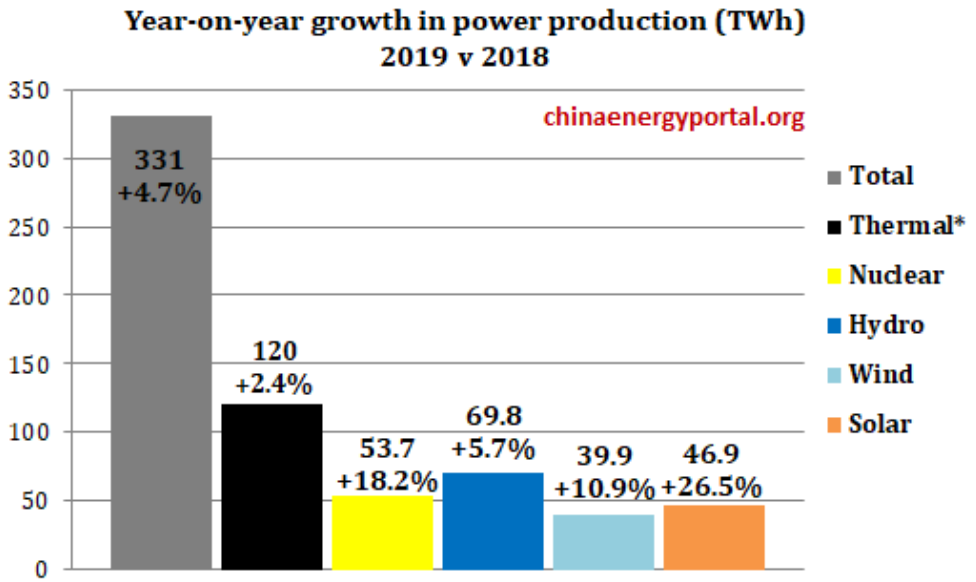
construction industry: calculations, factors and regions," *International Journal of Environmental Research and Public Health*, June 10, 2018, 15(6): 1220, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6025463/.

[69] World Bank (2019), https://data.worldbank.org/indicator/NV.IND.MANF.ZS?locations=CN. CEIC, "China GDP:SI: Construction"(2020); Jian Liu, "Analysis of CO2 emissions in China's manufacturing industry based on extended logarithmic mean division index decomposition," *Sustainability*, January 4, 2019, 11, 226; doi:10.3390/su11010226.

[70] Made in China 2025, Mercator Institute for China Studies (August 12, 2016), https://merics.org/en/report/made-china-2025.

Expressed as percentages, solar and wind accounted for just 8.6% of electricity generation in 2019. Including hydropower, renewables accounted for just 26.4% of generation – though there are good grounds for booting China's hydropower out of the "sustainable" energy category.[71]

Figure 2



Source: NBS, 2019 List of basic data of annual electricity statistics, China Energy Portal, https://chinaenergyportal.org/en/2019-electricity-other-energy-statistics-preliminary/.

In Figure 2 we see that thermal generated electricity grew by just 2.4% from 2018 to 2019. Yet because this was from such a large base, the increase still amounted to 120 TWh – 36% of total growth in electricity output that year and 20% more than the combined increases for solar and wind (86.8 TWh). Fossil fuels still produced 69% of China's electricity in 2019 (5,045 TWh of the total 7,325 TWh produced), down from 70% from 2018 and 73% in 2015.

At this rate, coal-powered electricity generation won't be phased out till the end of the century.

Xi told the United Nations that "humankind should launch a green revolution and move faster to create a green way of development and life, preserve the environment and make Mother Earth a better place for all." His climate scientists at the Institute of Climate Change and Sustainable Development at Tsinghua University, the government's climate change think tank, calculated that for non-fossil fuel energy sources to make up 90% of China's electricity production by 2050, the government would need to increase wind and solar power to about three times current *global* existing capacity of wind power, and four times global existing capacity of solar. The bill: around $135 trillion.[72]

[71] That's because in China, dam building causes so much environmental destruction, imperiling the livelihoods of hundreds of millions across South and Southeast Asia. What's more, dam building in China has actually *increased* the number of coal-fired power plants built as backups and to compensate for diminishing river flows from the Himalayas due to global warming. See Brian Eyler, "Science shows Chinese dams are devastating the Mekong," *Foreign Policy*, April 22, 2020, https://foreignpolicy.com/2020/04/22/science-shows-chinese-dams-devastating-mekong-river/; and Smith, *China's Engine*, pp. 82-86 and sources cited therein.

[72] He Jiankun, Full slide from Professor He Jiankun's presentation," October 19, 2020, https://mp.weixin.qq.com/s/S_8ajdq963YL7X3sRJSWGg; Christian Shepherd et al., "Climate change:

Yet instead of speeding up his own green revolution by reviving solar and wind power that has slumped since state subsidies were discontinued in 2018, Xi appears to be abandoning the transition to renewables. His government ended state subsidies for solar and wind while sharply increasing funding new coal-power plants and for what it calls "new energy" extraction which includes fracking shale gas and extracting coal-bed methane.[73] From January 1 to June 15 of this year, central planners permitted an additional 17 GW of new coal-fired capacity for construction, more than the amount permitted in all of 2018 and 2019 combined (12 GW). The amount of capacity under development just in this year (249.6 GW) is larger than the coal fleets of the United States (246.2 GW) or India (229.0 GW). China already has an estimated 400 gigawatts of excess coal-fired capacity.[74]

By contrast, investments in new wind and solar power have dropped sharply since 2018 as state priorities shifted back to coal. New wind power installations peaked in 2018, then plummeted by 55% in 2019 and dropped a further 13% in the first half of 2020. New wind power installations grew steadily to 2019, then dropped 13% in the first half of this year to their lowest level since 2014.[75]

At the provincial level, China's main energy consuming and producing provinces are investing three times as much in new fossil fuel projects as in renewables.[76] Beijing even dropped its planned reduction of CO_2 per unit of GDP (commitment #2 of its 2015 Paris NDC pledge)[77] in order to power its economic reboot with coal. "Dropping the target shows that economic considerations clearly trumped all other issues," said Li Shuo at Greenpeace Beijing.[78] On top of this, Xi's Belt and Road Initiative is also building at least 240 coal-fired power projects in 25 countries, belching greenhouse gasses across three continents.[79]

Furthermore, Xi's government is not only boosting coal-fired electric generation, it's also ramping up oil and natural gas exploration and production, developing coal-to-liquid "syngas" plants, developing fracking to reach deeper reserves, increasing oil and gas imports, and bidding to become the world's top oil refiner, displacing the United States – again, hardly the sorts of investments one would expect from a leader who says he wants to "move faster to

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China's coal addiction clashes with Xi's bold promise," *Financial Times*, November 3, 2020, https://www.ft.com/content/9656e36c-ba59-43e9-bf1c-c0f105813436.

[73] Michael Standaert, "Why China's renewable energy transition is losing momentum," *Yale Environment 360*, September 26, 2019, https://e360.yale.edu/features/why-chinas-renewable-energy-transition-is-losing-momentum.

[74] Lauri Myllyvirta, "A new coal boom in China," CREA, June 2020, https://globalenergymonitor.org/wp-content/uploads/2020/06/A-New-Coal-Boom-in-China_English.pdf.

[75] Yuki Yu, "China's wind & solar market 2020 half-year review," *Renewable Energy World*, October 8, 2020, https://www.renewableenergyworld.com/2020/08/10/chinas-wind-solar-market-2020-half-year-review/#gref.

[76] Guest authors, "Analysis: China's Covid stimulus plans for fossil fuels three times larger than low-carbon," *Carbon Brief*, September, 23, 2020, https://www.carbonbrief.org/analysis-chinas-covid-stimulus-plans-for-fossil-fuels-three-times-larger-than-low-carbon.

[77] See my discussion of China's Paris commitments in *China's Engine*, pp. xiv-xvii.

[78] Bloomberg, "China drops key environmental targets as Coronavirus hits growth," May 22, 2020, https://www.bloomberg.com/news/articles/2020-05-22/china-drops-key-environmental-target-as-coronavirus-hits-growth?sref=4KuSK5Q1; Bloomberg, "China seen adding new wave of coal plants after lifting curbs," June 10, 2020, https://www.bloomberg.com/news/articles/2020-06-10/china-seen-adding-new-wave-of-coal-plants-after-lifting-curbs?sref=4KuSK5Q1.

[79] Isabel Hilton, "How China's big overseas initiative threatens global climate progress," *Yale Environment 360*, January 3, 2019, https://e360.yale.edu/features/how-chinas-big-overseas-initiative-threatens-climate-progress. Huileng Tan, "China is massively betting on coal outside its borders – even as investment falls globally," *CNBC*, April 6, 2018, https://www.cnbc.com/2018/04/06/china-is-massively-betting-on-coal-outside-its-shores--even-as-investment-falls-globally.html.

create a green way of development and life."[80] The net result of all these policies is that fossil fuels supplied fully 86% of China's primary energy consumption in 2019 (coal 58%, petroleum 20%, natural gas 8%).[81] And Xi wants to keep adding more fossil fuels till 2030?

China's government is still building new solar and wind farms along with new coal power plants. But it has effectively abandoned *transitioning* to renewables.

Finally, instead of promoting the "green and low carbon development" Xi preached about to the UN, in March the government launched another huge infrastructure building fiscal stimulus "aimed at building bridges, roads, broadband, and railroads across the country" to boost the domestic economy through 2035."[82] Since 2010, China has accounted for about half the world's new construction. Binge building of infrastructure draws resources from SE Asia and Australia to Africa and Latin America, pumping out CO_2 emissions far beyond China. In August, China's state railway operator announced that China's already overbuilt railway expansion would continue for another 15 years. The plan calls for building another 125,000 miles of railways, a 41% increase from today, including doubling the size of its high-speed rail network over the next 15 years.[83] China's high-speed rail system already connects all of China's sizable cities. World Bank analysts and Chinese rail experts say most lines are underutilized, few make economic sense, and building more lines to reach remote and smaller towns is a waste.[84]

Unsurprisingly, this latest construction binge has worsened air pollution. China's CO_2 emissions grew by 4-5% in the first half of the year, as we noted, and smog abatement has suffered.[85] Then, in the third quarter July-September, the country's CO_2 emissions hit an *all-time high*, driven by surging post-Covid demand for steel and cement."[86]

Ironically, while Xi bids to lead the world fight against climate change, China's CO2 emissions are soaring while those of the US, Europe and also Japan, are falling. US emissions have fallen from their peak in 2007 (by 2019 US emissions had dropped by 843 million metric tons

[80] EIA, Country Analysis Executive Summary: China (September 2020), https://www.eia.gov/international/content/analysis/countries_long/China/china.pdf; Saket Sundria, "China to take oil-refining crown held by U.S. since 19th century," Bloomberg, November 22, 2020, https://www.bloombergquint.com/business/china-is-set-to-eclipse-america-as-world-s-biggest-oil-refiner.
[81] EIA, China, 2, Figure 1.
[82] Matt Phillips, "Beijing's infrastructure plan has engines revving and metal prices soaring," *New York Times*, September 23, 2020.
[83] Zhou Xin, "China's high-speed railway network to double in length by 2035 under new blueprint," *South China Morning Post*, August 14, 2020, https://www.scmp.com/economy/china-economy/article/3097226/china-high-speed-railway-network-double-length-2035-under.
[84] Martha Lawrence et al., China's High-Speed Rail Development (Washington D.C.: World Bank, 2019), David Fickling, "China doesn't need another 125,000 miles of track," *Bloomberg*, August 17, 2020, https://www.bloomberg.com/opinion/articles/2020-08-17/china-doesn-t-need-another-125-000-miles-of-high-speed-rail?sref=4KuSK5Q1; Smith, *China's Engine*, pp. 30-31 and the sources cited therein.
[85] Lauri Myllyvirta, "Air Pollution in China 2019," CREA, January 1, 2020, https://energyandcleanair.org/wp/wp-content/uploads/2020/01/CREA-brief-China2019.pdf; Ju Yiwen, "Dozens of cities issue smog warnings as winter haze descends," *Caixin*, November 16, 2020, https://www.caixinglobal.com/2020-11-16/dozens-of-cities-issue-smog-warnings-as-winter-haze-descends-101628883.html.
[86] Lauri Myllyvirta, "Analysis: Surge in China's steel production helps fuel record-high CO2 emissions," Carbon Brief, December 3, 2020, https://www.carbonbrief.org/analysis-surge-in-chinas-steel-production-helps-to-fuel-record-high-co2-emissions. See also: Muyi Yang, "China's industrial recovery risks rising coal, EMBER, November 20, 2020, https://ember-climate.org/commentary/2020/11/20/chinas-industrial-recovery-risks-rising-coal/; and David Fickling, "China is too rich to splurge on infrastructure," Bloomberg, May 22, 2020, https://www.bloomberg.com/opinion/articles/2020-05-23/china-npc-take-any-big-spending-plans-with-a-degree-of-caution?sref=4KuSK5Q1.

of CO_2e, roughly equal to Germany's CO_2 emissions in 2005), EU emissions have trended downward for the past three decades, and Japan's 2019 emissions were down 12% from their peak in 2013.[87] US emissions fell by a further 2.1% in 2019 as coal power plants were retired and US coal generation dropped by 18%, the largest annual decline on record – despite president Trump's efforts to save the coal industry.[88] To be sure, *those declines are very far from sufficient to reverse global warming.* They're not even enough to meet their respective commitments to the 2015 Paris Agreement on climate change. But at least they're declines.

Why is Xi Jinping derailing his own green ambitions and leading China and the world to climate collapse?

III. Hypergrowth drivers: the Communist Party's "three must dos"

The answer, as I've argued in my book, is that he has no choice because his first priority, like Mao and Deng Xiaoping before him, must be to maintain the power and security of Communist Party. To do that he relies on three levers to drive his economy. First, as a state-based communist ruling class in a world dominated by more advanced and powerful capitalist powers, Xi, like Mao and Deng before him, understands that China must "catch up and overtake the United States." That's the only guarantee that it will not be overwhelmed by global capitalist imperialism. The way to do that is to build a relatively self-sufficient high-tech superpower economy shielded from Western takeover.[89] In April, Xi called for the indigenous development of "killer technologies" to survive foreign blockades, and reiterated the theme of self-sufficiency at the Central Committee Fifth Plenum meeting in October.[90]

The Soviets' failure to win the economic and arms race with the United States doomed the Soviet Communist Party and Xi is determined to avoid that error. That's the main driver of economic growth in China. Achieving techno-economic and military parity with the US, if not supremacy, is the Communist Party's Holy Grail.

Second, the Party must maximize employment. In capitalist economies, employers have no obligation to the unemployed. But because the CCP was once a workers' party and because it derives its legitimacy from its status as the self-appointed representative of the working class, it cannot completely ignore the workers. That's why Five-Year Plans regularly include job creation targets. Yet keeping China's hundreds of millions of workers working often means producing superfluous steel, needless infrastructure, ghost cities, etc. Maximizing

[87] Carbon Action Tracker (CAT), September 22, 2020, https://climateactiontracker.org/countries.
[88] Scott DiSavino, "U.S. coal-fired power plants closing fast despite Trump's pledge of support for industry," *Reuters*, January 13, 2020; Trevor Houser and Hannah Pitt, "Preliminary US emissions estimates for 2019," Rhodium Group, January 7, 2020, https://rhg.com/research/preliminary-us-emissions-2019/; Nicholas Kusnetz, "U.S. emissions dropped in 2019: Here's why in 6 charts," *Inside Climate News*, January 7, 2020, https://insideclimatenews.org/news/07012020/infographic-united-states-emissions-2019-climate-change-greenhouse-gas-coal-transportation; Eric Lipton, "'The coal industry is back,' Trump proclaimed. It wasn't." *New York Times,* October 5, 2020.
[89] Keith Bradsher and Paul Mozur, "China's plan to build its own high-tech industries worries Western businesses," *New York Times*, March 7, 2017; Bloomberg, "China's got a new plan to overtake the US in tech," May 20, 2020, https://www.bloomberg.com/news/articles/2020-05-20/china-has-a-new-1-4-trillion-plan-to-overtake-the-u-s-in-tech?sref=4KuSK5Q1; and again, Smith, *China's Engine*, chapter 5.
[90] "China must develop 'killer technologies' to survive foreign blockades: Xi," *Apple Daily*, October 31, 2020, https://hk.appledaily.com/news/20201101/ZXKTHTLO4RAPPPFCBH3KN7UVFI/; Staff reporter, "China's leaders look to boost self-reliance as country turns inward," *Guardian*, October 26, 2020, https://www.theguardian.com/world/2020/oct/26/chinas-leaders-look-to-boost-self-reliance-as-country-turns-inward.

employment is a major driver of overproduction, over-construction and profligate waste of energy and resources across the economy.[91]

Third, they must maximize consumption and consumerism. In the wake of the collapse of the Soviet Communist Party in 1991 and the Chinese communists' own near-death experience at Tiananmen Square in 1989, the leadership resolved to create a mass consumer economy and raise incomes to divert people's attention to consumption and away from politics. That's why since the 1990s Five-Year Plans have prioritized consumer industries and the government has promoted one consumer craze after another: cars; condos; shopping malls; package tourism; cruise boats; golf courses; theme parks; online shopping; food delivery and more.[92]

No doubt after centuries of privation and decades of Maoist austerity, China's masses were overdue for some creature comforts. But the promotion of consumerism for the sake of consumerism at the expense of the environment on the model of Western capitalism contradicts Xi's call for "conserving resources" and "protecting nature" and instead contributes mightily to China's growing waste and pollution crises and its suicidal CO_2 emissions.[93]

Given the imperative to maximize growth, employment, and consumerism, China's leaders have no choice but to let the polluters pollute.[94] There's just no way around that. This tendency is further exacerbated because as nationalists, concerned to be self-reliant, the Party wants to rely mainly on its own energy resources which in China's case is chiefly coal.

IV. Technical and political constraints on the transition to renewables

There are also technical and political constraints on transitioning to solar and wind. The technical problem is the intermittency of solar and wind and the lack of storage. The persistent lack of storage holds back renewable energy everywhere. Both Germany and Japan have revived coal-fired power to back up renewables after shutting down nuclear power plants, while the US backs its renewables mostly with gas-fired plants.[95] Europeans and North Americans work around the intermittency problem as best they can by trading energy across regions and nations via electricity markets. US and Canadian electricity trading "allow[s] for bidirectional flow of power from wind sources on both sides of the border, thus helping to address intermittency issues of renewables."[96] But in China's still largely Stalinist command economy, electricity is not distributed by markets. It's distributed by central planners in the National Energy Administration (NEA) who issue plans, set prices and quotas

[91] Smith, *China's Engine*, chapter 2.
[92] Sheng Yulei, "Consumption upgrading infuses impetus into China's economic growth," *People's Daily*, July 21, 2020, http://en.people.cn/n3/2020/0721/c90000-9712803.html.
[93] Eg. Chen Ronggang, "The mountains of takeout trash choking China's cities," *Sixth Tone*, October 15, 2017, https://www.sixthtone.com/news/1001003/the-mountains-of-takeout-trash-choking-chinas-cities; Niu Yue, "China no. 1 dumper of plastic into ocean," *China Daily*, February 19, 2015, https://usa.chinadaily.com.cn/world/2015-02/19/content_19623390.htm.
[94] Bloomberg, "Beijing braces for smoggy winter as China prioritizes growth," November 4, 2020, https://www.bloomberg.com/news/articles/2019-11-04/beijing-braces-for-smoggy-winter-as-china-prioritizes-growth?sref=4KuSK5Q1; Kang Jia and Matthew Walsh, "China rolls out smog rules for polluted north – that Beijing has already broken, *Caixin*, November 5, 2020, https://www.caixinglobal.com/2020-11-05/china-rolls-out-smog-rules-for-polluted-north-that-beijing-has-already-broken-101623529.html.
[95] Ivan Penn, "Renewable Energy's new battle: dependency on natural gas," *New York Times*, July 7, 2020.
[96] Quoted in Smith, *China's Engine*, p. 77.

and regulate coal and renewable utilization priorities.[97] These are negotiated via intra-bureaucratic competition and bargaining in the effort to maintain local employment and profits.

Command without control: bureaucratic surplus extraction and intra-bureaucratic competition advantage coal

Thus the political problem: for all the market reforms of the past four decades, China's state-owned economy (about half the economy) remains highly fragmented and compartmentalized with limited market exchange between provinces, cities and localities. This circumstance dates from Mao's promotion of self-reliance as a local and national development strategy in the 1950s and 1960s. He encouraged provinces, municipalities, and counties to become "big and all inclusive" and "small and all inclusive" – build their own power plants, steel mills, farm machinery and vehicle factories, textile and garment factories, etc. In result, Mao's economy was characterized by redundancy, lack of economies of scale, and other inefficiencies.

Deng Xiaoping opened the economy up to foreign investment, revived markets, and incentivized local officials and factory bosses to market over-plan output and sideline production by introducing profit-sharing between the center and the localities.[98] These reforms spurred growth but since the reforms didn't change the original system of surplus extraction, marketization often reinforced or even intensified tendencies toward localism and compartmentalism.[99] That's because provincial, municipal and local governments profit from economic activity under their administrative control. They receive the profits of their state-owned industries (including power plants), and they collect taxes on private and joint-venture businesses. Some receipts they split with the central government, others they keep entirely.[100]

Local officials in China are highly entrepreneurial but their opportunities to extract revenue are limited to the surpluses available within their own jurisdictions. Consequently, every locality tends to see others as competitors in a zero-sum game over locally generated profits, private and foreign investment, and centrally disbursed investment funds. Local officials still strive to be largely self-reliant much as in Mao's day, even erecting "market blockades" to monopolize production and trade within their own bailiwicks to protect their tax receipts and jobs. As one local official put it, "every area acts as though it were a separate country."[101] By the late 1980s, Beijing was complaining that "China today is split into more than 20 independent kingdoms and 2,000 fiefdoms…. With the rapid increase in the scale of capital construction,

[97] Eg. NRDC (National Development and Reform Commission), NEA, "Notice on the establishment and improvement of a safeguard mechanism for renewable electricity consumption" *China Energy Portal* (May 15, 2020), https://chinaenergyportal.org/en/notice-on-the-establishment-and-improvement-of-a-safeguard-mechanism-for-renewable-electricity-consumption/; NEA, "Circular on 2023 risk and early warning for coal power planning and construction," *China Energy Portal* (February 26, 2020), https://chinaenergyportal.org/en/circular-on-2023-risk-and-early-warning-for-coal-power-planning-and-construction/.
[98] Shirk, Susan L. 1993. *The Political Logic of Economic Reform in China.* Berkeley, CA: University of California Press; Heilmann, Sebastian. 2008. "From Local Experiments to National Policy: The Origins of China's Distinctive Policy Process." *The China Journal* 59:1–30.
[99] Richard Smith, "The Chinese road to capitalism," *New Left Review,* no. 199 (May-June 1993), 55-99
[100] For the list of taxes and the division of receipts between the center and the localities see the Beijing Local Taxation Bureau, Tax System of the People's Republic of China State Administration of Taxation (2009), https://web.archive.org/web/20071030172830/http://english.tax861.gov.cn/zgszky/zgszky27.htm.
[101] Mark A. Deweaver, *Animal Spirits With Chinese Characteristics* (New York, Palgrave Macmillan, 2012), 88.

local governments face growing competition for scarce resources, which in turn, encourages... mercantilist or import-substitutionist strategy[ies] of provincial development."[102]

And so it remains today. Thus when Xi's Made in China 2025 initiative (2015) budgeted billions for new energy vehicles, the only way local officials could tap the money on offer was to DIY: build their own factories. That's how China ended up with 487 electric car manufacturers by 2018 compared with 3 in the US: Tesla, GM, and Nissan.[103] Today, it's microchip factories. As Trump cut Huawei off from using US-made microchips, Xi is spending tens of billions of dollars to build Chinese microchip factories in a drive to become self-sufficient in chip production. Thus every mayor wants his town to be a Silicon Valley. And in China's system it can be a good business plan to apply for and get the start-up millions from Beijing even if the start-up never produces chips. So now Beijing is complaining that hundreds of companies with no experience, no technology, and no talent are nevertheless "blindly taking on projects" "that require great technical sophistication" with the result that "stalled projects and vacant manufacturing plants have wasted huge amounts of resources."[104]

We see such localist, compartmentalist tendencies in electricity generation too. In China, producer prices are inflexible, fixed by the NEA. As one grid analyst explained:

> "Grid operators set generation and transmission schedules up to one month in advance, and they program coal power plants to operate continuously for a week or longer. This limits their ability to accommodate hourly or daily fluctuations in renewable output. Flexibility is further limited by utilization quotas that guarantee coal plants a certain number of operating hours per year."

As a result,

> "cross-province electricity trading and transmission face obstacle[s]... The provincial electricity market... is characterized by the self-contained system and self-balance, making the relatively closed provincial market not conducive to optimizing national electricity system planning, power source structural adjustment, cross-province power grid operation, and electricity trading."[105]

The business magazine *Caixin* reports that "local governments are undermining the central government's efforts to develop greener sources of electricity by squeezing production quotas for renewables and slapping extra levies on wind companies to prop up ailing coal-fired plants in their region." These tendencies have been reinforced by the economic slowdown since 2014. Southeastern provinces report that they "have little incentive to buy power from the

[102] Cheng Li and David Bachman, "Localism, elitism, and immobilism: elite formation and social change in Post-Mao China," *World Politics*, 42.1 (October 1989), 85.
[103] Smith, *China's Engine,* 1-2-104.
[104] Luo Guoping, "Beijing to inexperienced companies: stay out of chipmaking," *Caixin*, October 2120, https://www.caixinglobal.com/2020-10-21/beijing-to-inexperienced-companies-stay-out-of-chipmaking-101617267.html.
[105] Peter Fairly, "Wind battles coal for access to China's grid," *IEEE Spectrum*, September 20, 2016, https://spectrum.ieee.org/energy/renewables/wind-battles-coal-for-access-to-chinas-grid. See further discussion of this problem in Smith, *China's Engine,* 76-79.

north when they have... their own generation to keep local power facilities in business in the economic downturn and avoid potential losses of jobs and tax revenue."[106]

This is why China's coastal industrial zones prefer to build their own captive (*zibei*, or "self-provided") coal-fired power plants, even if they're small scale, inefficient, and excessively polluting. Since coal is readily available, cheap, and burns 24/7, they prefer coal to relying on uncertain supplies of wind and solar power from distant power plants, most of which are built out in China's sunny and windy far west and north (Xinjiang, Qinghai, Gansu, Inner Mongolia, etc.).[107] Local governments across northern China also use coal to heat homes and businesses in the winter. In principle electric boilers could replace those too. But there too, without effective electricity storage and without trans-provincial electricity trading, they could not guarantee consistent heating when wind or solar are insufficient or unavailable. Finally, there's the jobs issue. Xi may prefer solar and wind but, as noted, keeping workers employed is a higher priority. Coal mining and washing alone employs about 3.5 million people and more work in related industries.[108] Replacing coal with solar and wind would eliminate millions of jobs at a time when unemployment is already high because of the economic slowdown, the trade war, and the coronavirus.

CCP nationalist vanity and Stalinist necessity advantage fossil fuels

In theory, despite the protectionist biases of local officials, ultra-authoritarian Xi Jinping ought to be able to ram through his transition to renewables, as professor Tooze suggests. After all, Xi commands the most powerful police state in history, one that's taken down and locked up thousands of officials high and low. But as I explained in my book, first, for or all his nominal authority Xi cannot *systematically* enforce his will against theoretically subordinate officials because he can't fire them. They're not employees like in capitalism but party members like himself. He's is not an absolute dictator but rather the primus inter pares in a multi-million collective ruling class in which power is widely dispersed such that local officials can, and regularly do, defy Beijing with impunity when it suits their economic interests.[109]

Second, Xi himself is disinclined to phase out fossil fuels and force through the transition to renewables because this would disrupt and undermine his higher priorities. Xi is an ultra-nationalist and a Stalinist. If he's going to Make China Great Again and overtake the United States, he has no choice but to grow those fossil-fuel based industries and power them, if need be, with coal, oil and methane, to build China into a largely self-sufficient techno-industrial superpower (and let the polluters pollute).

In sum, technical barriers, bureaucratic resistance, and Xi's own overriding concern to maximize growth, all advantage fossil fuels. In my view, these pose formidable if not insurmountable barriers to transitioning to solar and wind renewable energy in China.

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[106] Zhang Yan, "Coal addiction spells trouble for wind power producers," April, 29, 2016, https://www.caixinglobal.com/2016-04-29/coal-addiction-spells-trouble-for-wind-power-producers-101011708.html.
[107] "China's geographical mismatch between resources and load centers," in Yiyi Zhou and Sophie Lu, *China's Renewables Curtailment and Coal Assets Risk Map* (Bloomberg October 25, 2017), 10-11, https://data.bloomberglp.com/bnef/sites/14/2017/10/Chinas-Renewable-Curtailment-and-Coal-Assets-Risk-Map-FINAL_2.pdf; Javier C. Hernandez, "It can power a small nation. But this wind farm in China is mostly idle," *New York Times*, January 15, 2017, https://www.nytimes.com/2017/01/15/world/asia/china-gansu-wind-farm.html.
[108] Bloomberg, "China wants to be carbon neutral by 2060. Is that possible?" September 23, 2020, https://www.foodandwaterwatch.org/sites/default/files/rpt_1609_carbontax_web17011.pdf.
[109] Smith, *China's Engine*, chapter 5.

IV. Managed partial deindustrialization or extinction?

Yet even if Xi were able to entirely replace fossil fuels with solar and wind, if he were to simply waste renewable energy producing more disposable products, needless consumerism, pointless overproduction and overconstruction, "blingfrastructure" to glorify the CCP, ghost cities, damned-up rivers and paved-over forests, then the result would be the same: runaway global warming to climate collapse.

There is just no way that Xi can "peak China's emissions before 2030 and achieve carbon neutrality before 2060" while also maximizing growth. He can "pursue development at the expense of protection" or he can "transition to green and low-carbon development... [and] take the minimum steps to protect the Earth, our shared homeland." He can't do both.

In October 2019 climate scientists published research showing that on present trends, global warming is going to "all but erase" Shanghai, Shenzhen, and "most of the world's great coastal cities before 2050." [110] If this proves correct, Xi's economy will be "carbon neutral" sooner than he intended, though hardly in the manner he desired. There won't be any "great rejuvenation" and glory for the Communist Party when Shanghai and Shenzhen are under water, when China's glaciers melt and its rivers dry up, when farming collapses across the North China Plain. There will be famine, collapse, and untold human suffering.[111]

This essay is dedicated to Ou Hongyi and her generation.[112]

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[110] Denise Lu and Christopher Flavelle, "Erased by rising seas by 2050," *New York Times*, October 30, 2019; Damian Carrington, "Climate crisis: 11,000 scientists warn of 'untold suffering,'" *Guardian*, November 5, 2019, https://www.theguardian.com/environment/2019/nov/05/climate-crisis-11000-scientists-warn-of-untold-suffering.
[111] David L. Chandler, "China could face deadly heat waves due to climate change," *MIT News*, July 31, 2018, http://news.mit.edu/2018/china-could-face-deadly-heat-waves-due-climate-change-0731.
[112] Steven Lee Myers, "Teenager in China wages a lonesome crusade for climate action, *New York Times*, December 5, 2020, https://www.nytimes.com/2020/12/04/world/asia/ou-hongyi-china-climate.html.

All the good things a digital euro could do – and all the bad things it will

Norbert Häring [Germany]

> "What would happen if we gave the Earthlings our technological knowledge and methods? The first to seize upon them and use them to increase their own power would be the ruling class in all countries. This would be inevitable, because they already control the means of production and control the loyalty of 99% of all the scientists and engineers. In other words, they are the only ones who can apply the new technology, and they will use it to the exact extent that it can help them increase their power over the masses" (Alexander Bogdanov, *Red Star*, 1908).

On 2 October, the European Central Bank (ECB) announced in a press release that it intends to intensify its work on a digital euro. The ECB enumerated three scenarios under which it might want to issue a digital euro: (i) a sharp decline in the use of cash, (ii) "he launch of global private means of payment that might raise regulatory concerns and pose risks for financial stability and consumer protection" (read: Libra), and (iii) a broad take-up of central bank digital currencies (CBDC) issued by foreign central banks (read: digital yuan).

With a digital euroone could, if one wanted and was allowed to, actually do some good, namely:

- create a supplement for cash that protects privacy better than other digital means of payment,
- give citizens and companies an alternative to bank money which always carries the risk of bankruptcy,
- curtail the power of banks, by taking away or limiting their power to create money,
- help prevent a private company such as Facebook, with its own globally accepted currency, from crowding out the euro in payment transactions,
- prevent China from using its digital yuan to replace the euro (or the dollar) as a transaction currency.

On the other hand, however, it is also possible to do rather underhanded things with it, especially:

- facilitate and accelerate the abolition of cash in order to perfect financial control over citizens,
- defend and expand the sanctioning power of the U.S. government, with which it enforces its own law worldwide, including in Europe, in violation of international law.

I will briefly explain what a digital euro is and how it works. Then I will deal with the all-important questions of who controls it and to what end.

What is a digital euro?

Deposits at banks that are denominated in euro and can be used for all sorts of digital payments are already in existence. However, these deposits legally are only loans from the depositors to the banks which confer the right to be paid back with real money, i.e. physical euros issued by the central bank. A genuine digital euro would be digital money from the central bank.

So far, only banks have access to digital central bank money. They have account balances at the central bank through which they effect payment transactions among themselves. The main innovation of digital central bank money (for everyone) would be that everyone would have direct or indirect access to such central bank money, and could use it for digital payment transactions. There are two ways to achieve this:

1. Everyone gets an account at the central bank for payment transactions. The balances on this account are exchangeable on a one-to-one basis with balances at commercial banks or cash. Like cash, these balances are not at risk of insolvency because the central bank is behind them.
2. Alternatively, citizens would have special accounts at commercial banks for digital central bank money. Unlike normal bank deposits, the balance on these accounts is not a loan to the bank, but an escrow account. The account holder is the owner of the money on it, the bank only manages it as a service provider. If these accounts exist, the digital central bank money can be transfered from some commercial bank's central bank account to a private CBDC-account at a commercial bank.

If the central bank would want to protect financial privacy of citizens, it could offer the possibility to load the digital euros onto anonymous electronic wallets or cards that can be used to make anonymous payments. That sounds good and it could be. But there is a big downside. It will not happen.

The real agenda

Anyone who believes that those same central bankers, which have been working together for ten years under US leadership to push back cash, would design central bank digital currencies in such a way that more than small amounts can be paid anonymously, is highly naive. A case in point is the treatment of rechargeable credit cards, which one could use to shop on the Internet while maintaining privacy.

The EU Commission and central bankers have acted to restrict the possibilities of use and the permitted amounts more and more, to the point that the option is hardly relevant any more. Why should those same people and working groups, who have done this, suddenly rediscover their respect for the value of people's financial privacy when it comes to central bank digital money?

And indeed, where the central bank's plans are already well advanced, in Sweden, there is only talk of small amounts of CBDC which might be allowed to be spent anonymously. And even that could be stopped at any time.

In Sweden, central bank digital money is recognizably intended to mitigate the disadvantages associated with the impending and intended complete elimination of cash. One of these disadvantages is that, without cash as the only central bank money, there is no longer a clear legal anchor for the monetary system. If bank money represents a legal claim to the legal tender cash, what is bank money when there is no more cash?

The Swedish central bank has already written a paper on this, in which it concluded that it would be quite complicated. If you declare central bank digital money another form of legal tender, this problem is solved.

Also, the problem of people without a bank account, which is currently impeding the removal of cash for legal reasons, can be solved more easily if the state can simply issue payment cards to everybody which can be loaded with central bank money.

Privacy and cash to be abolished

Just how much respect for privacy can be expected is shown by the fact that only a small paragraph in the long report of a working group of major central banks, including the ECB, together with the Bank for International Settlements (BIS), which was presented at the beginning of October, is devoted to this topic. It just summarily proclaims that a balance will have to be struck between privacy and governments' interest in monitoring citizens, and that it is not about the if of surveillance, but only about how much and by whom:

> "For a CBDC and its payment system, payments data will exist, and a key national policy question will be deciding who can access which parts of it and under what circumstances."

The central banks proclaim that they will continue to offer cash as long as the citizens want it, but nothing more than that. There is no joint commitment to preserve the availability and usability of cash, so that citizens retain an interest in using it. There are recent commitments to that effect by individual central banks, including the ECB. We will have to see if they are meaning it or just paying lip service.

In the higher echelons of the Bank for International Settlements (BIS), which coordinated the group, the intention to get rid of cash is clear enough. Here is a quote from the secretary general of the BIS, Augustin Carstens, from a 2019 speech entitled "The future of money and payments". The former head of the Mexican central bank and a graduate of Chicago University is Washington's man at the head of the BIS and a proven fighter against cash.

> "Like cash, a CBDC could and would be available 24/7, 365 days a year. At first glance, not much changes for someone, say, stopping off at the supermarket on the way home from work. **He or she would no longer have the option of paying cash**. All purchases would be electronic. But from here, differences start to emerge. A CBDC is not necessarily anonymous, like cash. And unlike cash, it could pay or charge interest. "

The ambiguous attitude of the ECB

I do think, that the ECB or at least many at the ECB mean it when they say they want to support the use of cash. I doubt, though, that they will prevail against the powerful interests who want to see cash gone. The report of the ECB working group published in October is quite clear with regard to the chances of getting a digital Euro which would preserve privacy:

> "Regulations do not allow anonymity in electronic payments and the digital euro must in principle comply with such regulations. Anonymity may have to be ruled out, not only because of legal obligations related to money laundering and terrorist financing, but also in order to limit the scope of users of the digital euro when necessary – for example to exclude some non-euro area users and prevent excessive capital flows."

The users from outside the euro area who could be blocked are, of course, only one example. Anyone can be blocked and the money flows of the whole population can be controlled and limited if, thanks also to the digital euro, there is no more cash anymore.

A recent survey of the ECB to find out about the opinions of citizens and practitioners with regard to a digital Euro contains reasons for suspicion with regard to the goals of such a project. One of the options the ECB is focussing on consists in providing a device that allows to store digital euros and to transfer them anonymously in analogue face to face settings, in which they are a direct alternative to cash.

It is hard to see, how the introduction of such a device would not be a competition to the use of cash and would thus not lead to a further decline in cash-use. This in turn would increase the cost per-transaction of keeping in place an extensive infrastructure for the provision and handling of cash.

Even the Eurosystem cash strategy, published (quietly) on 2 October 2020, in which it commits to ensuring the continued wide availability to pay with cash, cannot really dispel the suspicion that the commitment is only half-hearted.

One paragraph is titled "We make sure that cash is accepted everywhere". However, there is no mention in the text of what the ECB is doing or plans to be doing to support general acceptance of cash. All they do is stating the law and even implicitly implying that all restrictions on the use or acceptance of cash based on a law will be fine. They write: "Public service providers, traders and other businesses cannot refuse cash payments, unless explicitly required by law or where all parties have previously agreed on other means of payment."

As I understand it, the ECB would need to come to an agreement with the EU-commission, to ensure that businesses are, as a rule, required to accept cash. This will be an uphill battle, given the traditional attitude of the commission, which is quite hostile to cash.

In the section on access to cash-services the ECB states:

> "Credit institutions therefore have a social responsibility to provide cash services to citizens and businesses."

This sounds good and it is certainly a welcome turnaround to past years, in which regulators have encouraged banks to raise their fees to improve their bottom lines. Banks have done that, and they have raised cash handling charges more than any. However, the change in attitude seems to not have taken root everywhere in the Eurosystem, yet. Very recently, I asked the Bundesbank, which is part of the Eurosystem, about their attitude vis-a-vis banks which stop the provision of coin-handling services to citizens or make them very expensive. They responded that banks have no legal obligation to provide these services. There was no mention of a "social obligation of credit institutions", even though the governing council of the ECB, of which the Bundesbank-president is a member, had adopted the new cash strategy weeks earlier. See (in German): Was Bafin und Bundesbank dazu sagen, dass man überschüssiges Münzgeld bei Banken immer schwerer los wird.

The ECB seems mostly concerned about the banks

From the ranks of the ECB, the Director General for Payments, Ulrich Bindseil, presented a concept for a digital euro, which makes it quite clear that citizens should expect little good from it. His proposal is primarily aimed at ensuring that the banks can continue to play their old game, in which they create money by buying securities and granting loans, thereby boosting the economy, enabling them to put even more money into circulation, and so on until the whole thing collapses at some point and the banks are then rescued by governments and central banks.

To this end, Bindseil wants to discourage high CBDC-balances at the ECB by charging negative interest rates for CBDC-balances above 3,000 euros. The motto is: just don't let CBDC compete with the unsound bank money system.

The unfortunate thing is: such a castrated central bank money, which allows no or only small anonymous payments and limits the size of deposits, is quite unattractive, as Peter Bofinger and Thomas Haas point out in a CEPR-discussion paper published in November 2020. They show that the problem is not the lack of the appropriate payment object, but the lack of an independent European payment system, that could compete with Mastercard, Visa and Paypal:

> "Our analysis shows that there is no justification for digital cash substitutes from the point of view of the user perspective. Instead, our analysis opens the perspective for a retail payment system organized or orchestrated by the central bank without a new, independent payment object."

If central bankers are worried about cash disappearing, Bofinger says in a newspaper comment, it would be much better for them to ensure that the nationwide supply of cash remains guaranteed and that you can pay with it everywhere. After all, the digital euro cannot satisfy the growing demand for a secure and anonymous means of payment, which is evidenced by the increasing amount of cash in circulation in all major currencies, at least not in the expected and envisaged concept.

Fighting back against Libra and digital yuan

If it is not about the interests of the citizens, what is it all about? It's about what monetary policy and geopolitics are always about: power. It was the announcement of Facebook to issue a global money called Libra that scared the central bankers into action. A platform like Facebook, with over two billion users around the world, which issues its own money, could potentially undermine the power of central banks. US Treasury Secretary Mnukhin therefore described Libra as a threat to US national security.

What a private currency has to do with the national security of the USA is explained in the text of the tender of the Office of the Director of National Intelligence for a research project on the dangers for the global dollar dominance. It says:

> "There are many advantages for U.S. national security to have the U.S. dollar as the world reserve currency. Any international transaction settled in US dollars, gives the U.S. jurisdiction over financial crimes associated with those transactions, to include support to terrorism and weapons-of-mass destruction (WMD) proliferation. In addition, the U.S. is able to effectively level sanctions against or designate entities that violate international laws or treaties, or that have the potential to cause financial instability in global markets. The U.S. maintains international dominance in no small part due to its financial power and authorities. However, there are many threats to the U.S. dollar maintaining its status as the world reserve currency. Countries such as China and India have large growing economies that could compete with U.S. economic growth. Many cryptocurrency enthusiasts predict that either a global cryptocurrency or a national digital currency could undermine the U.S. dollar. If either of these scenarios or others come to pass, the U.S. would lose both its status in the world and its global authorities."

That the U.S. government would have the power to domesticate Facebook and Libra was foreseeable. On May 6, 2020, Stuart Levey, former First Secretary of the Treasury and top financial sanctioner, was appointed head of the Libra Association. This appointment is likely to imply that Libra is destined to become a tool to assure the preservation of dollar domination rather than a potential threat to it.

On 27 November 2020 the *Financial Times* reported under the headline: "Facebook's Libra currency to launch next year in limited format":

> The long-awaited Facebook-led digital currency Libra is preparing to launch as early as January, according to three people involved in the initiative, but in an even more limited format than its already downgraded vision. The 27-strong Libra Association (...) would now initially just launch a single coin backed one-for-one by the dollar.

This supports the view that Libra is going to be used as a tool for more intensive and extensive dollarization of other countries. According to the FT-report the plan is to start with "half a dozen high-volume **remittance corridors**" including the US and some Latin American countries.

Obviously, if it becomes easier for migrant workers to send (Libra-)Dollars home into their countries, rather than exchanging them into local currencies, the respective economies will become more dollarized. If successful, this model can be extended to any US/foreign-country pair and eventually any country pair.

This is not really good news for the central banks of other countries, considering the unscrupulousness with which the US has recently been pursuing its political and economic interests with the sword of sanctions against everyone who is using the dollar. The sanctions against European companies that are involved in the perfectly legal Nordstream2 project and in the perfectly legal trade with Iran, sanctions which are contrary to international law, are only two examples of many.

For the rest of the world threatened by U.S. financial sanctions, a kind of Libra-dollar that could push back their own currency even on their domestic territory is therefore a great threat. It would make the US sanction sword cut even deeper.

If one was stubbornly optimistic, plans by European central banks to introduce digital central bank money could be interpreted as efforts to offer citizens a means of payment that is as attractive as US-based offerings such as Libra.

The fact that the ECB and the central banks of Japan, Sweden, Canada, Great Britain and Switzerland, together with the BIS, formed the above-mentioned working group on DBDC at the beginning of the year, without participation of the US, would seem to support this interpretation.

But that would be naive. As Peter Bofinger writes in his article, payment systems like Paypal's are much more attractive than an e-Euro castrated for the benefit of the banks - at least as long as the submissive EU Commission refrains from enforcing European data protection rules against large US-based global players like Paypal.

Paypal has recently expanded its offer to include payment transactions in Bitcoin. It will be easy for the company to also process transactions in e-Euro via its own system and thus keep them within the range controllable by the US services.

Teaming up against China

In the meantime, the US Federal Reserve has joined the central bank working group on CBDC as the seventh member. It seems to have succeeded in getting the six others to commit to cooperatively shape the development of digital central bank money, as it says in the report published in October entitled "Central bank digital currencies: foundational principles and core features".

The report also states that one of the basic principles must be the involvement of the private sector, i.e. de facto the large multinational U.S. corporations that dominate payment systems globally.

> "The payment system upon which a CBDC exists and is transferred must involve the private sector to benefit from innovation and competition and support adoption and use."

In other words: there must not be a fully (national) government-controlled system that excludes US corporations. Motions to break-free from dollar dominance and the US sanctioning power based on it are thus no longer possible. The only thing left to do now is to jointly avert the other threat to western and dollar dominance, the digital yuan.

China's central bank is further ahead with its digital currency. Since October, a field test with digital yuan has been underway in Shenzen. The central bank raffled off digital yuan among the people who wanted to participate. At the start of the trial, 3,400 stores accepted the new currency.

To add to western concerns, Chinese smartphone manufacturer Huawai recently equipped its new Mate 40 top model with a pre-installed electronic purse that can be filled with digital yuan or crypto currencies.

It is expected that the same feature will soon be integrated into Huawai's low-cost models and those of other Chinese manufacturers such as Transsion, which has a large market share in Africa. Africa has close trade relations with China, so the yuan could significantly increase its market share in Africa in this way, at the expense of the dollar.

Conclusions

Anyone who wants to make the monetary system more stable and citizen-friendly, to preserve the privacy of citizens and the sovereignty of their country should oppose central bank digital money in general and a digital euro in particular.

A digital euro would most likely be used to speed up the demise of cash. And cash is the only means of payment that can preserve financial privacy and it is the only viable payment technology that can escape surveillance and control by the US-government. A digital euro cannot do this. It would expose citizens and companies of the euro area even more to the ever present threat of US financial sanctions.

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Is economics a science?

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Economists' Haiku
Science or not?
I look out the window:
The answer is no.

Abstract
After more than a century of near-complete hegemony of the neoclassic paradigm in the academy, we take it for granted that economics, as it is nowadays practised, is a science in the same sense we believe other fields of scientific inquiries to be. Although many critiques and dissenting voices can and have been heard questioning various aspects of different theories and models, the overall scientificity of economics as such has mostly been left unquestioned. Economists still present themselves as experts, Nobel and various other prizes in economics are awarded, thousands of papers are published in "scientific journals", and hundreds of thousands of students engage in their studies worldwide to become professional economists. All following a remarkably similar student plan and curriculum all around the world. However, in this paper, I go a step further and ask the question, not without hesitation due to the seriousness of the negative answer I propose to it, whether economics as it is practised nowadays by experts and presented to the public at large, can be considered a science at all. More than the question about whether we have good or bad economic science, it is the whole edifice and the way modern economics has come to be, which is, thus, being questioned.

Introduction

To the question proposed by this paper, to stay in the realm of scientific debate, a somewhat completer answer than the haiku stated above may be needed… For a start, the answer certainly depends on how we define "science" in the first place. If we consider science in empirical and heuristic terms, as a way to grasp and get to terms with actual reality, current economic theories based on abstractions and generalisations aiming at universally valid "models" and "economic laws" have shown to be of little help to understand concrete and specific historically changing economic realities. The idea, as proposed explicitly by the founders of the currently hegemonic neoclassic approach in economics, that the economic reality can be studied and approached scientifically by applying the mathematical, model-based deductive method borrowed from Newtonian physics, did not seem to live up to its promises. It has lead, instead, to a scientific practice which has been increasingly alienated from empirically observed economic reality, dwelling in the creation of sometimes sophisticated mathematical models which, nevertheless, failed to predict important real-world events in the past. Nor has it allowed us to understand better the more profound historical, cultural, political and ecological forces shaping our economic life in the present.

If we take a Popperian falsificationist perspective (Popper, 1959) and evaluate economics' scientific status in terms of the theoretical predictions made by the theory which may be revealed to be false by future observations; economics' practice of basing its models on a series of restrictive, non-empirically observable assumptions and particularly on the all-pervasive *ceteris paribus* assumption leaving crucial variables relevant to the real-world developments out of their models, can certainly not be assumed to be "scientific". By

considering a series of critical variables as unchanging and thus external to the model – as for instances technological change, political and cultural contexts as well as ecological factors; and, as most theoretical models do, by assuming free-market competition (when a series of restrictions and limitations of a political, administrative, cultural and even geographical nature to the functioning of real markets exists); like many other of the standard assumptions as for instances perfect information or at least information symmetry; the 2X2X2 (two products, two countries, two factors of production models on which most standard trade-theories are based); purely rational, individual profit-maximising human behaviour; rational expectations among many others; it merely has become all too easy to fend theories from empirical falsification efforts by attributing the deviation between the actual observed facts and the predictions to all these external factors which have not been considered by the model or which had been considered as "unchanging" by it.

As for the assumptions made by the standard economic models, they are already assumed to be not just unverifiable but directly untrue, unless a very short time – and thus a minimum validity of the model – is assumed. Indeed, the *ceteris paribus* assumptions place the model – and thus theory – out of the flux of time. It assumes an abstract moment in which change of all these "external" variables is supposed not to happen while, miraculously perhaps, the "internal", endogenous variables of the model, do change. Although many of these variables deemed as external to the model are actually a constituent and changing aspect of reality and do affect the outcome.

It is true, Milton Friedman's highly influential *Essay on the Methodology of Positive Economics* precisely defends economics' scientific status by claiming that it does not matter whatever assumptions are made and whether they are empirically observable. As his argument went, "theory is to be judged by its predictive power for the class of phenomena which it is intended to 'explain'"; thus, arguing that

> "the relevant question to ask about the 'assumptions' of a theory is not whether they are descriptively 'realistic', for they never are, but whether they are sufficiently good approximations for the purpose in hand. And this question can be answered only by seeing whether the theory works, which means whether it yields sufficiently accurate predictions" (Friedman, 1953, pp. 8 and 15, respectively).

From a Popperian perspective, it is undoubtedly a well-argued point. However, we could apply it as well to Friedman's theory that economics is a positive science comparable to natural sciences and theoretical physics, as he and standard economists alike like to believe. Seen from this perspective, the main prediction of his theory is that economist's practice follows this method and, thus, that theories whose predictions fail the empirical tests are abandoned in favour of others who are kept as provisional explanations until they as well are eventually abandoned in favour of others who render not-yet falsified predictions. Nevertheless, any even superficial observation of past and current practice by professional economists will show that this has not been the case in the past, nor is it the case today. It predicts as well that the "assumptions" commonly made are at least "sufficiently good approximations for the purpose at hand". Here too, how can we expect that the assumption of free-markets, no political, cultural and ecological factors affecting the economic process, no-technological change and the absence of changing and new historical contexts like, for instances, at the time I am writing this paper, the global Covid-19 pandemic, can be expected to be a "sufficiently good approximation" to reality? They are not, and it would be only by

chance that leaving out of a model crucial elements, the model would still bare correct prediction.

Nevertheless, despite that, models are not abandoned as predicted by Friedman's theory. As Mark Blaug in his methodological assessment of economics argued,

> "analytical elegance, economy of theoretical means, and generality obtained by ever more 'heroic assumptions' have always meant more to economists than relevance and predictability. They have in fact rarely practiced the methodology to which they have explicitly subscribed, and that, it seems to me, is one of the neglected keys to the history of economics. The philosophy of science of economists, ever since the days of Senior and Mill, is aptly described as 'innocuous falsificationism'" (Blaug, 1975, pp. 410-411).

> "Economists have always regarded the core of their subject as 'science', in the modern sense of the word: the goal was to produce accurate and interesting predictions that were, in principle at least, capable of being empirically falsified. In practice, they frequently lost sight of this scientific objective and the history of economics is certainly replete with tautological definitions and theories so formulated as to defy all efforts of falsification" (Blaug, 1978, p. 697).

Beyond Friedman's wishful thinking, looking at economist's actual practice, what we find is a series of different research lines sharing the same mechanistic, model-based, mathematical and reductionist approach to the economic process which became hegemonic with neoclassic economics. All based on hypothesis and assumptions which are not just non-verifiable, but mostly distant from being even approximations to the actual economic, historical reality. Keynesianism, monetarism, macroeconomics' and microeconomics' approaches, among others, have all been evolving in parallel, often not even touching each other, but all were disregarding both falsificationism and the need of basing their models on accurate and empirically verifiable assumptions. While on a limited level in economics what Imre Lakatos (1978) called "scientific research programs" (SRP), consisting of a series of interconnected theories, may show some kind of progressive developments, some models and authors being replaced or just forgotten in favour of others, they nevertheless show strong inertia and are shielded from external attempts of falsification. They are often fiercely guarded by its practitioners from external critique, despite their lack of predictive power.

In each of these SRP and neoclassic economics at large, there are a series of lesser assumptions and secondary theories which are open to a certain degree of scrutiny. Some being abandoned in favour of new ones. However, the core of these different research programs is strongly protected from attempts in falsificationism by that which Lakatos termed "protective belts". Thereby, it may endure decades or, in the case of neoclassic economics, now over a century, without being abandoned nor replaced by its practitioners. Despite its failure to produce "sufficiently accurate predictions". Thus, while minor aspects may be improved on, the core of given paradigms, to use Kuhn's (1962) perspective, may go on for long periods engaging in what Kuhn termed "normal science". A standard and commonly shared practice by a scientific community despite external critique and the non-observation of its predictions as supposed by Popper's falsificationism and Friedman's wishful depiction of economics.

Facts, even in natural sciences and even more so in the case of the human complex, historically and context-specific economic practice, are always stochastic, affected by a series of variables and aspects which make them differ from a theoretical model which always means a simplification of reality. Thus, to be accepted as a sufficient reason to abandon given theory, there has to be first of all a consent on whether particular observations do or do not represent a falsification of the core aspects of a theory; or whether they just mean a minor deviation which can be attributed to a conjectural stochastic fluctuation. Thus, in between Popper's hard, normative perspective on science describing how "science ought to be" and Kuhn's descriptive, historical perspective on how "science is carried out", Lakatos proposed what he termed "sophisticated falsificationism". In this view, although its practitioners do not quickly abandon the different research programs, they nevertheless can be distinguished according to their progressive or regressive nature. Some research programs showing a strong internal dynamism, managing to increasingly explain external phenomena as well as abandoning some of its lesser assumptions and explanatory frameworks in favour of others due to empirical observations and falsification efforts. In contrast, others become increasingly defensive and closed in themselves, presenting little progress in their theories and capacity to make "accurate and useful predictions" about reality. The latter being more of a dogmatic, self-referential and commonly agreed on practice by its members than a science in the normative terms set-out by Popper.

In Lakatos' view, eventually, scientists may switch from one research program to the other, and thus, those approaches who have shown little internal progress may eventually be abandoned in favour of others, some research programs gaining more weight and importance within the field, while others decline. Sometimes there is even a generational switch: new practitioners adhering to somehow more progressive research programs, while others simply die out once the interest on them fades and those scientists who happened to follow certain lines leave the academy. Thus, although not as swiftly and pure as expected by Popper, there is falsificationism going on in science and, eventually, progress, once those SRP who show a lesser capacity to provide useful and accurate predictions end-up being replaced by others who do.

Seen from that perspective, what can we observe within economics as an accepted and practised science? Is there an observable "sophisticated falsificationism" happening and does economics, as a whole, presents a progressive character? Has it shown to possess a progressive nature, helping us to better understand and come to terms with reality, although strong falsificationism is absent from its practice? Can there be observed cases of more progressive SRP being adopted and more regressive ones being abandoned along the way? These are somewhat more difficult questions to answer, and it certainly requires a more global perspective.

Nevertheless, here too, it does not seem to be the case. Not least because theories and SRP within economics have shown a remarkable capacity to endure despite their failure to predict and adequately represent real-world events. Indeed, there are new approaches which emerge in specific periods, like for instances when "game theory" was applied to economics or nowadays neurosciences and behavioural economics. However, these have always been limited within the more general development of neoclassic economics as a whole and its near-complete hegemony in the academy. As such, 20th- and 21st-century economics has shown remarkable resistance to abandon its theories in the face of empirical falsification. Nor is it clear that today's theories are better at explaining actual reality than those of the past.

As Persio Arida (1983) showed, although in the hegemonic tradition the history of economic thought is presented in an analogous way to that of physics, newer research and discoveries being presented as possessing a higher heuristic power as regards older ones, in practice, this assumption cannot be upheld in the field of economics. Already the very historical variability of its study object and thus the continuously changing essence of the study object places those insights applicable to some realities and contexts out of touch with others. Natural laws are unchanging, and thus Newton's gravitation theory can be compared to Einstein's, although more than a century separates them. Nevertheless, how to compare the capacity of the classics at the time of Smith and Ricardo explaining the economic reality of their time, to that of current economists explaining ours? Can they even be compared? We cannot judge past theories whose predictions may have been relevant at their time in the face of current events once reality has changed. Thus, the heuristic content of past theories cannot be assessed by looking at today's historical reality, nor can we expect a theory to make the same kind of accurate predictions when applied to different spatial contexts. What may have been observable for the USA in the 1930s is not the same we may expect to happen in China today. Thus, we simply cannot compare adequately Keyne's *General Theory* of the 1930s with that of Keynesian economists trying to understand and trying to give answers to the current economic depression resulting, among others, from the Covid-19 pandemic. Even less can we expect Keynes' answers to be universally valid to any specific geographic and historical context.

Thus, as Arida showed, the history of economic thinking is full of examples of theories which have been abandoned at given times just to be recovered later, while competing and contradicting theories can coexist for long periods. As it happened for instances concerning Say's law or if we look at Keynesian and Monetarist economics coexisting as the two hegemonic views since the 1930s. As further argued by Arida, the reason why economists stick to given theories and SRP within the field of economics often has much more to do with internal, rhetorical aspects, following commonly agreed rules and managing to be accepted by its peers, than to the external empirical accuracy of its predictions. The accepted hegemonic paradigm and even research lines are continually being protected by additional hypotheses and tautological arguments that "explain" dissonances that may arise between predicted and observed facts. Thus, as I will try to further show in these pages, although presenting itself as "scientific" from a Popperian perspective, economics has become a highly closed, self-referential and remarkably detached from reality normal practice in the sense given to this notion by Kuhn. A practice in which the attendance to the commonly shared methodological procedures which have become hegemonic in the field and the often purely rhetorical procedures are much more important to explain the supremacy of one model over another, than their actual heuristic content.

As Georgescu-Roegen argued in the early 1970s, the trouble with economics is methodological: the attempt to explain an essentially qualitative, entropic and irreversible process by applying the Newtonian method which had been developed to study passive objects existing in a purely abstract, reversible time. The attempt to reduce to some simple mathematical equations an essentially complex and multidimensional process. As he, a highly-respected econometrician, argued:

> "with the mechanistic epistemology, the mathematical tools were also introduced in the Economist practice, a mutation that ought to have constituted a blessing. However, the mechanistic epistemology by its very nature encouraged an uncontrolled use of that tool. The result has been an

> outgrowth of 'paper-and-pencil' (PAP) exercises, most of them having no relation with actuality. Unfortunately, the growth is far from benign. It has given standard economics its present tonal mode, so much so that PAP endeavors, even when empty, now represent the highest aspiration of professional performance. The hardest task of any special science – that of coming to grips with facts – has been relegated to secondary level of importance and of professional respect. And so have preoccupations with institutions and qualitative change which are the essence of evolution" (Roegen, 1976, pp. x-xi).

By focusing more on the commonly shared methodology and language that became hegemonic within the discourse of economics than on the actual explanatory power of the different theories and the accuracy of its predictions, economics has increasingly become what a group of disaffected French students of economics and economists called an "autistic science".[1] That is, a science closed in its inner world and detached from reality, unable to engage in a fruitful dialogue with its surroundings. This can be seen if we look at the repeated failures of the models to predict concrete events like past financial crisis, downturns of economic activities or how different IMF imposed "structural adjustment programs" have affected countries who have had to undergo these plans in significantly different ways than predicted by the plan. We just need to look at the failure of the profession at large to predict the 2008 financial crisis or to predict or even understand the current crisis we are entering now. It is all too easy to dismiss the current downturn as invalidating past theories by pointing to the fact that the Covid-19, as well as the social and political answers to pandemics, have all being assumed by the different theoretical models as being external to the models under the *ceteris paribus* assumption. However, this is of little help in order to better understand the actual economic reality emerging from these events and factors.

We may as well look at one example which may be taken as symptomatic: the fate of the LTCM (Long-Term Capital Management) in the 1990s. The LTCM was an ambitious speculative investment fund set-up by John Meriwether, a famed Salomon Brothers bond trader, who assembled an all-star team of traders and academics in an attempt to create a fund that would profit from "the combination of the academics' quantitative models and the traders' market judgement and execution capabilities" as stated by the promoters at the time. Some of the biggest banks in the world, from Citibank to Deutsche Bank, invested $1.3 billion at the inception of this new fund. It was based on a sophisticated formula predicting the best combination of assets and investments to minimise risks and maximise earnings of financial, speculative assets, derived from the so-called Black-Scholes Formula and which goes like this:

[1] This term became known due to an open letter advocating for a deep reform and plurality in the teaching of economics published in *Le Monde* on June 21, 2000. *Lettre ouverte des étudiants en économie aux professeurs responsables de l'enseignement de cette discipline* (Open letter of economics students to economics teachers). The letter, presenting itself as a wake-up call, 1) affirmed the desire for escaping imaginary worlds; 2) opposed the uncontrolled use of mathematics and; 3) asked for a plurality of approaches in economics. Nevertheless, the term "autism" being a medical term, the use of it to depict economists' practice has been deemed to lack empathy with those who actually suffer the disease. Thus, the term "post-autistic economics" was later replaced by the more neutral "Real-World Economics" instead and gave rise to the current World Economics Association. See Fullbrook, Edward (Ed.) (2006) *Real World Economics - A Post-Autistic Economics Reader*. London: Anthem Press. ISBN-13: 978 1 84331 247 5.

$C(S_t,t) = N(d_1)S_t - N(d_2)PV(K) = N[1/\sigma\sqrt{(T-t)}\ [\ln(S_t/K) + (r+\sigma^2/2)(T-t)]S_t - N[1/\sigma\sqrt{(T-t)}\ [\ln(S_t/K) + (r+\sigma^2/2)(T-t) - \sigma\sqrt{(T-t)}]Ke^{-r(T-t)}$[2]

This formula was derived by economists Myron Scholes, Robert Merton, and the late Fischer Black. It predicts how much a call option is worth at any given time and earned Scholes and Merton the 1997 Nobel Prize in Economics once

> "their innovative work in the early 1970s, which solved a longstanding problem in financial economics, has provided us with completely new ways of dealing with financial risk, both in theory and in practice. Their method has contributed substantially to the rapid growth of markets for derivatives in the last two decades."[3]

The formula had a significant impact on economics, as well as the financial markets. Even before being published, options traders simply programmed the Black-Scholes formula into their calculators or bought ready-made software and, by pressing a few buttons, they could find the exact expected price of any option at any time as well as determinate the ideal "risk-free" investment portfolio. Zvi Bodie (Bodie and Merton, 2000), in his manual about *Finance*, likens the impact of its discovery to that of the structure of DNA. Both gave birth to new fields of immense practical importance: genetic engineering on the one hand and, on the other, financial engineering.

In 1994, both Merton and Scholes were hired by John Meriwether to give the scientific expertise of the academy complementing the professional brokers "market judgement" and expertise. In the early phases, everything seemed to go fine: Scholes and Merton got their Nobel prize and early 1998 the highly-leveraged portfolio under LTCM's control amounted to well over US$100 billion, although their net asset value was only about some US$4 billion. It had become a major supplier of index volatility to investment banks, was active in mortgage-backed securities and was dabbling in emerging markets such as Russia. Nevertheless, then came the Russian financial crisis and devaluation of the Russian Rouble in August, a variable not included in any point of the used formulas, and the fund received a severe blow. In early September, its equity dropped to US$2.3 billion. The behaviour of the markets ceased to be "normal" and strange results appeared…

> "Although their models told them that they shouldn't expect to lose more than 50 million or so on any given day, they began to lose 100 million and more day after day after day till finally there was one day, 4 days after Russia defaulted, when they dropped half a billion dollars, 500 million in a single day" (Lowenstein, in BBC2, 1999).[4]

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[2] Where N(.) is the cumulative distribution function of the standard normal distribution, T-t is the time to maturity expressed in years (final time minus initial time), S_t is the spot price of the underlying asset, K is the strike price, r is the risk-free interest rate (which is the rate of return of a hypothetical investment with scheduled payment(s) over a fixed rate that is assumed to meet all payment obligations), and σ is the volatility of returns of the underlying asset.

[3] The Royal Swedish Academy of Sciences – The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel 1997. https://www.nobelprize.org/prizes/economic-sciences/1997/advanced-information/?print=1

[4] BBC2 (1999) "The Midas Formula." In *Horizon*, opening minutes, Broadcast by BBC2, Thursday, December 2 1999, 9:30 pm.

On September 22, LTCM's equity had dropped to US$ 600 million. At the end of the month, after having lost substantial amounts of the investors' equity capital and teetering on the brink of default, it had to be rescued by a US$3.5 billion rescue package from leading investment and commercial banks, orchestrated by the USA Federal Reserve, to avoid a major crisis in the world financial system.

As Maurice Ash notes, this crisis is not unrelated to the "secretiveness and sheer incomprehensibility to all but a tiny group of initiates" of the formula that gave birth to this financial hubris.

> "It is now forty years since (…) Peter Winch showed in *The Idea of Progress* that an inquiry into society can be pursued only in the language in which that society itself is conducted (or which could be intelligibly derived therefrom). Manifestly, this precludes the imposition of any explanation of social behaviour derived from logic outside it, and above all the imposition of any universal theory or ideology or any formula. (…) Nobody, of course, paid any attention to such ideas, and certainly not the economists. Their newfound powers of measurement were making them the arbiters of society – just as physics (pre-quantum mechanics) was the arbiter of the natural world. (…)
>
> The board of LTCM thought it could play God with the market. This is what happens when you try to speak a private language. The truth of whatever you say is not verifiable except by reason of your own assertion of it. In practice, however, even if one holds a conversation with oneself – as we all constantly do – one must use public language to do so. Should we nevertheless persist in the construction of an inner world, the outcome can only be, at worst, madness of one kind or another, or sheer folly" (Ash, 1999, pp. 36 and 37).

Seen from that perspective, the troubles of economics as a science is not just a question relative to some aspects of given theories or particular authors, provisional understandings and explanations which may eventually be replaced by others with a better explanatory and predictive power. At a much deeper and fundamental level, it is something which affects the whole of the profession and the way economics is professed nowadays. It is not just a matter of the wrong use of a given scientific tool or a result of incomplete information; it is the consequence of using the wrong tool in the first place. Of a misplaced methodology and approach to the phenomena or, as we saw Ash arguing by following Winch's insights into Wittgenstein's studies of language, the imposition of a "universal theory or ideology" to the social, complex and ever-changing phenomena (Stahel, 2006 and Stahel, 2020, Part I, pp. 34-141). It is the consequence of modern economic science using a private, a secrete language, instead of engaging in a dialogue with reality.

Whence it all began

At the time when Adam Smith wrote his seminal *An Inquiry into the Causes and Origins of the Wealth of Nations* in 1776, Newton's mechanics was firmly established and seen as the epitome of science and genius. As can be seen from N. W. Chittenden (Chittenden, 1846, pp. vi, 30 and 32) on his description of Newton's life introducing the Principia's first publication in America,

> "To the teacher and the taught, the scholar and the student, the devotee of science and the worshiper of Truth, the PRINCIPIA must ever continue to be of inestimable value (…).
>
> The law of falling bodies at the earth's surface was at length identified with that which guided the moon in orbit. And so his GREAT THOUGHT, that had for sixteen years loomed up in dim gigantic outline, amid the first dawn of a plausible hypothesis, now stood forth, radiant and not less grand, in the mid-day light of demonstrated truth. (…)
>
> And thus was ushered into existence The PRINCIPIA – a work so which pre-eminence above all the production of the human intellect has been awarded – a work that must be esteemed of priceless worth so long as science has a votary, or a single worshipper be left to kneel at the altar of Truth."

It is in this cultural context that modern economics was born. With Newton and his mechanics, a new religion and a new god to be worshipped was then created. As the poet, Alexander Pope, proposed as an epitaph to Newton, "Nature and Nature's laws lay hid in night: God said, Let Newton be! and all was light". As Prigogine's and Stengers' depicted it, "Newton is the 'new Moses' to whom the Tables of the Law were shown. (...) A nation comes together to celebrate the event: a man discovered the language of nature and to which it obeys" (Prigogine and Stengers, p. 57). A prestige which, as we can see in Chittenden's praise of Newton's achievement, only grew in the 19th century.

With Newton's as well simple, elegant and far-reaching mechanical laws of movement and gravity, the dream of perfect human control and forecast in front of a universe earlier seen as hostile, unpredictable and subjected to God's unfathomable will, could start to take shape. A universe which, as a favoured image, was depicted as an immense clockwork, being God relegated to the position of the supreme watchmaker who, once his work of creation was done, retires to the background and leaves it clocking through eternity. As an immense mechanical clockwork, it was subjected to linear mechanical causality laws which once understood by the human mind could be controlled and directed by human industry, technology and mastery of the potent energies mined and harvested like coal, petrol, electricity and later nuclear fuels and renewables.

Such was the faith in the newfound powers and understandings of its mechanical nature, that in the late 19th century the French physicist and noblemen, Pierre Simon, marquis of Laplace, stated that

> "we ought then to regard the present state of the universe as the effect of its anterior state and as the cause of the one which is to follow. Given for one instant an intelligence which could comprehend all the forces by which nature is animated and the respective situation of the being who compose it – an intelligence sufficiently vast to submit these data to analysis – it would embrace in the same formula the movements of the greatest bodies of the universe and those of the lightest atom; for it, nothing would be uncertain and the future, as the past, would be present to its eyes. The human mind offers, in the perfection which it has been able to give astronomy, a feeble idea of this intelligence. Its discoveries in mechanics and geometry, added to that of universal gravity, have enabled it to comprehend in the same analytical

> expressions the past and future states of the system of the world" (Simon, 1814/1902, pp. 4-5)

It was this idea of mechanical physics and of a growing power of prediction of science which came to dominate science. Not just in the natural sciences, but in the social and historical sciences as well. It is there that economists would seek for inspiration.

Although Adam Smith in his writings makes plenty of factual, descriptive observations, as well as historical digression about actual historical economic facts, when it comes to stating his theories, he bases them on hypothetical realities, not on the described facts. General observations are taken for rhetorical reasons, not as the starting point of his theories. From his ideas about the "invisible hand" up to his trade theory and his assertion that the origin of all value has to be found in "human productive labour", he bases them all on some imagined hypothetical examples which are assumed to have universal validity. Thus, for instances, his famous needle manufacture example illustrating the higher productivity resulting from the social division of labour and how it supposedly results from the "invisible hand" and not from an altruistic impulse, is not the result of empirical observation, but an imagined abstraction. As is his hunter taking supposedly twice as long to hunt a deer than it takes him to hunt a beaver, example on which he grounded his labour-value theory. Nor are his butcher and bakers, providing good food out of their self-interest, actual observed professional, but abstract imaginary characters. As are his trade models applied to two imaginary countries benefiting from trade between them according to some simple hypothetical numerical examples.

As for physics, he sets out to establish "universal laws" and "theories" by getting rid of the historical, concrete and unique realities, eliminating from them all "disturbing" forces and frictions. However, by doing so, he was highlighting those aspects which prove his point while ignoring those who do not. Thus, he quotes some potentially positive outcomes resulting from free-market competition like the need to attend the consumer's preferences and needs; but ignores other potentially harmful outcomes like for example over-exploiting natural resources, labourers or, at the consumption side, how there can as well be observed various situations in which producers try to cheat or mislead consumers. Something which was certainly as well part of his historical reality, had he taken the time to observe the actual practice and growing capitalist activity around him. As for Newton stating his laws of movement and formula for frictionless bodies following inertial movements, Smith too aimed to understand the economic process by mentally eliminating from his observations all frictions and complexities affecting the concrete situations. Thus, an imaginary, frictionless, ahistorical reality from which he removed all kind of emotionally, culturally or politically driven behaviour was imagined, then logically deducing some laws which were assumed to be of universal scope.

With David Ricardo, this tendency to look for abstract, supposedly universal laws governing the economic process was increase even more. Refining Smith's theories and models, his examples far from resulting from actual historical observations, were directly abstract imaginary constructs build-up to sustain his theories. Thus, for instances, going beyond Smith's trade theory pointing to the absolute advantages countries have in concentrating their productive activities in those sectors they are more productive than others, he created his model of the benefits of free-trade on an imaginary depiction of the reality of his time. Although quoting Portugal and England's trade in textile and wine as an example, ignoring the reality of his time, he just imagined the following numerical example (Ricardo, p. 82):

> "England may be so circumscribed that to produce the cloth may require the labour of 100 men for one year; and if she attempted to make wine, it might require the labour of 120 men for the same time. England would therefore find it her interest to import wine, and to purchase it by the exportation of cloth.
>
> To produce the wine in Portugal might require only the labour of 80 men for one year, and to produce the cloth in the same country might require the labour of 90 men for the same time. It would, therefore, be advantageous for her to export wine in exchange for cloth."

Although simple and straightforward in its pure mathematical logic,[5] it is hardly noticed that this is not the way empirical historical reality could be observed at Ricardo's time. From a historical and even in a static perspective at the time Ricardo wrote it, wine and cloths' production in Portugal, England or anywhere else simply did not happen to be so. He simply ignored the real way they were being produced in these countries and the actual trade of wine and cloths going on between Portugal and Britain. He ignored and said nothing about how, effectively, it was a trade which had been firmly established by the Methuen treaty signed between these two countries in 1703, a commercial agreement as well as a military alliance, which put Portugal in a clear historical dependence *vis-à-vis* Britain. A trade relation which had a profound effect on both countries' economic development, particularly of Portugal who struggled to industrialise and catch-up with other European countries having remained an essentially primary goods exporting and manufactures importing country. (In Stahel, 2020, pp. 61-64 the example and its historical repercussions are discussed more in length.)

Implicit to Ricardo's imaginary model are, of course, a series of assumptions which neither Ricardo nor his followers bothered to make explicit. Like for instances, that goods are assumed homogeneous (i.e., identical) across firms and countries (we are not talking of qualitatively different wines or cloths); production functions are linear, and thus the marginal productivity of additional labour units does not increases or decreased once more or less labour is employed to produce wine or cloths; labour is homogeneous within a country but heterogeneous (non-identical) across countries; goods can be transported without cost between countries; labour can swiftly be reallocated between industries within a country (that is, you can move workers from wine to clothing without losing productivity and need for training or adaptation within each countries); British labourer cannot move to Portugal and produce there were productivity, according to Ricardo's example, is higher in all sectors, and thus the highest productivity would be gained if not just wine, but textile as well were all produced in Portugal – as to a certain extent can be observed nowadays when we see how the bulk of industrial-goods production is delocalised to China; labour is always fully employed (otherwise, global production could just be increased by employing more labour, and a rise in unemployment due to specialisation could undermine the gains in productivity); production technology differences exist across industries and countries, being reflected in labour productivity parameters, and they do not change in time; labour and goods markets are

[5] The mathematics of the model are easily explained to graduate economists (usually without any further consideration about all the implicit assumptions of the model, as if the rigour of the algebra is already proof enough of its validity): considering that labourers in Portugal are relatively more productive at producing wine than cloth, while in England it is the other way around, if each country dedicates its total labour force to that which labourers are relatively better at internally, the combined output of wine and cloths would improve and both countries would benefit from trade in which the exchange-value of wine in terms of cloths is $8/9 \leq \text{Wine/Cloths} \leq 12/10$.

assumed to be perfectly competitive in both countries and firms are assumed to maximise profit while consumers (workers) are assumed to maximise utility. These and other implicit assumptions can be summarised by saying that historical changes and development of both countries are simply wiped out of the model, and Ricardo's reasoning applies to a no-place, no-time, abstract reality instead. As if the effects of free-trade should not be assessed according to the effects they have on the historical developments of both countries as a whole. Not just at a given moment, but on their future developments as well. In any case, hardly a good ground to forecast developments in the real world in which policies based on these models were implemented and where Portugal was running persistent trade deficits with England, thereby resulting on a significant part of its colonial riches ending-up in Britain. Thus, financing British and not the Portuguese industrial revolution instead.

How it continued

It is this same abstract approach to an imaginary world and mathematical logic which is behind the still prevalent neoclassic trade models based on what has become known as the Hecksher-Ohlin trade model. Bertil Ohlin first proposed it in his *Interregional and International Trade* published in 1933; a time in which, as is well known, world-trade had collapsed due to the great depression and the world was heading towards World War II. A reality far-removed from the general-equilibrium model presented by Ohlin based as well on the work of Heckscher (who has been his PhD adviser and whom he succeeded in the Stockholm School of Economics in 1930).[6]

It is nowadays firmly assumed and even expected that economists base their models and theories not on real-world historical realities, but imaginary models. However, it has not always been so. At the time the neoclassic school was being established, Wilhelm Dilthey (1883/1989) strongly rejected the application of a methodology formed exclusively from the natural sciences (*Naturwissenschaften*) to the human sciences (*Geisteswissenschaften* or "spiritual sciences"). While the former was centred on the **explanation** of natural phenomena subjected to unvarying natural laws, the latter had to deal with life's creative manifestation and historical change. While within the natural sciences we seek to **explain** phenomena in terms of observable cause and effect which repeats itself universally in space and time, in the human sciences we seek to **understand** them in terms of the relations of the part and the whole, in their specific and unique contexts, as living, changing realities. Thus, according to Dilthey, a distinctively hermeneutic and phenomenological approach had to be applied to understand the *Geisteswissenshaften*. Thus, according to this view, the hermeneutical understanding and interpretation of ancient texts, religious works, law, history, aesthetic theory, among others, were needed not just to understand and translate to the present past

[6] We will not enter into the formal description of the model, which can easily be found in most economic textbooks. It runs basically in the same line of Ricardo's model by mathematically showing that in the face of different factors of productions endowments, under free-trade, countries tend to specialise in those productions they are relatively more endowed and thus cost-efficient (although, as for Ricardo's model, not necessarily in absolute terms), while benefiting from those they are relatively less efficient through international trade. As for Ricardo, it is mathematically proven that free international trade is of the benefit of all, while basing the argument on a purely static-comparative analysis and not on the real historical effects of trade on different countries. Although standard economists struggle to find strong empirical evidence for these theories and even less for their normative claims about the long-term benefits of free-trade, it may be noted that Bertil Ohlin was jointly awarded the Nobel Memorial Prize in Economic Sciences in 1977 – together with the British economist James Meade - due to "their path-breaking contribution to the theory of international trade and international capital movements." http://www.nobelprize.org/nobel_prizes/economic-sciences/laureates/1977/.

realities by taking into account their context, but was seen by Dilthey as being a fundamental tool to understand complex, historically-changing and context-dependent processes. Like, for instances, the economic process.[7]

At this time as well, within the German universities, the so-called historical school of economics was the hegemonic and preferred approach. The historical school largely controlled the appointments to chairs of economics in German universities, particularly once many of the advisors of Friedrich Althoff, head of the university department in the Prussian Ministry of Education 1882-1907, had studied under members of the school. Moreover, Prussia being the intellectual powerhouse of Germany, and given its global reach beyond the German area, it managed to dominate academia not only in central Europe but also in the United States until about 1900, insofar as holders of German PhDs led most of the American economics profession.

Nevertheless, its dismissal and the academic hegemony of the neoclassical school meant not only a reversal of power within the academy, but the wholesale exclusion of these authors from the economics tradition as such. Thus, authors like Karl Knies, Bruno Hildebrand, Gustav von Schmoller, Etienne Laspeyres, Karl Bücher, Adolph Wagner, Georg Friedrich Knapp, although highly relevant and known in their day, are virtually unknown nowadays and ignored by contemporary economic science. Others, like Werner Sombart and Max Weber, although still known, are regarded not as economists but as sociologists or historians instead. The same may be said of Karl Polanyi, with his careful analysis of the evolution of the free-market system, or the monumental *Study of History* by Arnold J. Toynbee with his analysis of the evolution, rise and fall of civilisations, including the Western one. All these authors, who would fit perfectly into the historical tradition and who aimed to study the actual economic and historical reality, are virtually unknown by professional economists nowadays. Nor are they mentioned in contemporary economics textbooks.

Still at the end of the 19th century, at a time in which the neoclassic school was being established, Arnold Toynbee, namesake and uncle of the author of *Study of History*, at the time a well-known British economist and representative of the historical approach to the economic reality, was convinced about the imposture and dismissal of the abstract, model-based approach to the understanding of the economic process.[8] From today's perspective, I cannot avoid wishing that he had been proven right instead of utterly wrong. In any case, he was firmly convinced that

> "the bitter argument between economists and human beings has ended in the conversion of the economists. But it was not by the fierce denunciation of moralists, nor by the mute visible suffering of degrade men, that this

[7] This point is made in more detail in my recently published book (Stahel, 2020) in which an alternative phenomenological approach to the understanding of the economic process is proposed and presented. Applying a different methodology, aiming to look to a living reality in living terms, renders not just a completely different understanding of how the economy works; it led as well to a different understanding of what the economy is all about. Thus, I propose a different term, *oikonomy*, to recover the original broader meaning of the term, instead of the conventional "economy" dealing solely with the quantitative, chrematistics or the market-related aspects of the economic life.

[8] Although highly respected at his time, being among others responsible for popularising the term "industrial revolution" in Britain, a definition coined by the French who had gone through their revolution, mesmerised by the extraordinary historical changes they were observing at the other side of the channel, he is nowadays virtually unknown by the economist profession. I only discovered his references by pure chance and the help of Wikipedia, looking for information about his better-known namesake nephew.

conversion was effected. What the passionate protests of *Past and Present* and the grave official revelations of government reports could not do, the chill breath of intellectual criticism has done. Assailed for two generations as an insult to the simple natural piety of human affections, the Political Economy of Ricardo is at last rejected as an intellectual imposture. The obstinate, blind repulsion of the labourer is approved by the professor.

Yet very few people even now understand the nature of that system. I have called it the Political Economy of Ricardo, because it was he, more than any one, who gave to the science that peculiar form which, on the one hand, excited such intense antagonism, and, on the other, procured it the extraordinary influence which it has exercised over English thought and English politics. (...)

At first sight nothing appears more strange than this antipathy to, and this adoration of Ricardo. (…) Why should a treatise so remote, so abstract, so neutral, not filled with passion, like the *Wealth of Nations*, not eloquent in denunciation and exhortation, stating conclusions without eagerness, suggesting applications almost without design, why should such a treatise as this excite an uncompromising moral repugnance? Because it *was* remote, abstract, neutral, because, while excluding from its considerations every aspect of human life but the economic, and dealing with that in isolation, it came, nevertheless, though not with conscious intentions of its author, to be looked upon and quoted as a complete philosophy of social and industrial life. (…)

But again, we may ask why should a treatise so destitute of sympathy, observation, imagination, even literally style – a great part of it is nothing more than bald disjointed criticism of other books – dealing as it did with the most interesting, the most vital of human affairs; why should such a treatise as this dominate the minds of nearly all distinguished men of a distinguished time? Because, I answer – and not one answer will serve as a complete explanation – of its marvellous logical power, the almost faultless sequence of the arguments. Systems are strong not in proportion to the accuracy of their premises, but to the perfection of their reasoning; and it was this logical invulnerability that gave to the *Principles of Political Economy* its instantaneous influence. Ricardo has been recently compared to Spinoza; and what was said of Spinoza may be said of him: grant his premises and you must grant all. The contrast in the case of Ricardo, between the looseness and unreality of the premises and the closeness and vigour of the argument, is a most curious one.

For a complete explanation, we must push our investigation further. (…) Undoubtedly, the influence of his book was increased by the fact that in method and spirit it coincided completely with the mental habits of the most vigorous and active thinkers of that age. (…)

Besides the influence of the school of Bentham on political thought, and Ricardo's presence in Parliament, we may find still another reason for the magical effect of his treatise in the circumstances of the time. He lived in an

age of economic revolution and anarchy. The complications of industrial phenomena were such as to bewilder the strongest mind. No light had been thrown by Adam Smith on those vital questions, discussed before every Parliamentary committee on industrial distress, as to the relations between rent, profits, wages, and prices. (…) Not one of those who pored over piles of blue-books, or spent years in minute industrious observation of the actual world, had offered one single suggestion for the solution of these problems. The ordinary business man was simply dazed and helpless. (…)

To people groping in this darkness, Ricardo's treatise, with its clear-cut answers to their chronic difficulties, was a revelation indeed. But Ricardo's solution of the problem, *i.e.* that the prices of freely produced commodities depend upon costs of production, measured in labour, and that wages, profits and rent are not the causes but the result of price; this solution was only reached by making certain audacious assumptions (…).

Ricardo himself never realised how great were the postulates he was assuming. It is a strange but indubitable and most important fact that he was unconscious of the character of his own logical method. He thought, as has been recently pointed out, that he was talking of actual men and things when he was in fact dealing with abstractions. He makes but one allusion to the great assumption of pure competition. Of his assumptions, such as private property, perfect mobility of labour, perfect knowledge of wages and profits at all times and in all places, there is no trace of recognition from beginning to end of his treatise. And just as Ricardo remained unconscious of the nature of his method, so he never seems to have realised the scope and effect of his work. His intention was to investigate certain concrete problems which bewildered his contemporaries. His achievement was to create an intensely abstract science – Deductive Political Economy. (…)

His powerful mind, concentrated upon the argument, never stopped to consider the world which the argument implied (…) that world less real than the island of Lilliput, which never has had and never can have any existence.

A logical artifice became the accepted picture of the real world. Not that Ricardo himself, a benevolent and kind-hearted man, could have wished or supposed, had he asked himself the question, that the world of his treatise actually was the world he lived in; but he unconsciously fell into the habit of regarding laws, which were true only on that society which he had created in his study for purpose of analysis, as applicable to the complex society really existing around him. And this confusion was aggravated by some of his followers, and intensified in ignorant popular versions of his doctrines. His hard, clear delineation, with its audacious solutions of hitherto insoluble problems, asserted itself in spite of protest. It was laid as a mask over the living world, and hid its face. (…)

If Ricardo himself was unconscious of the logical character of his method, the same cannot be said of his chief disciples of the next generation. Both Mill and Senior state with the utmost plainness the exact character of their abstract science, and the assumptions upon which its conclusions are true.

> Mill in his *Logic*, published in 1843, and in his essay on the *Method of Political Economy*, written much earlier (…), explains the nature of Ricardo's method with a clearness which leaves nothing to be desired. But what both Mill and Senior ought to have done was not merely to point out what the assumptions were which Ricardo made, but to ascertain from actual observation of the industrial world they lived in how far these assumptions were facts, and from knowledge thus acquired, to state the laws of prices, profits, wages, rent, in the actual world.
>
> This work they never attempted" (Toynbee, 1894, pp. 1-7 and 9).

Nor would the neoclassic economists do so. Quite the opposite: they would firmly embrace the mechanistic, model-based mathematical method and consider it the unique way of approaching the economic reality. Thus, although affirming to depart from Ricardo and the classic economists, they embraced his method of establishing their science on "logical artifice" alone. And since then, economists "never stopped to consider the world which the argument implied (…) that world less real than the island of Lilliput, which never has had and never can have any existence", as if it is the actual world we are living in.

Stanley Jevons, one of the principal architects of this new school of thoughts, explicitly aimed,

> "to treat Economy as a Calculus of Pleasure and Pain, and [as I] have sketched out, almost irrespective of previous opinions, the form which the science, as it seems to me, must ultimately take. I have long thought that as it deals throughout with quantities, it must be a mathematical science in matter if not in language. I have endeavoured to arrive at accurate quantitative notions concerning Utility, Value, Labour, Capital, &c., and I have often been surprised to find how clearly some of the most difficult notions, especially that most puzzling of notions *Value*, admit of mathematical analysis and expression. The theory of Economy thus treated presents a close analogy to the science of Statical Mechanics, and the Laws of Exchange are found to resemble the Laws of Equilibrium of a lever as determined by the principle of virtual velocities" (Jevons, 1871/1879, p. vii).

Jevons even went on to substitute "the name Political Economy for the single convenient term *Economics*" (Ibid., p. xxii), since he could not help "thinking that it would be well to discard, as quickly as possible, the old troublesome double-worded name of our Science" (Ibid., p. xiv). Further, he argued that he would gladly hand the subject of economics over to skilful mathematicians:

> "I do not write for mathematicians, nor as a mathematician, but as an economist wishing to convince other economists that their science can only be satisfactory treated on an explicit mathematical basis. When mathematicians recognise the subject as one with which they may usefully deal, I shall gladly resign it into their hands" (Ibid., p. xiii).

Thus, as he further insisted "I contend that all economic writers must be mathematical so far as they are scientific at all, because they treat of economic quantities, and the relations of such quantities" (Ibid., p. xxii).

Jevons even went so far, in collaboration with Léon Walras, another of the founding fathers of neoclassic economics, as to establish a list of all authors who may fit into this endeavour. Thus, separating those who should be "accepted as economic writers" and those who should not. By defining economics through its method, that is the adherence to the mechanistic mathematical method borrowed from Newtonian physics, instead of by the content and empirical relevance of the different arguments, neoclassic economics excluded all those who took or would take a historical or a phenomenological approach to the economic field. Notably Marxist economics and the historical school we just saw. Furthermore, he argued for specialisation and subdivisions of the field, in line with what he observed in physics:

> "as all the physical sciences have their basis more or less obviously in the general principles of mechanics, so all branches and divisions of economic science must be pervaded by certain general principles. It is to the investigation of such principles – to the tracing out of the mechanics of self-interest and utility, that this essay has been devoted. The establishment of such a theory is a necessary preliminary to any definitive drafting of the superstructure of the aggregate science" (Ibid., pp. xvii-xviii).

In an appendix of his book, Jevons presents a ten-page-long list of "Mathematico-Economic Books, Memoirs, and other published writings" dating back to 1720 (Francis Hutchinson's "An Inquiry into the Original of our Ideas of Beauty and Virtue"). By doing so, he tries to reinforce this approach since, as he argued,

> "the fact that some four or more independent writers such as Dupuit, Gossen, Walras, and myself, should in such different ways have reached substantially the same views of the fundamental ideas of economic science, cannot but lend great probability, not to say approximate certainty, to those views" (Ibid., p. xliii).[9]

By establishing a mathematical tradition in economics (in which, curiously, Ricardo was left out) and by placing himself and other like-minded in this tradition, at a rhetorical level the boundaries of this new orthodoxy were established, thus separating "bad" from "good" science… A separation which has been consolidated, leading to a near hegemony of the mechanistic approach to economics since. All those not applying a mathematical approach to economics or those trying to understand the economic process in actual, historically changing terms, being labelled as "non-scientific". In some cases, as for Ricardo and the Marxist labour-value theory which is as well stated in purely quantitative, abstract terms, leaving them out for any apparent reason besides ideological differences.[10]

In any case, as stated by Shackle

[9] While ten pages in Appendix I are devoted to other authors, nearly five pages are devoted in Appendix II to his writings upon "economical subjects", followed by references to his four books on logic and his works on Political Economy.

[10] While acknowledging (Ibid., p. xxiii) "that even the father of the science, as he is often considered, is thoroughly mathematical", he nevertheless excludes him and all other authors from the Classical Political Economy from his list, including Ricardo whom he strongly rejects. However, as we saw, Ricardo's was a purely logical-deductive and ultimately quantitative approach to the economic process. The ideological and historical reasons behind this wholesale rejection are further explored in Stahel, 2020, part 1.4, pp. 74-141.

> "the 40 years from 1870 saw the creation of a Great Theory or Grand System of Economics, in one sense complete and self-sufficient, able, on its own terms, to answer all questions which those terms allowed ... in its arresting beauty and completeness this theory … seemed to derive from these aesthetic qualities its own stamp of authentication and an independent ascendency over men's minds" (Shackle, 1967, pp. 4-5, quoted in Dobb, p. 167).

Thus, although at least until the early 20th century a plurality of approaches still could be found in the academy, progressively the mechanistic approach swept the profession and economics came to be seen and practised in analogous ways as theoretical physics. Through this process, not just all alternative approaches to the interpretation of facts based on other methodological approaches have been ignored, but the historical empirical reality as such ceased to be were economists were supposed to direct their gaze to. Unlike the historical school, all cultural, political, institutional and even ecological qualitative dimensions of the economic process were, thus, ignored.

The result has been that, unless in other social sciences where a plurality of methods and interpretations coexist, economics has been dominated by a single, hegemonic approach. By taking any even superficial look at standard economics' textbooks, microeconomics' or macroeconomics' manuals and teachings, we can see how the theory is presented as a unified body of knowledge; students are directed to memorise it, while exercises at the end of the chapters have to be solved by the students to see whether they learned it right or not… As it happens with standard physics school-books. By establishing economics in quantitative terms and in terms of abstract models of reality, its learning has been equated with learning how to solve mathematically different equations; not a matter of learning to interpret reality. A science which, paradoxically maybe, deals precisely with qualitative transformation and subjectivity, namely "the use and transformation of scarce resources to satisfy human needs" and how this is done in culturally and historically specific ways by different societies and groups. Thus, even though wealth has been already defined in qualitative and relational terms by Adam Smith when he stated that "every man is rich or poor according to the degree in which he can afford to enjoy the necessaries, conveniences, and amusements of human life" (Smith, pp. xvii-xviii), wealth is considered in quantitative, exchange-value terms or directly in terms of monetary prices by modern economics. (For a critique, see Stahel, 2005).

Conclusion

It has been and still is the use of the mathematical method and the establishment of modern economics at the image and resemblance of Newtonian physics which gives it the appearance of "objectivity", "neutrality" and "scientificity". It allowed creating, as Toynbee depicted Ricardo's approach, a science "so remote, so abstract, so neutral, not filled with passion, not eloquent in denunciation and exhortation, stating conclusions without eagerness, suggesting applications almost without design." A science in which, unless other social sciences, ideology and personal political preferences are assumed not to affect theory. Economists, like astrophysicists, are portrayed as if studying distant stars and not being personally affected whether their conclusions sustain one political and ideological view or another. Ignoring, as Blaug (1975, p. 430) put it, that "when certain theories become the ruling scientific idea of their times for "good" internalist reasons, there are frequently also ideological reasons that make the theory palatable to vested interests and appealing to the man in the

street." Ignoring, as Maurice Dobb (1973, p. 22) showed, "whatever one may be led to expect *a priori*, the history of political economy from its inception makes abundantly clear how closely (and even consciously) the formation of economic theory was linked with the formation and advocacy of policy. Although the doctrines of the classical school were very abstract, especially in the form given to them by Ricardo (whom Bagehot called "the true founder of abstract Political Economy"), they were related very closely to practical issues of their day, indeed surprisingly closely." Forgetting, as Dobb put it, that it is in the act of defining and designing the model, by deciding which variables to include, which ones to exclude and how they relate one to the other, that a pre-existing ideological framework guiding our reflections enters the equation. Ignoring that our perception is not passive, but active: we actively, although not necessarily consciously, decide where to look at, what we perceive and what we do not. Then, we actively give meaning to that which we perceive which, without it, would amount just to a series of unrelated sensorial perceptions. Thus, despite the apparent remoteness and objectivity of abstract economic models, the choice of a methodological framework and of what we observe or not is not neutral and objectively given by the reality to be observed as such, but a consciously or subconsciously made decision by the observer.

Paradoxically, thus, it is this same choice of applying the mechanistic method to the analysis of the economy which rendered modern economic science unscientific if not in its form, in its practice and results. Human beings, indeed living beings in general even when behaving through instinct, do not behave like passive objects, nor do they follow inertial trajectories until affected by an external force which makes them change their movement like billiard balls or cosmic bodies may do. Even biologists do not aim to predict the behaviour of animals applying mathematical formulas as economists do when studying the behaviour of *homo economicus*. Nor do historians aim to predict future historical events and developments by applying a mathematical formula as done in the field of economics. At best, in the realm of complexity theory and the understanding of self-organised systems, tentative approximations and simulations about potential patterns and future scenarios may be made, as for the case of climatologists and weather forecast. However, this is always done in the understanding of the inherent indeterminacy and chaotic behaviour underlying real-world phenomena and, as in the case of the weather forecast, only for a concise period and a rapidly growing degree of uncertainty. Although, even for the weather forecast, it is a phenomenon with far less critical and stochastic variables affecting it than any economic development. Nevertheless, although we are quite aware of the limits of weather forecasts, certainly not daring to make reliable, detailed forecasts for more than a week or so away, economists do not hesitate to make yearly forecasts for the economy based on their models.

Even for the case of classical physics, as Prigogine showed, simple closed systems may show nonlinear behaviour and indeterminacy once we introduce the notion of entropy's fundamental irreversibility. Once we consider time's irreversible character instead of assuming, as economist and classical physics do, that time is a purely quantitative, abstract, external and reversible reality. Thus, following the arguments already put forward by Henry Poincaré at the end of the 19th century, we can see that even in a three-body astronomical system the general solution cannot be expressed in terms of algebraic and universally valid linear functions assumed to be eternally valid as Newton's laws assumed. They are themselves subjected to resonance and indeterminacy, and their long-term stability cannot be asserted. As Prigogine argued

> "there exists in nature systems that behave reversibly and that may be fully described by the laws of classical or quantum mechanics. But most systems

> of interest to us, including all chemical systems and therefore biological systems, are time-oriented on the macroscopic level. Far from being an 'illusion', this expresses a broken time-symmetry on the microscopic level. Irreversibility is either true on *all* levels or on none. (At all levels, be it the level of macroscopic physics, the level of fluctuations, or the microscopic level, *nonequilibrium is the source of order. Nonequilibrium brings 'order out of chaos*'" (Prigogine and Stengers, pp. 285 and 287).
>
> "Resonance occurs in all systems involving continual interactions. The phenomena described by Newtonian mechanics, by contrast, are simple idealisations examples involving transitory interactions, such as collision of billiard balls without friction, which are always idealisation. In the real world, interactions are persistent, and the existence of 'Poincaré resonance' is the norm" (Capra, p. 12, describing Prigogine's insights).

Notwithstanding, economists seem to be undeterred by these new understandings brought to physics or even by the blow brought to Newton's mechanics by 20th-century quantum physics and Einstein's relativity. They continue to stick to classical mechanics as if nothing had changed in the way physician understand the physical world. Nor are they bothered by the way other social and political sciences came to understand the social world; or how in neurosciences and psychology, the understanding of the working of the human brain is undoubtedly far-removed from the assumption of "rational behaviour" economists like to base their models on. As have neoclassic economists never seriously asked themselves whether the mathematical equations resulting from leaving aside all potential friction and nuisances while establishing models of the economic reality bear any meaning describing actual reality and real-world events.

Physicists know that to calculate the time it takes a feather to fall from the heights of the Pisa tower to the ground, air friction has to be taken into account. Furthermore, they know that, in the presence of changing wind patterns, it becomes impossible to predict with a minimum of accuracy the time it will take and the location this feather may touch it. Nevertheless, a reasonably accurate prediction could be made for a billiard ball being thrown from the high of the tower, although ignoring these factors. Thus, for predicting the movement of billiard balls or cosmic bodies moving in empty spaces, external friction can be left out of the equations, and they may still hold reasonably accurate predictions. In some cases, some variables, like atmospheric conditions and pressure, assuming them to be homogeneous, may be included to get better accuracy by calculating the trajectory of a cannon-ball. Notwithstanding, physicians would not dare to consider these functions valid for calculating the trajectory of real feathers in the real-world. Indeed, already for a precise Global Positioning System (GPS) based on differently orbiting satellites, Einstein's and not Newton's equations have to be considered. However, are economists not simply sticking to their reductionist practice despite growing complexity and speed of change? Merely ignoring crucial factors in their models and equations; even in times of fast and strong political, technological, social and environmental change?

Indeed, how can we expect any kind of predictive accuracy from a model of the economic reality in which political, cultural, technological and social factors and changes have deliberately being left out of the model? Of course, we cannot. Nevertheless, it is, paradoxically this known incapacity which economists all too frequently and eagerly use to precisely shield their theories and models from any attempt in falsification. Each time

observed real-life events contradict the prediction of a model, theories and models use to be rescued by arguing that it is due to the external factors which have been left outside the model that the deviation occurred. Thereby, in a strange, if not perverse reversal of scientific logic, in economics it goes the other way around: once the model is based on the assumption of non-political interference, free-markets, rational behaviour, among others; and, furthermore, it predicts a general economic equilibrium and full-employment; the deviation is seen as a proof that reality has to be changed and fixed in order to attain these desirable realities on whose assumptions the model is based. It is argued that once political interference is removed, free-market policies implemented, rational profit-maximising economic behaviour stimulated; full-employment, general economic equilibrium and efficiency will be attained… Thus, instead of following Popper's idealised normative behaviour of abandoning a theory once its predictions fail to be observed, economists use their theories as ideological weapons to promote and defend given economic policies. Not searching theory to conform to reality, but the "messy reality" to conform to the theoretical models instead.

Furthermore, it is this ideological function, the way specific theories and models serve given political agendas, as well as economic interests; the way certain theories are "palatable to vested interests and appealing to the man-in-the-street" – or at least the interest of those most benefiting from the existing economic structures and practices – that may explain why modern economic science, although far-removed from being able to give an adequate representation of reality or make even approximatively accurate prediction about the future, is still considered to be a science. Nobel prizes being awarded to cleverly and sophisticatedly designed models and imaginary worlds; professional economists advising and recommending public policies; while, paraphrasing John Lennon, "the reality is what happens while economists are busy thinking about something else".

References

Arida, Persio (1983) *A História do Pensamento Econômico como Teoria e Retórica. Textos para Discussão nº 54*. Rio de Janeiro: Departamento de Economia da PUC-RJ.

Ash, Maurice (1999) "...or a private language." *Resurgence* (193), March/April.

Blaug, Mark (1975) "Kuhn versus Lakatos, or paradigms versus research programmes in the history of economics." *History of Political Economy (HOPE)* Vol 7, nº4.

Blaug, Mark (1978 – Third Edition) *Economic Theory in Retrospect*. Cambridge: Cambridge University Press.

Bodie, Zvie and Merton, Robert C. (2000) *Finance*. New Jersey: Prentice Hall.

Capra, Fritjof (1997) "The Time Paradox." *Resurgence*, no 185, Nov/Dec.

Chittenden, N. W. (1846) "Preface" to Newton, Sir Isaac (1686 original Latin version/1846 First American edition). *Newton's Principia – The Mathematical Principles of Natural Philosophy*. New York: Daniel Adee.

Dilthey, Wilhelm ([1883]1989) *Introduction to the Human Sciences – Selected Works, Vol. 1* (Edited by Rudolf A. Makkreel and Frithjof Rodi). Princeton: Princeton University Press.

Dobb, Maurice (1973) *Theories of Value and Distribution since Adam Smith – Ideology and Economic Theory*. Cambridge: Cambridge University Press.

Friedman, Milton (1953) *Essays in Positive Economics*. Chicago: Chicago University Press. ISBN: 0-226-26403-3.

Fullbrook, Edward (Ed.) (2006) *Real World Economics - A Post-Autistic Economics Reader*. London: Anthem Press. ISBN-13: 978 1 84331 247 5.

Georgescu-Roegen, Nicholas (1976) *Energy and Economic Myths – Institutional and Analytical Economic Essays*. New York: Pergamon Press.

Jevons, W. Stanley (1871/1879) *The Theory of Political Economy*. London: Macmillan.

Kuhn, Thomas S. (1962) *The Structure of Scientific Revolutions*. Chicago: University of Chicago Press. ISBN 0-226-45808-3.

Lakatos, Imre (1978) *The methodology of scientific research programmes* (Worral, John & Currie, Gregory, Eds). Cambridge: Cambridge University Press. ISBN: 978-0511621123.

Laplace, Pierre-Simon Marquis de (1902, French original from 1814). *A Philosophical Essay on Probabilities*, translated into English from the original French 6th ed. by Truscott, F.W. and Emory, F.L. New York: John Willey & Sons.

Ohlin, Bertil G. (1933) *Interregional and international trade*. Cambridge, MA: Harvard University Press.

Popper, Karl (1959) *The Logic of Scientific Discovery*. New York: Routledge. ISBN: 0-415-27844-9.

Prigogine, Ilya and Stengers, Isabelle (1984) *Order out of Chaos – Man's new dialogue with nature*. New York: Bantam Books. ISBN: 0-533-34082-4.

Ricardo, David ([1817]1960) *The Principles of Political Economy and Taxation*. London: J. M. Dent and Sons.

Shackle, G.L.S. (1967) *The Years of High Theory*. Cambridge: Cambridge University Press.

Smith, Adam ([1776]1937) *An Inquiry into the Nature and Causes of The Wealth of Nations*. New York: Random House.

Stahel, Andri (2020) *Oikonomy – The art of living and living well*. Campins: Montseny – Spiral Edition. ISBN: 978-84-09-20415-1.

Stahel, Andri W. (2005) "Value from a complex dynamic system's perspective." In *Ecological Economics* (54): 370-381.

Stahel, Andri W. (2006) "Complexity, oikonomía and political economy." *Ecological Complexity* (3), pp. 369-381.

Toynbee, Arnold (1894/First edition published posthumously in 1884). *Lectures on the Industrial Revolution of the 18th Century in England – Popular addresses, notes and other fragments*. London: Longmans, Green and Co.

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Private equity and public problems in a financialized world: an interview with Rosemary Batt

Rosemary Batt and Jamie Morgan [Cornell University, NY, USA; Leeds Beckett University Business School, UK]

Rosemary Batt is the Alice Hanson Cook Professor of Women and Work, Human Resource Studies and International Comparative Labor, in the Industrial and Labor Relations School, Cornell University. Whilst her work over the last thirty years has covered many aspects of employment relations, she is particularly well-known for her work on the role and consequences of Private Equity Finance undertaken in collaboration with Eileen Appelbaum, Co-Director of the Center for Economic and Policy Research (CEPR), Washington DC.[1] Private equity is a niche research subject for finance economists, and relatively few scholars in business, management, and labor relations have taken an interest in it. This is surprising as private equity has huge resources at its disposal and accounts for a significant proportion of annual merger and acquisition activity. It is a major employer and has exerted global influence on financial practices, society, business, and the economy.

Professor Batt is one of the few scholars to question the basic practices of private equity, notably its dependence on high levels of debt and financial engineering. Much of the work done on private equity in business and management schools restricts itself to econometric tests of fund performance and the application of standard finance and economic concepts (e.g. Jenkinson et al, 2016; Gompers et al, 2016; Davis et al, 2014; Axelson et al, 2013). This work tends to start from the perspective of an investor – and thus often restricts its focus to private equity as an "asset class" – rather than examining its effects on "Main Street" companies and their workers. Though some economists have recently become skeptical about private equity's claims regarding performance benefits, their research lacks a broader critical context and typically sits comfortably with private equity's own narrative that it seeks out hidden value and helps to turnaround failing firms (e.g. Gilligan and Wright, 2014; Kaplan et al, 2011).

Appelbaum and Batt's monograph *Private Equity at Work* (2014) and their many papers and presentations challenge this conventional view and broadens the examination of private equity to consider its effects on all stakeholders – including companies, managers, workers, suppliers, consumers, creditors, and communities (e.g. Appelbaum and Batt, 2019a, 2016, 2014; Appelbaum, Batt, and Clark, 2013; Batt and Appelbaum, 2020a, 2020b). Their work provides a much needed perspective that recently has been recognized – from the Institute for New Economic Thinking (INET) (Appelbaum and Batt, 2019b, 2020) to the *Financial Times* (Ford, 2019) and *The American Prospect*.[2]

Professor Batt studied at Cornell University graduating B.A. in history 1973; she received an M.A. in anthropology from University of Kentucky, 1981, and was awarded a PhD from Sloan School of Management, MIT in 1996. She has worked at Cornell since 1995.

[1] https://cepr.net/staff-member/eileen-appelbaum/.
[2] A reiteration of 2019b: https://prospect.org/power/private-equity-tries-protect-another-profit-center/.

Her work can be accessed at: https://www.ilr.cornell.edu/people/rosemary-batt

She is interviewed by Jamie Morgan for *RWER*...

Jamie: Given that many readers of *RWER* will have only a vague idea of what private equity is and what it does, perhaps you could begin by briefly introducing the concept and practice?

Rose: Thank you Jamie. First, let me say that this is an opportune time to talk about private equity (PE) firms and how they work because they play an increasingly important role in our economies and often have a detrimental effect on Main Street companies and their employees, vendors, and other stakeholders.

During the current pandemic crisis, they are already responsible for the financial distress and bankruptcy of many companies because their business model starts by loading these companies with excessive debt. In the meantime, private equity firms have had their best fundraising years ever and are sitting on billions of dollars in unused capital, which they plan to deploy post-pandemic to buy up, on the cheap, the assets of companies that fall into bankruptcy.

People need to take private equity and other private market actors seriously. The message was brought home in a scathing *Bloomberg* special report issued just before the pandemic, documenting the penetration of private equity into everyday life. It shocked even me – as the article listed brand after brand of companies that are household names, owned by PE; and it exposed the negative effects of their excessive use of debt and financial engineering to create billions for themselves and inequality for everyone else (Bloomberg, 2019).

So let me start with some background on how private equity works, and then I'll explain why their business model tends to have negative effects on Main Street businesses and their managers and workers.

Jamie: And to be clear, though you use the term "Main Street", which will be familiar to American readers, PE is a global practice. It emerged in the U.S. in the 1980s, but it operates all over the world, using a similar business model?

Rose: That's right. It has been a powerful and growing force in Europe at least since 2000, and more recently, in Asia and Latin America.

Private equity firms raise investment funds primarily from institutional investors – pension funds, endowments, insurance companies – as well as wealthy individuals. These investors, known as "limited partners" (LPs) account for about 98 percent of the capital in the fund, while the private equity partners, who manage the fund (the "General Partners" or GPs) put in the other 2 percent. The PE partners promise their investors "outsized returns" – that is, returns substantially above the stock market. Notably, in the U.S., roughly one-third of the investors are pension funds seeking to make sure they can cover pension payouts to their retirees in the coming years – and whilst this varies in other countries, institutional investors in general are now typically major investors in PE.

Jamie: And, again, just to be clear, the "fund" is a separate legal entity from the originating PE firm?

Rose: Yes, and in exchange for the promised higher returns, the LP investors sign a legal contract (the Limited Partner Agreement, or LPA) to commit their money to the fund for 10 years. So it is an "illiquid investment" – unlike investments in the stock market, where money can be shifted in response to market fluctuations. The Limited Partners also agree to pay an annual 2 percent management fee to the General Partners and to turn over all decision making power to them.[3] The GPs decide where and when to invest the money, and how and when to exit the investment.

The overwhelming majority of PE funds – over 80 percent – are used to buy out companies, take them private (off the public stock exchanges) or in other cases buy companies already privately owned. The aim is to resell them in a 3-5 year window.[4] The key to making outsized returns in this business model is the high use of debt to buy out the company – *debt that is loaded on the company itself* – not the PE firm. This strategy is referred to as a "leveraged buyout," or LBO.

Jamie: Just so readers are clear on why all this is important, perhaps you might briefly lay out the scale we are talking about here.

Rose: Sure. Private equity has become a powerful player in the global economy, but especially in the U.S. and Europe. I looked up the recent numbers. Between 2004 and 2019, it grew from $1 trillion in assets under management to $4.5 trillion – a compound annual growth rate of 10.8 percent – according to data collected by industry analysts such as Preqin, Bain, and PitchBook. Moreover, private equity fundraising in 2019 reached an historic high – $489.9 billion in some 440 funds – higher than the peak in the 2007 bubble year. North American PE firms raised about two-thirds of this total, while European firms raised roughly 20 percent (PitchBook, 2020). While fundraising has naturally fallen in 2020 due to the Covid-19 pandemic, institutional investors, including pension funds, say they are more committed than ever to investing in private equity.

Most of the world's largest private equity firms are located in the U.S. – 21 of the top 25 – with the remaining four headquartered in Europe. But the U.S. firms have a global reach – with buyouts in Europe and all over the world. By far the largest PE firm is Blackstone, with about $95 billion raised in the last five years; followed by Carlyle ($62B), Kohlberg, Kravis, and Roberts ($55B); and TPG, Warburg Pincus, Neuberger Berman, and CVC Capital Partners all at about $36B raised in that period (New Capital Management, 2020). These firms hold huge pools of private capital that they can deploy anywhere with few or any regulatory constraints and little or no transparency in their transactions.

Jamie: So, over time they have become major owners of companies and thus major employers – owning a string of familiar names in many countries… (see Bain & Company, 2019; Hammoud et al, 2017). But, if we focus on how all this is done and what that means, as your joint work with Eileen Appelbaum makes clear, the fund that now "owns" the company (the industry term is "acquisition" or "portfolio company") has *limited liability* – it only stands to

[3] Note from Jamie: As Rose goes on to establish in several different ways, PE general partners can make lucrative profits from the *fund management fees alone* – particularly as funds continue to expand in size with each round of fundraising. A 2% management fee continues to be the norm, with some discounts for large institutional investors. At 2% per year over ten years, GPs may reap up to 20% of the committed capital, regardless of whether the fund performs well or not.
[4] Note from Jamie: the industry term for this is "public to private"; there are various terms for other kinds of investment.

lose the "capital" supplied from the fund (otherwise known as its "equity" investment). This is very important to the incentive structure of PE?

Rose: Exactly. They buy out companies using other people's money, with very little of their own capital at risk. Using a lot of debt increases the relative returns on the equity they have invested – allowing the PE fund to multiply returns – and also spread the investment fund across a wider set of other buyouts, thereby diversifying its risk. The typical buyout uses about 65-70 percent debt (loans from banks and other creditors) and 30 percent equity from the PE fund. The GPs' own money represents only 2 percent of the total PE fund; so for any one buyout, their money at risk is only 0.6 percent of the total enterprise cost (.30 equity investment *.02 GP contribution = 0.6 percent). In other words, they have very little "skin in the game" – giving them incentives to take risks with other people's money. They gain on the upside with very little downside risk. Economists refer to this behavior as "moral hazard".

Jamie: So, in acquiring a company the GP replaces a significant percentage of the original value of the company's equity with debt, which leaves a smaller amount of equity supplied from the fund. Once this smaller amount of equity is returned to the fund, everything on top of that is potential profit to the fund (the basis of the "return" to investors). In the meantime, the acquired or "portfolio" company carries the debt partly used to buy it and has new higher debt servicing obligations? This seems to create a whole set of new risks for the company when PE takes over.

Rose: Many more risks than the public is probably aware of. The debt loaded on the company is the starting point for putting the company and workers at risk. It requires the company to cut costs and manage for cash to pay the interest on the debt or pay down the debt itself ("debt servicing"). After the buyout, the GPs typically assume positions on the company's board of directors, and essentially, direct the business and operations strategy. While the private equity GPs do look for opportunities to improve operations – particularly in smaller companies where there are clear opportunities to do so – the majority of private equity capital goes into large buyouts where there are few opportunities for "low-hanging fruit" – that is, relatively easy problems to be fixed. Large companies, for example, already have sophisticated accounting or HR systems; so then the focus turns to immediate cost cutting or other financial strategies. They reduce staffing levels or wages and benefits as needed; outsource or offshore work; or identify less profitable units to be closed – even if they still make a profit – rather than investing in and upgrading them. PE firms argue that this makes companies more efficient – "leaner".

Jamie: Cost cutting motivated by debt servicing pressures seems a weird concept of efficiency, very different than concentrating mainly on investment in innovation for productivity improvements and organic growth.

Rose: You're right, as you've shown in your own research on private equity. And we both know you can only squeeze so much juice out of an apple before you reach the core. In addition, the high debt load is only the first of many ways that private equity firms *extract* money from companies rather than investing and creating value. For example, PE firms typically require portfolio companies to sign a "Master Services Agreement" (MSA) in which the company pays the PE firm for "transactions fees" as well as "monitoring fees." A 2018 global survey of 213 PE fund managers found that 85 percent charged annual transactions fees in the range of 2-3 percent during the 2013-2018 period; and 58 percent charged monitoring fees in the range of 3-5 percent annually (PitchBook, 2018).

Yet, these agreements are fraught with conflicts of interest. PE firms own the company, sit on the board, and approve fees that benefit themselves. Monitoring agreements often do not specify what services actually will be provided (Polsky, 2014); and some require automatic renewals – referred to as "evergreen" agreements. Here, the automatic renewal may continue even *after* the PE firm exits from or sells the company, in which case the company must pay whatever millions in annual fees that are left. Ludovic Phalippou from Oxford University and colleagues exposed these and other practices in a brilliant article based on reviewing almost 600 leveraged buyouts with a value of $1.1 trillion. PE firms extracted $20 billion in fees from these companies. The article also sets out the content of specific MSA clauses to show the various ways that PE firms extract fees that represent pure value extraction unrelated to fund performance (Phalippou, Rauch, and Umber, 2018).

Jamie: A standard economic textbook might describe this as some form of market distorting behavior based on market structure (maybe involving "moral hazard" as you have already noted), but it seems more straightforward to call it opportunistic behavior based on power – and mainstream economics has always been quite poor at making sense of that.

Rose: Yes, and mainstream economics rarely incorporates the concept of asymmetric power into its analyses. Portfolio company fee extraction is just flagrant self-dealing.

Jamie: And this all can be done through a holding company that sits at the top of the new corporate structure of the acquisition and between the many other new and old entities of the acquisition and the fund(s)? For example, when KKR and Stefano Pessina bought Alliance Boots, ownership was restructured through AB holdings.

Rose: A holding company is a legal structure that may or may not apply in the particular case. The key interface is often the "platform" that PE funds set up to use to acquire companies. The main point is that the PE fund owns the company. It is the sole shareholder representing the interests of its investors; and through that financial control, appoints PE general partners to sit on the board of directors and hires the CEO and other top management officials. If the CEO does not carry out the strategic direction of the board, typically dominated by GPs and their appointees, then the board can fire the CEO. One study showed that 39 percent of CEOs were fired in the first 100 days of PE ownership and more than two-thirds at some point during the deal (Acharya, Hahn, and Kehoe 2009).

Let me also add that private equity funds also hold asymmetric power vis-à-vis the limited partners, which disadvantages the LPs in several ways. One relates to the Master Services Agreements, which are signed between the PE *firm* and the portfolio company – so the fees go straight to the PE firm, and the LPs often have no knowledge of what the fees include. The PE firms are supposed to share these fees with the Limited Partners, but the PE firms control all the financial accounting for services rendered (or not) and transactions completed (and under what conditions). In 2014, the U.S. Securities and Exchange Commission (SEC) found that about 50 percent of the PE firms it audited had not shared these fees with their Limited Partner investors (Bowden, 2014). Several PE firms reported that they did start sharing these fees with the LPs (now that they were caught), but we don't know if this is true due to the complete lack of transparency in PE transactions. The LPs also lose out because the fees reduce the value of the portfolio company so that it is likely to sell for less upon exit, lowering returns to the LP investors (Appelbaum and Batt, 2016).

Jamie: This and your previous comments raise a whole set of issues regarding the nature of law, regulation, and compliance – whether justice, fairness, or transparency and accountability are really to the fore in corporate dealings and whose interests are served – PE GPs, LPs, other investors, the public… I expect the real state of affairs is quite different than an ordinary member of the public might hope or expect from their legal *system*. But, to draw out the implications of the PE firm and its GP's incentive structure for the portfolio company (the "acquisition") …. Whatever else is involved, this structure is heavily focused on returning the equity used from the fund *to the fund,* as it is this that covers the fund against losses and eventually triggers "performance fees". The acquired company is a means to this end?

Rose: Yes. And PE firms use many other financial "tools" – what we refer to as "financial engineering" – to achieve their promised returns, even before they exit or sell the company. It is a lot easier and quicker to extract money through these financial tricks than through investing in companies to help them grow or compete effectively in today's competitive markets.

Jamie: And to clarify the context, as the GP is looking to exit the investment within 3-5 years, there is little incentive, as you have already suggested, to engage in uncertain long-term investment with no immediate payoff. By contrast, there are many reasons to focus on shorter term cost reductions, as this frees up cash for current debt servicing (and in an economic theory sense this can still look like an efficiency *gain* even though it may be to the long term detriment of the business). What kind of "tools" are we talking about?

Rose: Among the most brazen tactics is the use of "dividend recapitalizations" – in which the PE firm uses company collateral to take out additional debt, load it on the company, and then use it to pay out dividends to themselves and their investors. Because the company already carries a high debt load, the new loans are rated low or "junk bond" status and carry a higher interest rate, further burdening the company's balance sheet. Another purely value extracting tactic is to divide a company into two parts – a property company and an operating company – and sell off the property, which is then used for investor dividends. The company then must pay inflated rent on property it once owned, which severely reduces net revenues. This tactic is widely used in retail because stores traditionally have owned their own property in order to weather downturns in the economy – so the property is a cash cow. A more recent version of this strategy is to separate the intellectual property of a company – for example the brand – from the operations. The PE firm holds onto the valuable brand but loads all the debt onto the operating company and lets it go bankrupt. This is behind the recent bankruptcy of J. Crew, but I'll come to that when we discuss the Covid-19 pandemic situation in more detail.

Jamie: So the combined significance of these activities is…

Rose: Well, several fold. First, the activities undermine the financial stability of companies, making them more vulnerable to financial distress or bankruptcy. High debt loads – often in the millions of dollars in companies that never accumulated debt in the past – are deadly for companies at any time, but especially in an economic downturn like the Great Recession of 2008 and the current pandemic. And the spillover effects ripple through companies – throwing managers and workers on the streets, leaving venders and suppliers with unpaid bills, and creditors often taking a haircut.

Jamie: Because massively increased debt means that more of the available revenue is needed for debt servicing and so it takes a smaller fall in revenues for the acquisition to

become loss making or to be unable to service debt – thus triggering bank covenants on its debt or pushing the acquisition into insolvency or bankruptcy. A small downturn can have a big effect and a recession or crisis can be devastating…

Rose: But note, these financial engineering tactics plus the fees extracted from companies often mean that the PE general partners and their investors have extracted enough value to pay themselves back and more in the first two or three years of ownership – before they exit or sell the company. At that point, if the company fails, they can walk away, knowing that they have already made back their investment many times over.

Jamie: And "limited liability" protects both the GP and LPs?

Rose: It does, but there is a second point. Some of these tactics hurt the Limited Partners as well. Recall that the PE general partners seek to maximize profits at the level of *the PE firm itself – not for any particular portfolio company*. A PE firm can operate several funds and has little of its own money in any one of them, but the LPs have much more at stake in any one fund or investment. Financial engineering tactics – such as extracting fees from the portfolio company or selling the company's property and making it lease it back at inflated rates – cut into net revenues and in turn, cut into the sales value of the company and what it can command upon exit. This may lead to lower returns on exit, which hit the LPs much more than the PE partners. And if things go wrong, the PE firm walks away with minor losses compared to its overall gains at the level of the PE firm. Note that this can also mean any subsequent refinancing is at higher interest rates because the company now has fewer assets for collateralization and greater risk based on combined debt servicing. So, the vulnerability of the company can continue to evolve because of financial engineering.

Jamie: This raises a whole set of issues that economics has tended to obscure – not least the difference between wealth capture, wealth extraction, and wealth creation. Economics tends to assume the first leads to the last (investment, market discipline, and efficiency or failure) and often pays little attention to extraction. PE seems to, at least, blur the distinction between creation and extraction.

Rose: You make a very important point that needs more attention in academic and media outlets. Private equity firms argue that they create efficiency by buying and selling company assets – as if they were commodities or Lego pieces – subjecting them to the price competition of the market and thereby disciplining management to be efficient. They might call on Schumpeter to defend themselves, arguing that they create value through destruction. By selling off or destroying less productive assets, they free up capital to buy (create) higher performing ones.

But the best empirical evidence doesn't support that storyline. One of the most sophisticated and widely accepted studies of private equity and productivity by highly respected U.S. economists compared pre- and post-conditions of private equity buyouts to comparable publicly traded ones during a five year period (Davis et al, 2014). They found that PE target companies paid higher wages and had higher employment levels *pre-buyout* than did their publicly traded counterparts. *Post-buyout*, however, wages had fallen and employment growth was lower in the PE owned companies. The PE funds had targeted companies with better fundamentals and "increased productivity" by lowering labor costs – reducing the denominator in the productivity ratio and shifting capital from labor to themselves. Moreover, they went on to show that PE firms closed the employment deficit in their companies compared to the

publicly traded ones (to about 1-2 percent) by buying (acquiring) new establishments. So this reinforces the point made earlier, they counted the newly "purchased employees" as if they were equal to hiring new employees for "organic growth".

Jamie: So, what you are suggesting is that although PE activity can superficially look like it is creating "value", this is problematic. Its real effects involve transfers from what might otherwise have gone to employees ("labor") to owners ("capital"). At the same time, some of the changes made tend to conceal how "productivity" is created (less by investment and more by rationalization – a simple mathematical effect). Similarly, PE firms claim to create jobs, but in fact they may simply be aggregating the jobs from other entities they bought – not what a layperson might think of as a vibrant growing business? The two seem to also imply problems for the quality of employment. And, of course, the general implication is that the "value created" for fund investors (a standard terminology in the PE sector) does not necessarily come from value *created* in the portfolio company (hence a problem of wealth capture and wealth extraction). All of this raises a more fundamental question about whether we (as societies) should *value* what PE does – though that shifts what we mean by "value".

Rose: We can come back to this, but the important point is that shifting a greater share of productivity gains to capital or buying other companies to enlarge your own – hardly constitute "creative destruction" that contributes to overall productivity or economic growth. It's just robbing Peter to pay Paul.

Jamie: PE tends to market itself on the basis of finding "hidden value" and on turning around failing companies, so this seems to question that whole narrative (that PE is good for companies, good for markets, and good for the economy). Earlier, you mentioned that the problems PE creates are particularly evident in economic downturns like the Great Recession. Is there empirical evidence? Do you have specific examples?

Rose: Absolutely. In our 2014 book, we did a deep dive into the patterns of financial distress and bankruptcy related to the 2008 recession (Chapter 4). Highly leveraged companies had much higher rates of bankruptcy during and after the 2008 recession than did comparable companies without these high levels. And PE owned companies were disproportionately among those companies with elevated debt levels. The stories from the retail sector are particularly noteworthy. PE likes retail because it "throws off a lot of cash" and has property assets to sell – allowing PE to extract wealth while owning the company and exit in a few years.

Jamie: So, retail (with property, cash flow, and a customer base) is a sector particularly suited to collateralizing debt, used to buy a company through an LBO and to meeting debt servicing obligations. So, retail is a preferred target for large scale PE activity…

Rose: We wrote about the classic PE retail playbook in our book. Mervyns' Department Store was an iconic regional chain in California with a strong reputation for good value and positive community relations through its foundation. PE firm, Sun Capital, bought the chain from Target in 2004 in a leveraged buyout for $1.2 billion (with one-third equity, leaving $800 million in debt). Sun immediately sold off the real estate of the chain, paid itself back its $400 million in equity, and required Mervyns to lease property at inflated rates. It then loaded the company with more debt to pay itself and its investors a dividend. It closed some lower performing stores, required a 15 percent across the board headcount, ended the foundation, cut staff in warehouses, and refused to honor a credit arrangement that made it possible for

vendors to get advance payment to supply seasonal merchandise. The stores soon looked shabby, lacked cleanliness, and the chain declared bankruptcy when the 2008 financial crisis hit. In fact, Mervyns' revenues were in the black that year – at $64 million – but it owed $80 million in rent on the property it used to own. 30,000 workers lost their jobs, while private equity investors walked away with millions in four years. The UK's beloved Debenhams Department Store had a similar fatal dance with private equity in the 2000s that has had lasting effects.

Jamie: Yes, though the effects are not necessarily bankruptcy, but they can still cause ongoing problems because of debt legacies (the worst does not have to happen for the practice to have been problematic). This raises an important point. Portfolio companies retain their trading names when PE firms acquire them, so the public attributes any negative outcomes to the company rather than the PE firm, which is a guiding influence behind the scenes. This tends to obscure the role PE firms play collectively and serially in the problems that sectors and economies suffer. And the problems PE creates – underinvestment, rationalization, debt legacies and so forth – can continue long after PE exits the company.

Rose: Yes, and the retail sector is a good example. The press now attributes retail problems and bankruptcies to the "retail apocalypse" and e-commerce. And of course, technological disruption and monopoly players are biting into retail revenues and profit margins. But a disproportionate number of recent retail bankruptcies have been driven by private equity – *not Tesco, Walmart, or Amazon.* Between 2012 and 2019, for example, 10 of the 14 largest U.S. retail chain bankruptcies were PE owned chains; these led to the loss of 1.3 million jobs – 600,000 direct jobs in the sector and over 700,000 jobs in related businesses such as suppliers and distributors (Baker, Corser, and Vitulli, 2019). The most widely publicized was the 2017 bankruptcy of the beloved children's store, Toys R Us, burdened with $5 billion in debt from a PE leveraged buyout by Bain, KKR, and Vornado Realty. It threw 30,000 workers on the streets – as you set out in your article (Morgan and Nasir, 2020). But many more iconic brands fell beneath the weight of PE-levered debt and wealth extraction – including in the U.S., Barneys New York, Gymboree, Charlotte Russe, Sports Authority, 9 West, and Payless Shoe Source.

Private equity firms have also driven bankruptcies in the U.S. grocery store segment. Between 2015 and 2018, seven regional grocery store chains declared bankruptcy, and media accounts ascribed these to Walmart and Amazon. But, in fact, PE firms owned all seven. In the same timeframe, NO publicly traded grocery chains went bankrupt, even though they all faced the same degree of competition. Almost all of the bankruptcies were due to excessive debt from PE buyouts that the chains couldn't repay – coupled with PE's sell-off of their real estate so that net revenues went down. This left them with few reserves to invest in store upgrades, online shopping, labor saving technologies, or innovative product lines that would have let them stay current with changing consumer demands and tastes (Appelbaum and Batt, 2018).

Jamie: So, from this point of view, PE can be helping companies fail rather than turning around failing companies? This really brings us back to how PE's role is often obscured…

Rose: Yes, it is also important that the names of most private equity firms are not well known or known at all. And recall that in the U.S. and UK, at least, all of this behavior is perfectly legal. And most people – including union leaders, institutional investors themselves, politicians, consumers, the public generally – are not financially sophisticated enough, nor do

they pay attention to the financial weeds buried in the *Wall Street Journal*. It's easy to accept the prevailing accounts that financial problems are just due to economic downturns, new technology, the "retail apocalypse," or overly demanding unions (despite the massive loss in union power in recent decades).

Jamie: Though every now and then PE firms do come into focus – "Barbarians at the Gate" and so on…

Rose: But most of the time they operate in "the shadows" and have little or no transparency – even in their meager reporting requirements to the SEC in the U.S. They are the "puppeteers behind the puppets," – according to a long time labor activist from the Service Employees International Union (SEIU) – Jono Schaeffer. The private equity firm that owns Friendly's Ice Cream and drives it into bankruptcy does not get the blame – people just assume it must be Friendly's "bad management". End of story.

Jamie: Your work over the years with Eileen Appelbaum then has been very important in shedding light on the Main Street problems caused by Wall Street that economics has mainly failed to address. But a term like "Main Street" tends to bring to mind the kind of examples we have used so far – those that people understand as typically "commercial" businesses in private sector markets. But hasn't private equity penetrated public services in the same way? Services that are vital to social welfare? Given the growth of public-private partnerships and outright privatization of public services, hasn't private equity played a role here that is also, from a public prominence point of view, behind the scenes?

Rose: I wish I could say no. Eileen and I have followed private equity's penetration into the U.S. healthcare industry for several years, and the results are very disturbing. The early example is nursing homes, where PE investments accelerated in the 2000s due in part to the fact that government funding secures a steady flow of cash. Large PE-owned chains included ManorCare, Beverly, and Mariner Health Care, which the SEIU featured in a major exposé of the PE nursing home model (2007). The PE model was to first sell off the property underneath the homes for an immediate dividend to PE and its investors; second, to break up the chain and make each physical location a separate legal entity so that even if sued by patients, there were no assets to go after; and third, to cut operating costs, particularly labor. Several U.S. studies provide empirical evidence that the result of PE ownership is lower staffing levels (Pradhan et al, 2015) and lower care quality (Gupta et al, 2020). Studies of UK homes show similar results (Burns, Hyde, and Killett, 2016). The UK government has begun to wake up – with shocking audit reports, for example, of the second largest chain Four Seasons Health Care (owned by PE firm Terra Firma) – which found food deprivation, unsanitary conditions, the spread of infections, and more (De Freytas-Tamura, 2018). And a recent investigative report of New Jersey Homes in the U.S. found that PE owned homes had 25 percent higher Covid-19 infection rates than the statewide average and 10.2 percent higher fatalities (AFR, 2020b).

Jamie: Given all the other features of the business model, PE seems particularly problematic when its business model is applied to key public services and matters of basic human welfare. There can be something brutal in the way private equity treats its acquisitions as assets in a portfolio for the purposes of returns to its funds and the PE firm – LPs and GPs. And yet, apart from your work and a few others, this has received little attention, perhaps

partly because PE benefits from a more general preference for the private sector.[5] The general trend in many countries has been to seek to apply private sector decision making in service and welfare contexts, on the assumption that this leads to efficiency, and efficiency leads to better services and better value for money. It seems likely that there is a general assumption that PE fits this way of thinking, paralleling new public management theory etc.

Rose: Efficient for whom and at what human cost? There are many examples beyond nursing homes. Our cumulative research on private equity activity in healthcare shows that PE investments in the sector have dramatically escalated since the 2008 recession (Appelbaum and Batt, 2020). PE investments in the U.S. healthcare sector grew from less than $5 billion annually in 2000 to $100 billion in 2018 – a 20-fold increase. PE serves as a market aggregator and reseller, using a well-developed "buy and build" strategy in which it establishes a "platform" by buying out one enterprise and then adding on and rolling up a series of similar enterprises. The strategy allows PE firms to operate below the radar of anti-trust regulators because any one acquisition is too small to fall under their jurisdiction, but overall the strategy helps PE achieve economies of scale and market power at the local, regional, or national level.

Using this strategy, private equity firms started buying up specialist physician practices (anesthesiologists, radiologists, etc.) to form national staffing firms for hospital emergency rooms (ER). They took advantage of a trend among hospitals to outsource ER services to cut costs. Two PE firms now control 30 percent of this large market and are behind a recent phenomenon known as "surprise medical billing". This practice takes advantage of the fact that U.S. insurance companies negotiate with hospitals to cover patients admitted to those hospitals. But because the outsourced ER services are not covered by that contract, the physician staffing firm can charge "out of network" rates – essentially anything they want because they are not constrained by the payers or the government. As a result, thousands of patients have been hit with thousands of dollars in "surprise medical bills" that they thought their insurance company was covering. PE firms also own 2 of the 3 largest national air ambulance companies that are among the worst offenders of surprise medical bills. And despite the public and media outcry, the U.S. Congress has yet to pass a bill to curb this shocking behavior (Appelbaum and Batt, 2019b, 2019c).

Jamie: Again, these practices seem to have little to do with improving efficiency – if by that we mean quality of service and pricing – and far more to do with exploiting opportunity. Whilst this might be irritating in what we traditionally mean by the commercial sector, it seems much more serious in social and healthcare contexts – perhaps deadly serious. And this brings us conveniently to a subject I know you are keen to discuss – the way PE has and seems likely to respond to the Covid-19 pandemic. This begins with already existing vulnerabilities created in healthcare – problems of instability, insolvency etc. – which seem to parallel your retail apocalypse point, but extend beyond this?

Rose: Let me start with the issue of vulnerability. Private equity firms also have used the buy and build strategy, along with the sale of medical properties, to pay themselves dividends. They have created national hospital chains with excessive debt loads that are financially

[5] Note from Jamie: If interested in following up any of the issues, in addition to Appelbaum and Batt's work and the references given so far, see (Bedu and Montalban 2014; Clark 2009, 2011, 2013, 2016; De Cock and Nyberg, 2016; Erturk et al, 2010; Froud et al, 2012; Froud and Williams, 2007; Kosman, 2009; Morgan, 2009; Morrell and Clark, 2010; Phalippou, 2017; Rodrigues and Child, 2010; Scheuplein, 2019; Souleles, 2017, 2019).

unstable. Particularly egregious examples include Prospect Medical Holdings, owned by Leonard Green Partners, which has preyed on safety net hospitals and run them into bankruptcy (Elkind, 2020), and Steward Healthcare Systems, owned by Cerberus Capital (La France, Batt, and Appelbaum 2020). After converting six small Catholic community hospitals into a PE owned chain, Cerberus sold off the property and used the proceeds to pay themselves dividends and to buy up a series of hospitals around the country – again using the classic leveraged buyout model. Now laden with unsustainable debt, Steward is ranked the lowest of any Massachusetts chain in terms of financial stability, with a negative 38% finance equity ratio (an indicator of high debt). In the meantime, it had the audacity to demand bailouts under the government's Covid-19 relief program for one of its hospitals – under threat to the Governor of Pennsylvania that it would close the hospital if it did not get the money. It got the money! (Batt and Appelbaum, 2020a)

Jamie: So clearly, PE practices can undermine the ability of social and healthcare services to cope, just when you need them to have the spare capacity and flexibility to respond to crises? Early on in our interview, you suggested: "During the current pandemic crisis, they are already responsible for the financial distress and bankruptcy of many companies because their business model starts by loading these companies with excessive debt."

Rose: Let me elaborate. As we entered the Covid-19 era in early 2020, private equity owned companies were among the worst poised to face a crisis that is already the worst since the Great Depression of almost a century ago. In 2019, 14 PE owned companies defaulted. Between the end of 2018 and 2019, the number of private equity backed companies with credit ratings in distress (a total of 99), had grown by almost 30%. Distressed ratings are those with a B- rating or worse and have a negative financial outlook – a significant probability of defaulting on their bonds. This data probably understates the problem because it only included rated companies; non-rated PE owned companies are those that do not have to make their financials public (Rodriguez-Valladares, 2019). By April, 2020, Moody's Investors Service reported that in the first quarter of 2020, 56 percent of the 18 corporate family defaults were private equity owned companies (Rodriguez-Valladares, 2020a). In July, 2020, Moody's reported that rated company defaults were rising; and again, that PE-owned leveraged buyouts represented a disproportionate share – over half. It went on to report that the defaults for the rest of 2020 are likely to be from PE-owned companies because roughly 70% are financed only with leveraged loans and about the same share on Moody's B3N list are also PE-owned. By comparison, PE-owned companies represented 45 percent of those on the list at the height of the financial crisis (Rodriguez-Valladares, 2020b).

Jamie: It is also worth noting here, following your examples from retail and healthcare, that PE firms tend to have common foci: the characteristics of the companies they buy, the methods they use to buy them – and this can have collective consequences.[6] The Bank of England, for example, keeps a particular eye on leverage levels, use of covenant-lite practices, structured debt, bond issuance (bundling debt), and securitization (bundling bundles of debt or mirroring them with derivatives) in order to stress test likely causes of financial instability and crisis at a macroeconomic level.[7] Whilst the Bank does not suggest

[6] Note from Jamie: PE firms and lobbyists tend to argue that they operate in many different sectors; but this is not quite what we mean. There is also herding – fund solicitation follows fashions – within sectors it is debt servicing potential that often dominates and debt loading leads to collective effects on corporations in the sector and macroeconomic financial stability effects may follow.
[7] Note from Jamie: A covenant-lite loan has fewer restrictions and less monitoring from the loan issuer and is considered higher risk.

that PE is a sole or major cause of financial instability (such as the Global Financial Crisis), its analyses have shown that it can contribute to instability (see Gregory, 2013; Bank of England, 2019). Current attention, for example, is focused on the Commercial Mortgage Backed Securities (CMBS) market and Collateralized Debt Obligations or CDOs (as well as specific PE Collateralized Loan Obligations). The retail apocalypse – which as you have suggested PE has contributed to – is one facet of changes to urban and suburban commercial land use, and this has caused drops in valuation (exacerbated by Covid-19) in high streets, shopping malls, and office space. This affects the loans wrapped up in CMBS (increased delinquency, covenant breaches, distress and default) and these underpin a class of CDOs. Because these trade as financial assets, a further problem here is of risk diffusion becoming risk contagion: all problems indicative of a Minsky cycle or Kindleberger's manias and panics.

Rose: This all starts though with the PE business model, and each buyout and its consequences. In the current pandemic, PE-owned retail chains in the U.S. have been among the first to face financial distress and bankruptcy – including well-known U.S. brands like J. Crew, Nieman Marcus, and Sears. The numbers are stunning. Between 2010 and 2020, private equity funds had invested roughly $90 billion in U.S. retail, according to Dealogic, an industry research firm. Despite this huge investment, private equity represents only a small portion of the roughly 1 million retail establishments in the U.S. (National Retail Federation, 2020). Nonetheless, as of April, 2020, Moody's Investor Services reported that 27 out of 38 retailers with the weakest credit profiles – more than 70% – were owned by PE. These chains include sports-equipment seller Academy Sports & Outdoors, 99 Cents Only Stores LLC, and Guitar Center Inc. (Louch and Cooper, 2020).

Early in the interview, I mentioned J.Crew and said I would return to this example. The demise of J. Crew in April, 2020, under the ownership of TPG Capital and Leonard Green & Partners, illustrates a new level of cunning financial engineering that even creditors have balked at. The bankruptcy was well in the works before Covid-19 hit. The private equity duo bought the holding company that included J. Crew, Madewell, and Charlotte Russe for $3 billion in 2011 – using only $1.1 billion in equity and loading the company with the remaining $1.9 billion in debt. Despite promising to expand the company in the U.S. and internationally, they soon took $700 million out of the company – in the form of dividends and fees – allowing them to recoup in two short years, 70% of what they had invested ($680 million in dividends and $19 million in fees). This left little money for store upgrades or expansions. The PE firm then sold J. Crew's intellectual property, its valuable brand name, to a new subsidiary it created – located in the Cayman islands – so it would not be available to pay off creditors in case of financial distress. Then it split the company in two – with the most valuable part – Madewell brand – a separate legal entity, also out of reach of creditors. Finally, the PE firms left all the debt – about $1.65 billion – on J. Crew, leading to its recent bankruptcy and the potential loss of 13,000 workers' jobs (Appelbaum, Park, and Batt, 2020).

Jamie: And reference to the Cayman Islands highlights another important issue here. We talk about companies as though they were just one corporation; but they are typically a string of corporations, which collectively comprise its organization.[8] Like any other organization, PE has the option (and this may be more of an issue outside the U.S.) to structure its acquisition's incorporations for what it refers to as "tax efficiency", but which others might

[8] Note from Jamie: In economics, with a nod to Coase, this is sometimes termed the 'firm', but in legal discourse in the U.S. this refers to a partnership, so there can be some confusion. The key point is that the entity may be a collection of separated corporations, involving complex connections where one may own another etc. (perhaps as a 'Multinational Enterprise or MNE). Sol Picciotto makes this point.

label avoidance (an aggressive but legal means to radically reduce tax owed in any given jurisdiction). The organization creates a new corporation in a "tax secrecy" jurisdiction or "tax haven". Sales, revenues, and profits can then be channeled there; and this combined with the use of strategically located debt can be used to reduce tax liabilities and offset any tax owed (for general issues, see Morgan 2016, 2020; Seabrooke and Wigan, 2020). But we digress, we were discussing financial distress and bankruptcy and how the pandemic might exacerbate that for PE portfolio companies. Do you have other examples?

Rose: There are many others. Nieman Marcus filed for bankruptcy in May, 2020, when it could no longer sustain the load of $5 billion in debt accrued through two rounds of leveraged buyouts and 15 years of private equity ownership. In the same period, the PE owners extracted roughly $500 million in dividends and fees alone (PESP, 2020a). And like TPG Capital and Leonard Green at J. Crew, they transferred valuable company assets – in this case, the luxury E-commerce retailer MyTheresa – to the PE owners and therefore out of reach of the bondholders, who have claimed this was an improper transfer that leaves little to protect the company's unsecured debt (Maheshwari and Friedman, 2020).

And just so I don't give the impression that nothing happens outside America, the bankruptcy of Debenhams – in April, 2019, and again in April, 2020 – is also attributed to the retail apocalypse and the company's failure to upgrade its stores and merchandising – as well as the Covid-19 pandemic. But behind the financial struggles of UK's 200 year historic department store is the invisible hand of private equity. A leveraged buyout in 2003 by U.S. PE firms Texas Pacific Group, CVC, and Merrill Lynch, saddled the company with £1.2bn in debt (in a buyout worth £1.8bn). After cutting costs for store improvements by 77 percent, selling off property, and negotiating long-term leases for property the company used to own, the PE consortium exited Debenhams in 2006 for £1.7bn after having extracted £1.3bn for themselves. The costly long-term leases continued to cut into net revenues and saddle the company's efforts to restructure or close underperforming stores (Chapman, 2018). In April, 2020, almost 15 years after PE ownership, Debenhams was still carrying £600m in debt (Littlelaw, 2020).

Jamie: In talking about the pandemic, the other point you were keen to emphasize early on in the interview was that PE firms have had their best fundraising years ever and are sitting on billions of dollars in unused capital, which they plan to deploy post-pandemic to buy up, on the cheap, the assets of companies that fall into bankruptcy. Several different databases track PE and report metrics, and the consensus figure at the moment suggests that the major PE firms have (November 2020) between $2 and $2.5 trillion in "dry powder" (unused committed capital available from their funds).[9]

Rose: That's right. In the bubble years before the great recession, PE funds "called" or invested 16.3 percent of committed capital in 2006 and 19.1 percent in 2007. In 2018, however, they called only 4.1 percent of funds, and in 2019, 3.3 percent (Segal, 2020). So, there is substantial accumulation of unused but committed capital from LPs, as well as ongoing solicitations for new funds. With this abundance of capital available, PE is poised to buy distressed assets at a bargain. Many companies or owners may be desperate, and there are many reasons why now is an opportune moment for PE buyouts.

[9] Note from Jamie: Sources differ (different databases can contain different PE and estimates are moving targets), but there is a trend increase and a significant scale: As of December, 2019, PE firms were sitting on over $2 trillion in 'dry powder' – $2.3 Trillion, according to PitchBook (2020) and $2.5 Trillion, according to Bain & Company (2020).

Jamie: The pandemic creates multiple opportunities seemingly. Let's consider a few. The most immediate effects are falling share prices, which mean that companies' market capitalization falls (the company becomes cheaper); this attracts activist investors like hedge funds, who may short the company or position one of their personnel on the Board and then push for divestments etc. This can play into the hands of PE firms, who pick up the divested part; or PE can come in as an alternative management solution (the classic language of competition for control associated with Michael Jensen) for the whole enterprise. In any case, shareholders may be more open to a takeover if dividends are not being paid, and if the future is uncertain and share prices are volatile or depressed. This takeover can be hostile or agreed; but in either case, new opportunities seem to be created for PE when corporate governance is unable or less likely to offer resistance. Cheaper targets and historic low interest rates for debt purposes seem likely to accelerate PE activity in the coming months. As surely, in the UK, will Brexit's effect on short term economic prospects. The FTSE 250, for example, was down almost 25% to November from February 2020 (and a falling exchange rate will also make UK registered firms cheaper to $ buyers).

Rose: PE firms are strategic as well as opportunistic. When the Covid-19 pandemic initially hit, the private equity firms substantially reduced their buyout activity and assessed the damage to their companies in industries hard hit by the Coronavirus. But by the summer, their deal making picked up, buoyed by the U.S. Federal Reserve, which established a corporate-bond buying program that added liquidity to the market and provided financial stability for the stock market. This also facilitated the return of the leveraged loan market (below-investment-grade), which funds many buyouts. Overall, private equity firms, flush with cash, are well-positioned to take advantage of the pandemic and buy up the best deals. According to Preqin's third quarter 2020 report, PE leveraged buyout funds alone had $1.6 trillion on hand, and the buyouts and debt-funded dividends had "taken off". KKR, for example, took a $560 million dividend from a tech company it owned, Epicor Software Corp., in a recapitalization that facilitated its sale (a month later) to PE firm Clayton Dubilier & Rice. Bloomberg reported that, "… competition among lenders to finance buyouts is so intense that private equity barons are getting financing on terms that are in line with or even better than those before the Covid-19 outbreak" (Scigliuzzo, Lee, and Seligson, 2020). PE titans are expressing optimism and confidence (BB&T|SunTrust now Truist, 2020).

Many PE firms are moving quickly into those sectors not affected or even benefitting from the Covid-19 crisis, such as high tech and healthcare (Gottfried, 2020). Other PE firms are looking to take advantage of distressed "assets" and buy them up cheaply.

A lesson from the last financial crisis is worrisome. Between 2013 and 2017 alone, private equity firms took advantage of the housing crisis and bought up hundreds of thousands of foreclosed single family homes, turned them into rental properties, and bundled and securitized them to create $19.2 billion in "single family rental bonds". The two largest PE housing companies, Starwood Waypoint and Blackstone's Invitation Homes, merged to form a combined portfolio of 82,000 properties – one of the largest landlords in the U.S. They concentrated their buying in certain local markets to create monopoly power (Atlanta, Los Angeles, Houston, Miami, and others), increased rents dramatically, charged excessive maintenance and late fees, and had higher eviction rates than "mom and pop" landlords, according to a Federal Reserve Bank Report (Abood, 2018). Institutional investors owned over 200,000 rental homes as of December, 2017, and the number has continued to grow. In the current pandemic, private equity landlords are already evicting tenants even though the

Trump Administration placed a moratorium on evictions until December 31, 2020 (PESP, 2020b).

Jamie: If this were higher profile it would surely cause PE "reputational damage".

Rose: And, private equity's preying on poor and marginalized groups doesn't stop there. Post financial crisis, they swept into the payday lending market, and as of 2017, owned over 5,000 store front locations that often make loans at over $300 percent annual interest rates – some up to $600 percent – often illegal rates above state maximums.[10] Consumer credit for people who have no other alternative, these operations offer short-term loans with "friendly" "roll overs"; and several PE-owned lenders have been sued by states for deceptive and intimidating practices that have left borrowers in a long-term cycle of debt (PESP, 2017; AFR, 2020a).

Another marginalized group subject to private equity abuse are the incarcerated and their families. It may come as a shock to Europeans, but the U.S. prison industry – the largest in the world – is substantially privatized through the contracting out of prison services to private vendors. And the largest players in that market? PE firms, of course. These own commissary, telecommunications, and healthcare services companies and use monopoly power to charge excessive fees for often poor quality food and services that families of the incarcerated must pay (PESP, 2019a, 2019b, 2019c). During the pandemic, when Covid-19 cases have skyrocketed in prisons, the only communication between the incarcerated and their families was via communications systems largely owned by PE firms charging outrageous fees.

Jamie: Covid-19 is a very odd kind of economic crisis. In the UK and many EU countries, Australia etc., for example, lockdowns are essentially an orchestrated suppression of economic activity (tourism, hospitality, face to face retail), rather than inadvertent recession – though the U.S. and some other places have done less "locking down". In any case, the pandemic brings otherwise viable companies to a halt (either directly by lockdowns or indirectly by radical changes to social behavior). PE seemingly may be a beneficiary, but your work also suggests that investors (Limited Partners) may *not* benefit as much as they think and you have already alluded to this, but there seems more to say.

Rose: Well, given the financial tactics that private equity firms use, you would think that their funds would indeed beat the stock market by a lot and that the LPs would benefit. But the empirical evidence from finance economists on this point is the opposite. The median, or typical private equity fund has not beaten the S&P 500 since 2006. As summarized in our review of the empirical evidence (Appelbaum and Batt, 2019a), recent studies do find that the top quartile funds still beat the S&P 500 by a reasonable margin – but *not* the median fund launched in 2006 or later (Harris, Jenkinson, and Kaplan, 2015; L'Her, Stoyanova, Shaw, Scott, and Lai, 2016; PitchBook, 2016; Phalippou, 2020). The 2016 PitchBook analysis used the Russell 3000 index as the metric of comparison, and found that by 2006, the typical fund roughly matched the Russell 3000.

[10] Note from Rose: That is, they make a loan with an interest rate of perhaps 25 or 30% per month, and then it rolls over because the borrower can't pay, with the end result of an interest rate that is $300+ or more.

Equally important, research shows that there is no longer "persistence" in fund performance – meaning that an initial fund that performs well does not predict the performance of a follow on fund by the same general partner in the same private equity firm (White, 2017). A recent paper by mainstream economists published by the National Bureau of Economic Research (NBER) has again demonstrated this fact (Harris, Jenkinson, Kaplan, and Stucke, 2020).

Jamie: How might you explain this?

Rose: Poor fund performance is probably due to more competition for "good" target companies needed to bring strong returns. Competition has increased substantially in the last decade or so because of the rapid growth in the number of PE firms – the "dry powder" mentioned previously.[11] The competitive landscape also includes major publicly traded corporations with trillions in cash on hand. The result is that the price of buyout targets in 2019 averaged more than 11X the enterprise value in the U.S., or EBIDTA (Earnings Before Interest, Depreciation, Taxes, and Amortization) – higher than even the bubble years of 2006-2007. It was over 10X EBITDA in the UK (Bain & Company, 2020). Arguably, this confluence of factors has led to poor and falling PE fund returns. And, of course, all the things we have discussed about fees charged to LPs are relevant here. The pandemic may depress share valuations but not necessarily enough for this to matter in the long term against the trend of bull markets.

Note also, however, that PE firms have continued to make money for themselves despite the poor performance of their funds, because they continue to get management fees from the LPs and monitoring fees from the portfolio companies, regardless of how the fund performs. Limited Partners, including pension funds, are paying extraordinarily high fees for mediocre PE fund performance. Recall that they pay an annual 2 percent management fee to the PE firm, with no strings attached and no accountability. Assuming a 10-year commitment, that means that LP fees paid to the PE firm equal 20 percent of the entire investment fund. While some argue that the PE firms have reduced fees to about 1.5 percent, the evidence is thin: they have reduced fees for some of the largest LPs with long term relations – that's about it.

Jamie: And then there is "carried interest".

Rose: Yes, this is supposed to be a "performance fee", and we briefly mentioned that earlier. PE firms take 20 percent of the returns. Phalippou's recent research paper on this point ("An Inconvenient Fact…") is particularly compelling, as he also shows that despite PE fund performance that roughly matches public indices, the big four PE firms collected an estimated $230 billion in performance fees. Pension funds would have been better off investing in a simple index fund, such as Vanguard. The number of PE billionaires was 3 in 2005 but 22 in 2020 (Phalippou, 2020).

Jamie: But the fees issue raises a more general concern. Given that many PE institutional investors are pension funds, there seems a major contradiction here. Pension funds represent workers, and their capital is comprised of contributions by workers; but they are investing in PE funds that often damage companies and thus wages, incomes, unionization, terms and conditions, and livelihoods. And if they are doing this in order to secure high returns to finance

[11] Note from Rose: LPs have to keep that capital in an escrow account for the GPs and cannot use it to invest anywhere else. Between 2007 and 2017, for example, the number of investors in private equity increased by 51 percent (Pitchbook, 2018).

pensions but the returns are even less than advertised, this seems even more counterproductive. Still, pension funds continue to re-up their investments in private equity, and some have increased their allocation over time.

Rose: Yes, pension funds face a dilemma. U.S. law requires funds to comply with the principles of loyalty and impartiality to act in the best interests of their beneficiaries – according to the standards of what a "prudent man" would do – not in their own interests or those of a third party. Historically, this meant avoiding risky or speculative investments. But in 1974, Congress passed the Employment Retirement Income Security Act (ERISA) allowing pension funds to invest in stocks and other risky investments. And over time, the interpretation of what is "reasonable" changed. In particular, scholars in the "law and economics movement" argued that the prudent man rule should be defined only in terms of investments that should minimize risk – via diversification in portfolio investments – and maximize short-term returns – via investments that guarantee higher short term returns to the fund. This paralleled the trends in economics and management studies that argued the sole purpose of the corporation was to maximize returns to shareholders – typically measured by stock price.

In 2008, the Bush administration's Department of Labor issued "guidance" to strengthen this interpretation, stating that a fiduciary must only consider the economic interests *of the plan*, not other factors outside of these interests. That is, for example, factors such as whether the plan's investments result in job or wage loss for workers. Thus, while the plan's beneficiaries may not want investments to destroy jobs or Main Street companies, the interpretation of fiduciary duty puts the *plan first,* above *workers first*. Some legal scholars, however, argue that this interpretation is inconsistent with the original ERISA legislative intent (Webber, 2018).

In the meantime, pension funds have continued to invest – and increased their commitments – to private equity funds known to cause companies to go into bankruptcy – throwing workers out of jobs. And to reiterate, the best econometric evidence on this point shows that PE ownership leads to job loss or lower job and wage growth, compared to comparable publicly traded companies (Davis, Haltiwanger, Jarmin, Lerner, and Miranda, 2014; Appelbaum and Batt, 2014). Private equity owned companies are at least twice as likely to go bankrupt than are comparable publicly traded companies (Strömberg 2008; Ayash and Rastadz, 2019).

Jamie: I wonder how many members of pension funds know about this?

Rose: Well, they are paying pension fund managers to oversee their funds, so in principle the members shouldn't have to worry.

Jamie: So the contradiction of investing in PE was masked to some degree by rule changes that affected how pension funds were managed?

Rose: Yes, but since the financial crisis of 2008, which decimated pension funds, many have argued that maximizing fund returns is too narrow a definition of fiduciary duty. It may be the case as you suggested earlier that private equity and hedge funds are not the only sources of financial instability, but they contributed to the financial crash by creating high volatility and systemic risk, and led to billions of losses in pension funds that took years to recover. If pension funds choose to invest in risky private equity and hedge funds, which maximize short-term returns but undermine long term fund stability, then investing in these risky funds does

not meet the standards of fiduciary duty (Lydenberg, 2014; Youngdahl, 2012). Pension funds need to take a broader set of criteria into consideration – criteria that include environmental, social, and governance outcomes.

Jamie: And transparency bears on this too if LPs cannot be sure exactly what GPs are doing and will do?

Rose: The lack of transparency in GP decision-making has been a major sticking point for the LPs for a decade or more. The association that represents LPs, the Institutional Limited Partners Association (ILPA) put out guidelines for better transparency in 2011, after the Great Recession led to a precipitous drop in PE fund performance. They recently updated and tightened those guidelines (ILPA, 2018), but GPs have virtually ignored them.

From a legal standpoint, the lack of transparency is also because by outsourcing all decision-making authority to the PE General Partners, the pension funds can't even know if they are meeting their fiduciary responsibilities. While pension funds may delegate management of their investments to a service provider, they must be able to monitor and ensure that their behaviour meets the high standards of fiduciary duty. But under the Limited Partner Agreement (LPA) that pension funds sign, they have no access to the kind of financial or other data they need to determine if the GPs are actually making decisions that are in the best interests of the fund. GPs, in the meantime, have a conflict of interest when they face situations in which one decision would benefit the LP investors, while another would benefit the PE firm. Case evidence provides examples in which the GPs have clearly put their own interests above those of their investors; and in some cases, GPs have stated that they are not responsible for whether the fiduciary responsibility to the LP beneficiaries is met (Appelbaum and Batt, 2016: 16).

Jamie: This keeps bringing us back to the fundamental issue of contradiction, which seems as much moral or ethical as it does rational or legal.

Rose: Well, the paradox of why invest at all is one that Eileen and I have tried to understand for several years. We wrote about it in a recent article (Batt and Appelbaum, 2020b), but many outstanding questions remain. This would be a great dissertation topic for someone to tackle.

The article reprises the economic arguments for "why invest", and as we have discussed above, they are not compelling given the widespread evidence that PE fees are excessive, PE fund performance has fallen, and the median fund doesn't beat the stock market any more. But the private equity industry uses a different metric – the internal rate of return (IRR) to measure its performance, and by that metric, which is flawed and subject to manipulation, their funds continue to outperform the market. Many fund managers also believe that even if the typical PE fund doesn't beat the market, they know which funds to pick – although as I mentioned before, research shows no persistence in fund performance over time.

Jamie: I guess they may also be benefiting from investor "yield anxiety"; returns on any standard investment have fallen in this century; financialization, Quantitative Easing, continual creation of liquidity etc., stand behind all kinds of problems.

Rose: Well, there are a shrinking number of well-performing publicly traded corporations to invest in. A more compelling reason, I believe, is that pension fund managers apparently want

to believe the IRR return numbers, because these also serve their own interests – managers can claim they are doing the best they can and that their investment strategies follow the advice of their financial advisors – so they are fulfilling their fiduciary responsibilities. Of course, the financial advisors benefit financially the more pension funds invest in complex financial investments.

Jamie: Overall then there is a rationale even if there are not good reasons for pension funds to invest in PE?

Rose: In our paper, Eileen and I argue that institutional and political explanations play at least as important a role in the continuity of pension fund investing in private equity. Limited Partners are in a fundamentally asymmetric power relationship with private equity, and they are somewhat locked into a norm that was set decades ago. The "2 and 20" model, the 10-year illiquid investment period, the buyout model, the delegation of all decision-making authority to the GPs, the utter lack of transparency in GP dealings – these are all baked into the PE recipe with boiler plate legal language and this has legs. If LPs try to change the rules of the game now, the PE general partners can retort – why now when these arrangements have "worked" all this time? Or they can threaten to not offer the pension fund the opportunity to invest in the future. The institutionalized model weighs heavily in favour of the PE firms.

Jamie: Perhaps we should end on a positive note. In campaigning for his first election, Donald Trump was disparaging of finance capital and promised to end, for example, the special tax status of carried interest (taxed as capital gains not income). He didn't do that, nor did he do anything substantive for the many "left behind" who voted for him. Do you envisage any of this changing when (if) Joe Biden becomes President? There are, of course, many other issues (e.g. Morgan, 2019), but Progressives and Green New Dealers, for example, see the climate and ecological crises as opportunities for change and the pandemic does not seem to have altered that. Is there scope for a different kind of private equity in this context?

Rose: Perhaps we can be cautiously optimistic, not just because there is a transition to a Democratic presidency; but more so because a strong coalition of black, Hispanic, and white young activists have galvanized the push for real change in the U.S. Black women were critical in the Democratic win, and progressive women have poured into lower level elected positions in cities and states across the country. The Biden picks look promising. And there is widespread commitment to overturning inequality and poverty and launching a green new deal.

My concern is that the movement for financial reform is less well developed. While anti Wall Street rhetoric is in the air, most people don't understand the ways in which financial actors, such as private equity, hedge funds, and the billionaire class, are responsible for the inequality, poverty, and continued racial divides in the U.S. The linkages are not transparent. So, even if the Democrats take over both houses of Congress and are able to pass progressive social or healthcare policy, the drive for real financial reform rests with a handful of leaders – like Elizabeth Warren, Bernie Sanders, Katie Porter, or Alexandria Ocasio-Cortez. Having said that, proposals for financial reform are bubbling up – The Accountable Capitalism Act by Warren, for example, and proposals for a public investment bank, public infrastructure banks, and a green new deal.

On the upside, a growing number of unions have set up "capital strategies departments", to monitor financial actors and put pressure on pension funds to exit their private equity and

hedge fund investments. It's also exciting that a small industry of independent researchers and investigative journalists is emerging who are exposing the worst excesses of private equity – many of whom I've cited in our conversation. Eileen and I hope that we've contributed in a small way to helping this network grow. The groups include non-profit research and advocacy groups like the Americans for Financial Reform, the Private Equity Stakeholder Group, the Consumer Federation of America, the Center for Economic and Policy Research, Better Markets, Public Citizen, and the foundation Institute for New Economic Thinking – to name a few. Mainstream media also are catching on – including the *New York Times, Bloomberg,* the *Financial Times,* and even the *Wall Street Journal,* which have increasingly highlighted private equity's bad behavior. The particularly egregious surprise medical billing practices that I mentioned earlier, spearheaded by PE firms, garnered widespread media coverage and disapproval by Democrats and Republicans alike. Thus, public and political awareness is growing.

I think the most promising solution for financial reform in the U.S. is the establishment of a permanent institution similar to the New Deal's Reconstruction Finance Corporation (RFC). Cornell law professor, Saule Omarova, has written extensively about the need for a National Investment Authority (NIA), (Omarova, 2020). The U.S. has effectively used this type of institution in the past to coordinate massive flows of public and private capital into every sector of the economy – not only during the New Deal, but also in World Wars I and II and their aftermath. An NIA could provide a permanent institutional structure with a dual mission: To organize and mobilize the nation's economic resources in response to systemic crises; and to coordinate and finance ongoing public and private investment in critical public infrastructure and socially inclusive and sustainable economic growth. This vision, of course, is aspirational; but only this type of radical change will begin to turn around the problems created by finance capital in the last several decades.

References

Abood, M. (2018) "Wall street landlords turns American dream into American nightmare: Wall street's big bet on the home rental market, and the bad surprises in store for tenants, communities, and the dream of homeownership." In conjunction with ACCE, AFR, and Public Advocates. January. https://www.publicadvocates.org/our-work/housing-justice/wall-street-landlords-turn-american-dream-into-a-nightmare/.

Acharya, V.V. Hahn, M. and Kehoe, C. (2009) "Corporate Governance and Value Creation: Evidence from Private Equity." *Manuscript*. European Corporate Governance Institute (ECGI) - Finance Working Paper No. 232/2009 Last Revised: 30 Nov 2018.

AFR (Americans for Financial Reform) (2020a) "Fact sheet: private equity-owned payday lenders profit off trapping people in debt." Feb 14. https://ourfinancialsecurity.org/2020/02/fact-sheet/.

AFR (2020b) "The deadly combination of private equity and nursing homes during a pandemic. New Jersey case study of coronavirus at private equity nursing homes." August. Washington, D.C.: Americans for Financial Reform. https://ourfinancialsecurity.org/2020/08/report-3-private-equity-nursing-homes-coronavirus/.

Appelbaum, E. and Batt, R. (2014) *Private Equity at Work: When Wall Street Manages Main Street.* New York: Russell Sage Foundation.

Appelbaum, E. and Batt, R. (2016) *Fees, Fees and More Fees: How Private Equity Abuses its Limited Partners and U.S. Taxpayers*. Washington DC: Center for Economic Policy Research.

Appelbaum, E. and Batt, R. (2018) "Private Equity at Work: Grocery Stores and Workers at Risk." *The American Prospect.* Fall. http://prospect.org/article/private-equity-pillage-grocery-stores-and-workers-risk.

Appelbaum, E. and Batt, R. (2019a) "Are lower private equity returns the new normal?" in Wright, M. Amess, K. Bacon, N. and Siegel, D. (Eds) *The Routledge Companion to Management Buyouts.* London: Routledge.

Appelbaum E. and Batt, R. (2019b) "Private equity and surprise medical billing". September 4th Institute for New Economic Thinking (INET): https://www.ineteconomics.org/perspectives/blog/private-equity-and-surprise-medical-billing.

Appelbaum, E. and Batt, R. (2019c) "Private equity buyouts, surprise medical bills, and rising health costs: It's about market power and money." *The American Prospect.* September 9. https://prospect.org/article/private-equity-tries-protect-another-profit-center.

Appelbaum, E. and Batt, R. (2020) "Private equity buyouts in healthcare: Who wins, who loses?" Institute for New Economic Thinking and Center for Economic and Policy Research. Working Paper 118. March 15. https://www.ineteconomics.org/perspectives/blog/private-equity-buyouts-in-healthcare-who-wins-who-loses.

Appelbaum E. Batt, R. and Clark, I. (2013) "Implications of financial capitalism for employment relations research: Evidence from breach of trust and implicit contracts in private equity buyouts". *British Journal of Industrial Relations* 51(3), 498-518.

Appelbaum, E. Park, A. and Batt, R. (2020). "How Private Equity Firms Will Profit from COVID-19." May 7. *The American Prospect*. https://prospect.org/coronavirus/private-equity-firms-profit-covid-19-j-crew/

Axelson, U. Jenkinson, T. Stromberg, P. and Weisbach, M. (2013) "Borrow cheap, buy high? The determinants of leverage and pricing in buyouts". *Journal of Finance* 68(6), 2223-2267.

Ayash, B. and Rastadz, M. (2019) "Leveraged buyouts and financial distress." July 19. SSRN. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3423290.

Bain & Company. (2019) *Global Private Equity Report 2019.* New York: Bain & Company.

Bain & Company. (2020) *Bain Global Private Equity Report*. February 24. https://www.bain.com/insights/topics/global-private-equity-report/.

Baker, J. Corser, M. and Vitulli, E. (2019) "Private equity: How Wall Street firms are pillaging American retail." https://pestakeholder.org/pirate-equity-how-wall-street-firms-are-pillaging-american-retail/.

Bank of England (2019) *Financial Stability Report.* London: Bank of England. July.

Batt, R. and Appelbaum, E. (2020a) "Hospital bailouts begin—for those owned by private equity firms." *The American Prospect*. April 2. https://prospect.org/economy/hospital-bailouts-begin-for-those-owned-by-private-equity-firms/.

Batt, R, and Appelbaum, E. (2020b) "The agency costs of private equity: Why do limited partners funds still invest?" *Academy of Management Perspectives.* Published Online: Feb 19, 2020. *https://doi.org/10.5465/amp.2018.0060* https://journals.aom.org/doi/10.5465/amp.2018.0060

BB&T|SunTrust now Truist (2020) "Private equity shifts gears for the recovery." *Forbes Magazine.* November 23.

Bedu, N. and Montalban, M. (2014) "Analysing the uneven development of private equity in Europe: Legal origins and diversity in capitalism". *Socio-Economic Review.* 12(1), 33-70.

Bloomberg (2019) "Everything is private equity now: spurred by cheap loans and investors desperate to boost returns, buyout firms roam every corner of the corporate world." October 3. https://www.bloomberg.com/news/features/2019-10-03/how-private-equity-works-and-took-over-everything?utm_source=newsletter&utm_medium=email&utm_campaign=newsletter_axiosam&stream=top

Bowden, A. (2014) "Spreading Sunshine in Private Equity." Private Fund Compliance Forum 2014, Private Equity International (PEI), New York, NY, May 6. Available from U.S. Securities and Exchange Commission. Washington, D.C. https://www.sec.gov/news/speech/2014--spch05062014ab.html.

Burns, D. J. Hyde, P. J. Killett, A. M. (2016) "How financial cutbacks affect the quality of jobs and care for the elderly." *Industrial and Labor Relations Review*. 69(4), 991-1016.

Chapman, B. (2018) "What went wrong for Debenhams and how can the department store chain turn things around?" September 10. https://www.independent.co.uk/news/business/analysis-and-features/debenhams-what-went-wrong-sales-down-share-price-department-store-chain-a8531726.html.

Clark, I. (2009) "Owners and managers: disconnecting managerial capitalism? Understanding the private equity business model". *Work Employment and Society* 23(4), 775-786.

Clark, I. (2011) "Private equity, 'union recognition' and value extraction at the Automobile Association: The GMB as an emergency service?" *Industrial Relations Journal* 42(1), 36-50.

Clark, I. (2013) "Templates for financial control. Management and employee interests under private equity". *Human Resource Management Journal* 23(2), 144-159.

Clark, I. (2016) "Financialisation, ownership and employee interests under private equity at the AA, part two". *Industrial Relations Journal* 47(3), 238-252.

Davis, S. Haltiwanger, J. Handley, K. Jarmin, R. Lerner, J. and Miranda, J. (2014) "Private Equity, Jobs, and Productivity". *American Economic Review* 104(12), 3956-3990.

De Cock, C. and Nyberg, D. (2016) "The possibility of critique under a financialized capitalism: The case of private equity in the United Kingdom". *Organization* 23(4), 465-484.

De Freytas-Tamura, K. (2018) "Britain was a pioneer in outsourcing services. Now, the model is 'broken.'" *New York Times*. January 31. https://www.nytimes.com/2018/01/31/world/europe/britain-outsourcing-elderly-care.html.

Elkind, P. (2020) "Investors extracted $400 million from a hospital chain that sometimes couldn't pay for medical supplies or gas for ambulances." *ProPublica*. Sept. 30. https://www.propublica.org/article/investors-extracted-400-million-from-a-hospital-chain-that-sometimes-couldnt-pay-for-medical-supplies-or-gas-for-ambulances.

Erturk, I, Froud, J. Johal, S., Leaver, A. and Williams, K. (2010) "Ownership matters: private equity and the political division of ownership". *Organization* 7(5), 543-561.

Ford, J. (2019) "Private equity has inflated U.S. medical bills". *Financial Times* October 6th https://www.ft.com/content/ab153670-e824-11e9-a240-3b065ef5fc55.

Froud, J. Green, S. and Williams, K. (2012) "Private equity and the concept of brittle trust". *Sociological Review* 60(1), 1-24.

Froud, J. and K. Williams (2007) "Private equity and the culture of value extraction". *New Political Economy* 12(3), 405-420.

Gilligan, J. and Wright, M. (2014) *Private Equity Demystified: An explanatory guide* London: ICAEW, 3rd edition.

Gompers, P. Kaplan S. and Mukharlyamov, V. (2016) "What do private equity firms say they do?" *Journal of Financial Economics* 121(3), 449-476.

Gottfried, M. (2020) "Leveraged buyouts come roaring back after coronavirus-related lull; Private-equity firms return to focus on mounting cash piles following assessment of shutdown damage *Wall Street Journal* (Online). New York. 21 Oct.

Gregory, D. (2013) "Private equity and financial stability". *Bank of England Quarterly Bulletin* Q1: 38-47.

Gupta, A. Howell, S.T. Yannelis, C. and Gupta, A. (2020) "Does private equity investment in healthcare benefit patients? Evidence from nursing homes." https://www.sauder.ubc.ca/sites/default/files/2020-02/Does%20Private%20Equity%20Investment%20in%20Healthcare%20Benefit%20Patients%3F.pdf.

Hammoud, T. Brigl, M. Öberg, J. Bronstein, D. and Carter, C. (2017) "Capitalizing on the new golden age in private equity". The Boston Consulting Group (BGC).

Harris, R. S. Jenkinson, T. & Kaplan, S.N. (2015) "How do private equity investments perform compared to public equity?" Darden Business School Working Paper No. 2597259. June 15. *Journal of Investment Management.* http://ssrn.com/abstract=2597259.

Harris, R. Jenkinson, T. Kaplan, S. N. and Stucke, R. (2020) "Has persistence persisted in private equity? Evidence from buyout and venture capital funds." NBER Working Paper 28109. http://www.nber.org/papers/w28109

ILPA (Institutional Limited Partner Association) (2018) Reporting template. https://ilpa.org/best-practices/reporting-template/ (accessed March 13, (2018).

Jenkinson, T. Harris, R. and Kaplan, S. (2016) "How do private equity investments perform compared to public equity?" *Journal of Investment Management* 14(3), 1-24.

Kaplan, S. Ferenbach, C. Bingle, M. Lipschultz, M. Canfield, P. Jones, A. (2011) "Morgan Stanley roundtable on the state of global private equity". *Journal of Applied Corporate Finance* 23(4), 8-33.

Kosman, J. (2009) *The Buyout of America: How Private Equity Will Cause the Next Great Credit Crisis.* New York: Portfolio.

La France, A. Batt, R. and Appelbaum, E. (2020) "Ownership structures and financial strategies in hospitals: Evidence from private equity owned and non-profit systems." Working paper under review.

L'Her, J. Stoyanova, R. Shaw, K. Scott, W. & Lai, C. (2016) A bottom-up approach to the risk-adjusted performance of the buyout fund market. *Financial Analysts Journal*, 72, 1-13.

Littlelaw (2020) "Third Time (Un)Lucky: Debenhams to file for bankruptcy." April 29. https://www.littlelaw.co.uk/2020/04/29/third-time-unlucky-debenhams-to-file-for-bankruptcy/

Louch, W. and Cooper, L. (2020) "Coronavirus unravels private-equity playbook for some retailers." *Wall Street Journal.* May 10. https://www.wsj.com/articles/coronavirus-unravels-private-equity-playbook-for-some-retailers-11589115600

Lydenberg, S. (2014) "Reason, rationality, and fiduciary duty." *Journal of Business Ethics,* 119(3), 365-380.

Maheshwari, S. and Friedman V. (2020) The pandemic helped topple two retailers. So did private equity. *New York Times.* May 14. https://www.nytimes.com/2020/05/14/business/coronavirus-retail-bankruptcies-private-equity.html?referringSource=articleShare

Morgan, J. (2009) *Private Equity Finance: Rise and Repercussions.* Basingstoke: Palgrave Macmillan

Morgan, J. (2016) "Corporation tax as a problem of MNC organizational circuits: The case for unitary taxation." *British Journal of Politics and International Relations.* 18(2), 463-481.

Morgan, J. (2019) "Will we work in twenty first century capitalism? A critique of the fourth industrial revolution literature". *Economy and Society* 48(3): 371-398. https://www.tandfonline.com/doi/full/10.1080/03085147.2019.1620027.

Morgan, J. (2020) "Private Equity." In Seabrooke, L. and Wigan, D. (Eds) *Global Wealth Chains: Governing Assets in the World Economy* Oxford: Oxford University Press, Chapter 6 (in press).

Morgan, J. and Nasir, M. A. (2020) "Financialised private equity finance and the debt gamble: The case of toys R Us." *New Political Economy*. https://www.tandfonline.com/doi/full/10.1080/13563467.2020.1782366.

Morrell, K. and Clark, I. (2010) "Private equity and the public good". *Journal of Business Ethics.* 96(2), 249-263.

National Retail Federation (2020) "State of retail." https://nrf.com/insights/economy/state-retail.

New Capital Management (2020) "The 25 largest private equity firms since 2015." https://www.newcapitalmgmt.com/news/the-25-largest-private-equity-firms

Omarova, S. T. (2020) Why We Need a National Investment Authority (April 1). Cornell Legal Studies Research Paper No. 20-34, Available at SSRN: https://ssrn.com/abstract=3566462 or http://dx.doi.org/10.2139/ssrn.3566462.

PESP (Private Equity Stakeholder Project) (2017) Private equity piles into payday lending and other subprime consumer lending. December. https://pestakeholder.org/wp-content/uploads/2017/12/PE-Investment-in-Payday-Installment-Lending-AFR-PESP-121117-with-links.pdf.

PESP (2019a) "HIG Capital's and Wellpath's correctional healthcare investment risks." June. https://pestakeholder.org/wp-content/uploads/2019/06/HIG-Capitals-Correctional-Healthcare-Investment-Risks-PESP-062519.pdf.

PESP (2019b) "HIG Capital's prison food and commissary store racket." July. https://pestakeholder.org/report/hig-capitals-and-wellpaths-correctional-healthcare-investment-risks/.

PESP (2019c) "Continuing incarceration: Apax partners' digital shackles." October. https://pestakeholder.org/wp-content/uploads/2019/10/Continuing-Incarceration-Apax-Partners-PESP-100319.pdf.

PESP (2020a) "Private equity's highly-leveraged bet on retail puts a million jobs at risk during the covid-19 crisis." https://pestakeholder.org/private-equitys-highly-leveraged-bet-on-retail-puts-a-million-jobs-at-risk-during-covid-19-crisis/

PESP (2020b) "Eviction filings by private equity firms and other large landlords surge despite cdc eviction moratorium." September 23. https://pestakeholder.org/eviction-filings-by-private-equity-firms-and-other-large-landlords-surge-despite-cdc-eviction-moratorium/.

Phalippou, L. (2017) *Private Equity Laid Bare.* CreateSpace.

Phalippou, L. (2020) "An inconvenient fact: Private equity returns & the billionaire factory". June 10. University of Oxford, Said Business School, Working Paper, Available at SSRN: https://ssrn.com/abstract=3623820 or http://dx.doi.org/10.2139/ssrn.3623820.

Phalippou, L. Rauch, C. and Umber, M. (2018) "Private equity portfolio company fees." *Journal of Financial Economics* 129(3), 559-585

PitchBook (2016) PitchBook 1Q (2016) Global PE & VC benchmarking & fund performance report. Seattle, WA: PitchBook.

PitchBook (2018) "Global PE deal multiples - 2018 annual. Seattle, WA: PitchBook (accessed February 11, 2019).

PitchBook (2020) "Private fund strategies report. Q1 2020".

Polsky, G. D. (2014) "A compendium of private equity tax games". UNC Legal Studies Research Paper No. 2524593, November 14. http://ssrn.com/abstract=2524593.

Pradhan, R. Weech-Maldonado, R. Harman, J. S. Al-Amin, M. and Hyer, K. (2015) "Private equity ownership of nursing homes: implications for quality". *Journal of Health Care Finance,* 42(2), 1-14.

Rodrigues, S. and Child, J. (2010) "Private equity, the minimalist organization and the quality of employment relations". *Human Relations* 63(9), 1321-1342.

Rodriguez Valladares, M. (2019) "Distressed credit ratings for private-equity-backed companies have risen significantly." *Forbes*. October 22. https://www.forbes.com/sites/mayrarodriguezvalladares/2019/10/22/distressed-credit-ratings-for-private-equity-backed-companies-have-risen-significantly/#5738874f622f.

Rodriguez Valladares, M. (2020a) "More than half of corporate family defaults are private equity-owned companies." *Forbes*. April 24. https://www.forbes.com/sites/mayrarodriguezvalladares/2020/04/24/more-than-half-of-corporate-family-defaults-are-private-equity-owned-companies/#38e3901f3627.

Rodriguez Valladares, M. (2020b) "Over half of rated company defaulters are owned by private equity firms". Forbes. July 16. https://www.forbes.com/sites/mayrarodriguezvalladares/2020/07/16/over-half-of-rated-company-defaulters-are-owned-by-private-equity-firms/#6b677bd37b1c.

Scheuplein, C. (2019) "Private equity as a commodification of companies: The case of the German automotive supply industry." *Journal of Economic Policy Reform.* https://www.tandfonline.com/doi/full/10.1080/17487870.2019.1637590.

Scigliuzzo, D., Lee, L., and Seligson, P. (2020) "Buyout titans fire up lbo machine with $1.6 trillion to spend." *Bloomberg*. November 24. https://www.bloomberg.com/news/articles/2020-11-24/buyout-titans-fire-up-lbo-machine-with-1-6-trillion-to-spend?sref=f7rH2jWS.

Seabrooke, L. and Wigan, D. (Eds) (2020) *Global Wealth Chains: Governing Assets in the World Economy.* Oxford: Oxford University Press.

Segal, Julie (2020) "Private equity sat on its hands." *Institutional Investor*. June 15. https://www.institutionalinvestor.com/article/b1m1cft292zrsd/Private-Equity-Sat-on-Its-Hands.

SEIU (2007) "Equity and inequity: how private equity buyouts hurt nursing home residents." Washington, D.C.: SEIU. https://silo.tips/download/equity-and-inequity-how-private-equity-buyouts-hurt-nursing-home-residents.

Souleles, D. (2017) "Don't mix Paxil, Viagra, and Xanax: What financiers' jokes say about inequality". *Economic Anthropology* 4, 107-119.

Souleles, D. (2019) *Songs of Profit Songs of Loss: Private Equity Wealth and Inequality.* Lincoln: University of Nebraska Press.

Sraders, A. (2020) "Private equity firms are sitting on $1.5 trillion in unspent cash, and looking to raise more." *Fortune*. January 25.

Strömberg, P. (2008) "The new demography of private equity." The Globalization of Alternative Investments Working Papers, vol. 1, *The Global Economic Impact of Private Equity Report 2008*. New York and Geneva: World Economic Forum (January).

Webber, D. (2018) *The Rise of the Working-Class Shareholder: Labor's Last Best Weapon.* Cambridge and London: Harvard University Press.

White, A. (2017) Private equity persistence slips. *Top 1000 funds*, November 9. https://www.top1000funds.com/featured-homepage-posts/(2017)/11/09/private-equity-persistence-slips/

Youngdahl, J. (2012) "The time has come for a sustainable theory of fiduciary duty of investment." *Hofstra Labor and Employment Law Journal*. 29(115),115-139.

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Macro: understanding quantitative easing

Edward Fullbrook

The human intellect, especially at the more enhanced end of its spectrum, seems predisposed to the elimination of dualisms. Never has a more spectacular conceptual dualism appeared than the one created by Newton. Prior to *The Principia*, physics conceived of all action as resulting from immediate contact between ponderable bodies. But Newton's theory of gravitation interpreted gravity as immediate action at a distance. To alleviate the intellectual discomfort caused by this conceptual dualism at the very core of the new physics, physicists devised the concept of the ether.

The conceptual creation of the embodied ether by physicists turned out to be a mostly harmless and sometimes useful diversion that did not stand in the way of Newton's history-changing insights. But the history of Keynes' micro-macro dualism has been radically and tragically different. Like the idea of physical action at a distance, the idea that there exist macro forces quantitatively influencing individual markets contradicts the experiences of everyday life. But unlike Newton with action at a distance, Keynes perceived the macro quantitative forces without discovering the causal metrics behind them. The rewards to humanity of Keynes' conceptualization, however vague, were soon so enormous – from the end of World War Two until the 1970s Keynesian policies provided western economies with more economic prosperity than had ever been known – that the economics profession, which had never before enjoyed so much respect, forgot to go looking for the deep **quantitative causal structure** of macro that was still unknown. Given that in economics the pursuit of knowledge rarely takes precedence over ideology, remuneration and clan loyalties, it was inevitable that without discovery of the missing metrics, the profession would seek to reduce macro to micro.

When it comes to science, **metrical structure** or **metric** is not a vague or superficial concept. Every quantitative order has one. Market-value (or exchange-vale) is a quantitative order, and its numbers are what science calls measurement numbers as opposed to count numbers, because it is a quantitative **attribute** of the members of sets of objects, commodities and assets, i.e. exchangeables. Between different measurement orders the metrics vary enormously. For example, length, temperature and angle. These structures of measurement numbers are not imaginary, not something devised and chosen by the scientist, but instead are structures possessed by real-world phenomena, structures which the scientist seeks to identify – like opening an envelope to see what is inside. And market-value is not a magical exception. But economics' relation to its only indigenous order of measurement is radically different from the physical sciences' relation to their measurement orders. For physicists, for example, measurement numbers are not part of the realm they are investigating, but rather part of their description of that realm, descriptions of its elements which have structures homomorphic to known metrical structures. But economics, because it never had to conceive nor even measure market-value (markets do that), has nearly always taken its existence for granted. And because every day at the local shop market-value functions as a linear metric that even small children understand, it has been felt that no inquiry into its metrical properties was necessary. And reasonably so. Physics maintained the same indifference to the structure of its primary quantitative orders until it came to consider physical phenomena on a scale

previously beyond both its conceptual and observational reach. Similarly, because of financialization and quantitative easing (QE), today it is easier to see or at least glimpse the structure of market-value and most especially its **irreducible macro dimension**.

Please read these short quotes about quantitative easing from five new-millennium papers and posts. All the bold facing has been added.

> "... the transmission of unconventional monetary policy, in particular **outright asset purchases**, may induce distributional effects above and beyond monetary policy measures in normal times since central bank actions directly affect specific parts of financial markets, ... whenever financial asset holdings are concentrated among the wealthier, high-income households, outright asset purchases, by potentially raising the value of financial assets, may imply a more-than-proportional gain for these households and may induce more unequal wealth and income distributions" (pp. 6-7).
>
> "Thus, the observed increases in equity prices in most European countries that were observed in response to the ECB's outright purchases are likely to have increased net wealth inequality" (Kerstin Bernoth, Philipp J. König, Benjamin Beckers, and Caterina Forti Grazzini, "Quantitative Easing - What Are the Side Effects on Income and Wealth Distribution", DIW Berlin: Politikberatung kompakt 99, 2015, p. 13).[1]
>
> "**Quantitative easing**... is fundamentally a *regressive* redistribution program that has been boosting wealth for those already engaged in the financial sector or those who already own homes, but passing little along to the rest of the economy. It is a primary driver of income inequality" (Anthony Randazzo, "How Quantitative Easing Helps the Rich and Soaks the Rest of Us", Reason Foundation, Sept. 9, 2013).[2]
>
> "QE drives up the prices of assets, especially financial assets. And most of the financial assets in America are owed by the wealthiest 5 percent of Americans..."
>
> "By helping to reinflate the stock market in 2009 and 2010, the Fed created a two-speed recovery. The wealthy quickly recovered much of their wealth as stocks doubled in value" (Robert Frank, "Does Quantitative Easing Mainly Help the Rich? *Inside Wealth*, Sep. 2012).[3]
>
> "Your **quantitative easing** plan... is already having a number of serious repercussions: firstly, it is refinancing capital market and private banks, but nothing is going in to the productive economy..." (Bernard Monot (NI), Dialogue with Mario Draghi, President of the European Central Bank, Brussels 15 June 2015).[4]

[1] https://d-nb.info/1074155459/34.
[2] https://reason.com/2012/09/13/occupy-the-fed/
[3] https://www.cnbc.com/id/49031991
[4] https://www.ecb.europa.eu/pub/pdf/annex/ecb.sp150615_1_transcript.en.pdf?b53eca0ceadee20f23e15f463bb7a1eb

> "It is no coincidence either that increasingly 'financial gurus' and new internet platforms try to attract small and medium investors to build their income strategies not on producing or supporting the production of new use-values, but on becoming financial speculators themselves. It is there, nowadays, where increasingly people earn their money. Not from producing new use-values, but from the growth of the monetary value of their financial assets... the overall value of the financial side of the economy grows in a growing process of financialization of the economy. With the increased use of **quantitative easing** monetary policies after the 2008 financial crisis, with central banks directly buying government bonds and/or other financial assets, public money and investments have become even more important means for boosting the profits of private speculative financial investments benefiting from the rise in stock-markets and the value of financial assets" (Stahel, Andri W., 2020 "Why are the rich getting richer while the poor stay poor?" *real-world economics review*, issue no. 93, pp. 9-10).[5]

What is noteworthy about the above quotes considering the **direct** effects of QE is that each shows an awareness that the price changes of the QE targeted financial assets also changes the distribution of income and wealth. Why is it said that there has been a redistribution? Because although there has been no change in the level of output or stock of real assets, the purchasing power of the owners of the QE-targeted financial assets has increased. **Therefore everyone else's has decreased.** As everyday measurement operations and numbers go, this is strange. We all have long known about the macro phenomenon of general inflation, but we have not seen what its existence says about market-value's metric and therefore about causal chains in real-world monetized market systems, especially how they distribute and redistribute income and wealth.Furthermore, except for the markets of the targeted assets, all these changes in all the market-values come about without there being any activity in the individual markets. What is the **macro causal process** by which a change in one market leads to a change in the market-value of the exchangeables and the size of the market-value unit in every other market?

The fact that increasing or decreasing the number of standards of measurement, e.g. a metre stick or unit of money, used in a measuring operation changes the size of the unit that every such standard defines in every other measuring operation, tells us that the metric of market-value, although it appears in your local shop to be the same, is radically different from that of length and mass and other quantitative orders that are absolute, linear and infinite. In our age of financialization, financiers and their agents are intuitively aware of the redistributive effect of any price change and have made it a keystone of their financial engineering. But it is not taught in Economics 101, where the bizarre metric of market-value is never mentioned, nor is the redistributive effect even hinted at on the Evening News when we are told that today's good news is that the Dow has reached a new high. Nor is it likely that members of parliaments and heads of state, unless with ties to The One Percent, will understand what targeted-asset quantitative easing entails and the real motives behind it.

In the time of monopoly capitalism before financialization and before the natural sciences taught us that the economy is threatening us with extinction, neoclassical economics with its exclusively micro reductionism, although far from ideal, was a marginally adequate conceptual lenses through which to understand economic reality. But today if we do not

[5] http://www.paecon.net/PAEReview/issue93/Stahel93.pdf

quickly learn to see deeply (at least as deep as the billionaires see) into the macro side of the economy's causal structure, then our future will be both dark and short.

An attempt to see into the underlying structure of macro causality and its political economy implications is in this short book: *Market-value: Its measurement and metric*. Kindle: US UK DE FR ES IT NL JP BR CA MX AU IN Paperback: US UK DE FR ES IT JP CA.

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The hemispheres of finance: GDP and non-GDP finance

Joseph Huber [Martin Luther University, Halle, Germany*]

Abstract
This paper examines the interplay between one hemisphere of the financial economy that contributes to financing real-economic output, while the other deals self-referentially with capital management and financial asset management, in short, GDP finance and non-GDP finance. Since around 1980, there has been a significant GDP-disproportionate expansion in non-GDP finances, based on the credit-borne expansion of the money supply by banks, central banks and shadow banks, and resulting in problems of instability and new disparities that cannot to be remedied by conventional measures alone.

JEL codes E41, E44, E51, E58, G1, H6

Key words Financial economy, real economy, non-GDP finance, financialisation, money supply, monetary absorbency, financial carrying capacity

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Summary

The financial economy is subdivided into two functional hemispheres, one that contributes to financing the real economy, and another that does not, in short: GDP finance and non-GDP finance. GDP finances include, for example, loans for funding real-economic expenditure and investment, a firm's equity and debt, as well as taxes, social security contributions and government bonds to fund public spending. Non-GDP finances include, inter alia, secondary trading in shares, bonds and other securities, real estate as a pure capital investment, or most of the trading in derivatives and foreign exchange. The occasional dual nature of financial transactions does not alter the functional difference between them.

Starting around 1980, there was a strong surge in global financialisation. Growth of non-GDP finance exceeded nominal GDP growth several times over. New IT and securitisation methods have played a role in this, but even more so the expansion of money supply – the creation of bank deposit money (bankmoney for short), which is systemically dominant and refinanced, to a small fraction, by central-bank base money. In addition, new money surrogates based on bankmoney have emerged, such as money market fund shares, partly now also e-money and stablecoins. For a long time, the bankmoney regime remained the misjudged factor behind the disproportionate expansion of non-GDP finance and ensuing problems.

The greatly expanded money supply for non-GDP finances is not per se at the expense of the real economy, nor is government borrowing at the expense of private sector funding (crowding-out hypothesis). Modern fiat money can be freely created for all sectors of the economy, by banks, central banks and shadow banks, certainly not without complying with certain requirements and rules, but basically in any quantity deemed appropriate.

The problem thus is not a lack of GDP finance, rather: too much non-GDP finance. In recent decades, most of the money, or credit respectively, went into non-GDP transactions. Money invested in non-GDP finances will largely remain within in this hemisphere. Even the money that initially flows into GDP finances keeps circulating there only partially, while the other part drains off into the non-GDP hemisphere.

This also applies to government expenditure funded by traditional deficit spending or its continuation in the form of indirect monetary financing through Quantitative Easing, that is, the purchase of government bonds by central banks on the open market. Most government spending initially certainly serves the real economy, but over time these funds will migrate to the non-GDP hemisphere. This is all the more true when, in the event of a financial crisis, central banks on their own initiative provide additional reserves (central-bank money) to banks to support the entire financial sector (including government bonds).

The oversupply of money, to the extent it is taken up as borrowed capital, causes the trend of falling interest rates that has existed since about 1980 as well as – not only, but also because of this – low consumer price inflation. In a seemingly paradoxical way, however, low interest rates, rather than stimulating real-economic activity, are boosting non-GDP finance. Instead of inflation, the money overhang is largely generating asset inflation, i.e. rising asset prices and an increase in the volume of securities and other financial assets. There is no self-limitation of financial-market dynamics in terms of efficient-market equilibrium economics. Quite the contrary. Driven by positive feedback loops, over-investment and over-indebtedness

recurrently occur – partly sector-specific, partly involving the entire financial economy – exceeding the limits of financial carrying capacity and resulting in financial crises.

The disproportionate rise of non-GDP finance and ensuing financial crises is not neutral. Financial crises almost always trigger economic and business crises. More than serving productive structural change, they cause counter-productive destruction of capital, including human and social capital, not to mention social and political division. Social division also results from the fact that non-GDP financial income gives the same purchasing power as earned income, and thus direct access to GDP. Non-GDP finances cause income and price relations to spread apart upwardly, resulting in increased inequality of income and wealth. Earned income is increasingly left behind by non-GDP financial income; prototypically evident in home ownership and rents, but also all other goods and services that are more than hitherto determining status and lifestyle.

What to do? Non-GDP finance builds savings, reserves, proprietary capital, financial wealth. Which is something useful and desirable. The perspective will therefore be to curb the excessive overshooting of non-GDP finance.

In terms of monetary policy, this requires first of all central banks to be in charge of controlling the problem and able to effectively transmit steering impulses to the markets. Policy transmission is all the more effective the more there is central-bank money serving as a quantity lever. A key role at this falls to the introduction and large-scale use of CBDC (central bank digital currency, also referred to as sovereign digital currency) to supplement and finally replace solid cash as well as to compete with bankmoney. Notwithstanding, the legal mandate of central banks needs to be specified more expressly and completed regarding tasks, targets and instruments – while maintaining separate responsibilities for monetary policy (central bank) and fiscal policy (government and parliament).

Other suitable instruments of financial market policy include the revenue-neutral expansion of a financial transaction tax within the framework of all turnover taxes, furthermore lock-up periods for trading positions held, as well as tiered interest rates on GDP transactions and non-GDP transactions. On the fiscal side, income tax should be better differentiated for the highest top earners. Inheritance tax should spare business assets and owner-occupied housing, but should implement higher tax rates on non-GDP financial assets.

Economy and finance

Since the dotcom crisis (2000), subprime and banking crisis (2008) and the euro sovereign debt crisis (2010–12) the public is critical of the financial industry. Bubble economies should be prevented, money ought to serve the real economy rather than questionable financial dealings. However, putting it this way is not yet appropriate. One cannot separate the economy from its financing. The modern economy is a credit economy. Most investments are paid only to a lesser extent out of current earnings and provisions made, while the bigger part is pre-financed by credit. Nevertheless, opposing the real economy to the financial sector has a point often disregarded by orthodox economics, which is, that wide areas of the financial economy no longer have anything to do with financing the real economy.

The relevant dividing line does not run between the real economy and the financial economy, rather between the two hemispheres of the financial economy: on the one hand those areas

that contribute to financing the real economy, on the other hand those areas that do not contribute to financing economic output. In short, the dividing line runs between GDP finance and non-GDP finance.

Typical examples of non-GDP finance include secondary trading in bonds, shares and other securities (i.e. after their initial issue), forex trading without a background of actually making use of a respective foreign currency, derivatives trading beyond the hedging of existing risk positions, trading in real estate as a financial investment without significant change in a property's use value, as well as leveraged financial trading of any kind. Further clarification of the terms real economy, GDP finance and non-GDP finance is provided in the Annex.

Non-GDP finances are largely independent of GDP finances, but are ultimately dependent on the real economy. Real-economic business cycles and structural change affect the financial cycles in bonds, equity, commodities, real estate and other financial investments, as these in turn affect real-economic cycles.

Money that does not flow into the real economy has no effect on real-economic quantities and prices, and therefore has no direct impact on producer and consumer price inflation. Money that flows into the financial economy, whether in GDP finances or non-GDP finances, influences asset prices (asset inflation) as well as the quantitative expansion of financial-market supply.

Figures and questions on the GDP-disproportionate expansion of the financial sector

The size of the real economy is captured in aggregate figures, particularly GDP, as a measure of an area's economic output or income generated. There is no comparable aggregate indicator for the financial sector. An asset price index such as the one by FvS Research Institute is a financial equivalent of CPI.[1] It does not yet provide a comprehensive picture of the stock of financial assets. Thus one has to refer to single exemplary figures reflecting the expansion of non-GDP finance.

Growth in both the real and the financial economy cannot, as a rule, be paid for by an accelerated circulation of existing money alone. Rather, any such growth is accompanied by an expansion of the money supply, that is, the banks' primary credit creation, a fraction of which is refinanced in reserves by interbank credit and central-bank credit to the banks. In industrial countries, bank credit, and thus the money supply, grew at about the same rate as nominal GDP until around 1980. In Germany, for example, the M1 money supply oscillated around 1.8 times GDP until 1980. Since then, however, money and credit growth has sharply diverged from GDP, to 7.5 times GDP growth.[2] The period around 1980 marks the onset of so-called financialisation in the wake of globalisation.

The GDP-disproportionate expansion of the money supply is evident in all industrial countries. For example, from 1992 to 2008, GDP in Germany grew by 51%, but the active money supply M1 by 189%, in Switzerland GDP by 37% and M1 by 121%, in Great Britain GDP by 392% and M4 by 1,744%. In the US, there has not been such a marked increase in bankmoney, but

[1] Flossbach von Storch Research Institute, Eurozone Wealth Price Series, www.flossbachvonstorch-researchinstitute.com/fileadmin/user_upload/RI/Vermoegenspreisindex/EU-en/fvs_wealth_price_series_h2-2019.pdf.
[2] All figures on monetary quantities and credit expansion taken from Huber 2017 109–124.

there was a spectacular take-off of money market fund shares (MMFs) as a widely used new money surrogate. From 1980-2008, MMFs rose from close to zero to 2.5 times M1. In Europe, MMFs are around one third of M1. Overall, the money supply grew three to four times faster than nominal GDP in the decades leading up to the financial crisis of 2008.[3]

What for? Monetary growth did not translate into growth of the real economy and CPI, as this growth is already reflected in nominal GDP. Hence, the GDP-overshooting growth of bank credit and money went into non-GDP financial assets, including asset inflation. The volume of financial market transactions increased from 15 times GDP in 1990 to 70 times in 2007.[4] The share of loans going into GDP finance in the UK is only 15% of all loans.[5] Deposit-creating bank credit (bankmoney) serves as a secondary basis for the financial intermediation of shadow banks. The term 'shadow banks' now covers virtually everything previously referred to as 'non-monetary financial institutions'. These are financial intermediaries, including investment trusts, private-equity transactions, non-bank building societies, special purpose vehicles, and insurance companies in that they invest or lend money or operate their own investment funds. Between 2013 and 2017, shadow banks raised twice as much bankmoney for financial investment in bonds, shares and mutual funds as real-economic companies have borrowed. The shadow-bank sector today has a larger volume of lending and financial investment (32 trillion euros) than the deposit-creating banking sector (24 trillion).[6]

Financial assets increased in line with the GDP-disproportionate expansion of the stock of money. US financial assets (shares, bonds, other securities, but excluding real estate) oscillated around 4.5 times GDP until around 1980. From 1980-2007 they then rose to over 10 times GDP.[7] Financial assets held by US asset managers reached 50% of GDP in 1946 and 240% of GDP in 2014.[8] From 1980-2014, the average valuation of bonds, stocks and housing rose fourfold in 15 developed countries, while nominal GDP only doubled.[9]

In the short period from 2014 to 2019, real-economic CPI in Europe rose by a total of 5 percent, while the increase in asset prices was four times as high at 20 percent. This applies even more so to land and real estate as a financial investment. Their use value is of course not dispensable, but has tended to be pushed into the background (which has long been true for company stocks). Real property prices in the USA rose by only 7% in the hundred years between 1890 and 1997, but by 85% in the ten years from 1997 to 2007.[10] In all developed countries, house prices have risen 14 times on average since the late 1970s, even up to 21 times in Australia.[11]

[3] Calculated according to the periodically published statistics of the European Central Bank, Deutsche Bundesbank, Swiss National Bank, Bank of England, UK Office for National Statistics, and FRED Data by the Federal Reserve Bank of St. Louis, USA.
[4] Deutscher Bundestag 2020 7–8, Sigl-Glöckner 2018.
[5] Van Lerven/Hodgson/Dyson 2015 pp.26.
[6] Sigl-Glöckner 2018.
[7] Thomson Datastream. Federal Reserve. Trader's Narrative, Nov 7, 2009. Other delimitations produce a lower level but the same proportions, e.g. in Bhatia 2011 8.
[8] A. Haldane, chief economist of the Bank of England, in a speech on big institutional investors, reported in FAZ from April 8, 2014, 25. FRED Economic Data St. Louis Federal Reserve, Financial business total financial assets to GDP 1952-2018.
[9] Deutsche Bank Markets Research 2017 8-33; OECD data https://data.oecd.org/gdp/gross-domestic-product-gdp.htm
[10] Shiller 2015 20.
[11] Jordà/Schularick/Taylor 2014; FAZ, 18.10.2014, 32.

The disproportionate expansion of the financial sector in relation to GDP raises questions. Is this development at the expense of the real economy? Why is ever more money flowing into non-GDP finances rather than into GDP finances? Is financialisation not also being driven by debt financing of government expenditure, massively fostered during recent years by the central bank policy of Quantitative Easing (QE)?[12] To the extent that newly created money is first used in the real economy, does it continue to circulate there? or does it migrate into non-GDP finance? If so, does it stay there or does it once again serve to finance GDP?

Crowding-out of the real economy by the financial sector?

A neoclassical criticism of Keynesian deficit spending was the crowding-out hypothesis. It says that the government, due to its prerogative of taxation, enjoys a higher credit rating than private borrowers. The government's credit demand for funding its deficit spending thus would drive private credit demand out of the market. By analogy, the question today is whether the strong growth of non-GDP finance is depriving the real economy of money.

Such a presumption seems to be supported by the fact that the commercial financial sector has a bias in favour of well-heeled demand from institutional investors and large companies, while medium and small enterprises often have difficulty in obtaining finance. Most loans today are granted for real estate transactions and mortgages, besides also for funding public budget deficits and for leveraging financial investment other than real estate. These three purposes account for 72–80% of loans. Only the remainder goes to loans to firms and households (excluding real estate).[13] It has already been mentioned above that in the UK 85% of loans go to non-GDP finances and only 15% to financing contributing to GDP.

Nevertheless, the monetary and financial system has changed in a way that does not support to assume crowding-out of the real economy by the financial sector. In principle, this was already the case in the 1960-70s. The historically new situation is that money now exists as freely created fiat money. The expression refers to the biblical *Fiat lux* (Let there be light). Fiat money is a means of payment put into circulation as a symbolic token by agencies that are legally entitled or de facto capable of doing so, without this money being covered by gold, silver or other assets. This has been the case, at the latest, since the recurrent suspension of the gold standard in the 1930/40s, until 1971 when the US dollar was taken off its presumed gold coverage agreed on in Bretton Woods 1944. The securities, against whose deposit a central bank today issues banknotes and reserves to banks, are not a placeholder for the issued money, but rather a collateral for the loan, analogous to the pledging of, for example, real estate in the case of bank loans.

The salient point here is that modern fiat money can be created any time and in virtually unlimited amounts according to the will of the major financial agencies. This certainly requires a number of institutional, legal and economic prerequisites. Nevertheless, the symbolic tokens representing modern fiat money can freely be created. There need be no shortage of money. If the public and the private sector demand financing, it should basically be no problem to make that money available to both sectors, by credit from central banks (base money), banks (bankmoney, aka sight deposits) and shadow banks (third-level means of payment based on

[12] Quantitative Easing is an expansion of the available stock of money by extensive central-bank purchases of government bonds on the open market. This comes down to the monetisation of government debt.
[13] Liikanen Report 2012; Financial Crisis Inquiry Committee 2011; Turner 2016 61.

bankmoney). Respective amounts of money do not necessarily have to be taken or borrowed from anywhere, so that in this sense no one is lacking.

That situation puts two central assumptions of orthodox equilibrium economics into perspective. One is the assumption of causal identity of investment and preceding saving, the other the misleading assumption that banks are financial intermediaries who finance proprietary investment and lending by using customer deposits.

The equation of investment and preceding saving [I = S or I = f(S)] is no longer tenable in this way. In reality, causality tends to run in the opposite direction [S = f(I)]. The reversal and relativization of the old formula results, on the one hand, from the fact that a large proportion of financing is not carried out with already existing money but with newly created money, and on the other hand from the fact that ever more of the existing and newly created money flows into non-GDP investment. The aggregate putting-in-one of GDP finances and non-GDP finances is misleading. Moreover, non-GDP financial cycles and real-economic business cycles are partially going their own ways.[14]

As regards financial intermediation – i.e. transfer of existing money from savers and investors to borrowers – it continues on a large scale in the non-banking sector (shadow banks), in fact to a greater extent than is financed by bank credit. Financial intermediation by non-banks is carried out on the basis of bankmoney, and now also by using new money surrogates such as MMFs. For the most part, MMFs too are issued on the basis of bankmoney, put in by non-banks. The banks for their part manage transfers of bankmoney on behalf of their customers, and in this sense they may be seen as *monetary* intermediaries, but they are not *financial* intermediaries of their own bank deposit money. Banks do not borrow bankmoney from their customers, and they cannot for technical reasons, but they are creators of that deposit money whenever they lend to non-banks or buy securities from them.

For the crowding-out hypothesis this means that if the government incurs high debts, the money for this does not need to be taken away or withheld from the private sector, because the money needed can be created instantly – which in fact happens in various ways. As a result, debt-financed public expenditure benefits the private sector to a large extent, both the private financial sector through corresponding returns and the private real economy through investment and mass purchasing power.

Similarly, the non-GDP financial hemisphere can absorb a great deal of money without the real economy having to run out of money, because the money needed for the real economy can be created at any time, provided the relevant financial actors are willing to do so. If not, however, this will certainly lead to parts of the real economy lacking funds.

The problem thus is not competition for scarce money, but rather too much non-GDP finance.[15] This is due to the largely unchecked creation of second- and third-level money, an excessive amount of which flows into non-GDP finance, leading to recurring asset inflation, over-investment and over-indebtedness, bubbles and financial crises. As a rule, this also affects the real economy.

[14] Vgl. Borio 2012, 2017.
[15] Also cf. Arcand/Berkes/Panizza 2012.

What definitely exists as crowding-out, however, is the relative diminution of earned income due to growing financial income, becoming apparent in demand for high-end goods, services, and housing. Again about this later.

Monetary financing of government expenditure

Recognising the free creation of fiat money, the 2008 crisis led to calls for monetary financing, that is, for the central bank to finance government expenditure. Among the proponents were A. Turner, then head of the British Financial Services Authority, and the New Economics Foundation.[16] To overcome the Great Depression of the 1930s and during the Second World War, monetary financing had been practised on a large scale.

If money is pure fiat money made from symbolic tokens (solid, scriptural, digital), a state with a currency and central bank of its own need never become insolvent in domestic currency. The government can borrow on the open market by way of issuing bonds, and the central bank can buy up a sufficient proportion of these bonds. In such a *paso doble* between the treasury (bond-financed government expenditure) and the central bank (buying up the bonds on the open market, i.e. monetising the debt and thus practising indirect monetary financing), desired amounts of money can always be made available – be it to boost the economy and employment, or pay for election gifts, or mitigate a shock such as the covid pandemic, or finance the ecological modernisation of industrial production and consumption. Central banks' bond purchases play now a key role in stabilising the price level of government bonds, keeping interest rates low and thus maintaining the governments' ability to borrow despite high debt levels.

At the same time, the government rids itself of part of its debt burden held by *private* creditors. To the extent that government bonds are held by the domestic central bank, interest rates are basically irrelevant. This is because interest paid by the treasury to the central bank flows back to the treasury as central-bank profit. However, as far as the amount of bonds is concerned, the treasury has to repay the central bank when the bonds mature. Otherwise, the central bank would suffer a corresponding loss and would soon have to operate on negative equity. What the treasury can do, however, is to repay maturing bonds *and* at the same time issue new bonds, part of which the central bank buys up again on the open market. The central bank can then accumulate or 'consolidate' the balance between repaid old government debt and new government debt on its balance sheet, letting grow the accumulated government debt on the balance sheet 'forever', sort of 'eternal credit'.

It can be done that way for quite a long time, as can be seen in the examples of Japan since 2001, or the USA to a relatively lesser extent already decades longer, also some European countries before the introduction of the euro, as well as the ECB today in the form of its massive purchases of government bonds since 2012/13. In 2018 the share of government bonds held by the respective domestic central bank was between 15 and 22 percent and 40 percent in Japan. The share of government bonds with 10–30 years maturity was in some

[16] Turner 2016, Buiter 2014, Buiter/Kappor 2020, Jackson/Dyson 2013, Ryan-Collins 2015, Ryan-Collins/van Lerven 2018.

cases twice as high. As a result of additional government spending to cushion the covid crisis in 2020, sovereign bonds held by central banks increased by another 40-60%.[17]
Seen like this, demands for monetary financing have been met since *indirect* monetary financing through the *paso doble* between treasuries and central banks has become general practice. But if that is so, the question arises as to what the legal prohibition of monetary financing is about, in whose interest it is, and why central banks should not also make *direct* contributions to financing public expenditure (which once was the reason for creating central banks). The banking sector and institutional investors do not have a birthright on profiting from a normally low-risk and lucrative business like government bonds.

Whether done directly or indirectly, monetary financing is a way to continue with Keynesian deficit spending by other means. In this case, the other means consist in the growing indebtedness of a state 'to itself', and proportionately decreasing debt to private banks and shadow banks. This seems reasonable as far as it reduces the governments' dependence on the capital market. At the same time it is a way out when the markets lose confidence in a nation's public finances and are no longer willing to finance government spending, or only at very high interest rates.

Indirect monetary financing of public-sector deficits by way of the treasury's and central bank's *paso doble* is certainly beneficial in a severe crisis with significantly underutilised capacities. However, one must also ask to what extent the habit of running deficits and the continued accumulation of public debt has become an integral part of general financialisation and is in itself a cause of financial crises.

QE for finance versus QE for people (= QE for the real economy)

The policy of Quantitative Easing (QE) was launched in response to the housing-market and banking crisis of 2008 and the euro sovereign debt crisis of 2010-12. QE mainly consisted of the purchase of government bonds as described above, in addition to the recapitalisation of threatened banks by governments, but without reference to the issue of government bonds. The amounts in question were used to support liquidity (payment transactions) and the balance sheets of banks and other financial institutions affected, as well as to stabilise bond and equity markets. This was in fact *QE for finance*. The enormous volume of QE in the trillions and the associated excess supply of monetary reserves (central-bank money) pressed interest rates, falling since the 1980s anyway, further downwards into the range of low, zero and even negative interest rates.

From the outset, critical voices on central banks' QE have demanded that the money created to counter the crisis after 2008 should not just be *QE for finance* and ultimately only flow into non-GDP finances, but that the money should also flow into GDP finances and benefit the economy as a whole. This gave rise to the call for *QE for people (QE4P),* in other words, *QE for the real economy*.[18]

It is not directly the central banks that pay for programmes to finance the real economy, but governments. The central banks, however, continue to buy up the bonds issued by govern-

[17] Lennkh/Bartels/Vasse 2019, **https://fred.stlouisfed.org/series/TREAST**, Economist June 20th 2020, 62. In the US, government real-estate financiers Fannie Mae and Freddie Mac and other public entities also hold large amounts of Treasury bonds.
[18] Cf. Bernanke 2016, Lonergan/Jourdan 2016, Positive Money 2015.

ments to finance their deficit spending for private households and firms. The large-volume government spending triggered by the covid crisis has combined a wide range of both demand- and supply-side components on an unprecedented scale. Indirect monetary financing is now indeed also taking place as *QE for the real economy*. The same applies to the TLTRO programmes of the ECB, which refinance longer-term bank loans to firms on concessionary terms.[19]

Does this mean that everything is all right? Not without further ado. Even monetary financing for the real economy changes little of the well-known risks of every accumulation of capital and debt, whether it is public or private. The occurrence of these risks cannot be predicted precisely in terms of their extent and timing. Nevertheless, these risks do exist. They include, for example

- The drift sand of inflation, the return of which cannot be ruled out, especially in view of the gradual ending of the low-wage competition from newly industrialised countries, as well as looming restrictions on world trade and restructured international product lines.
- Increased vulnerability to financial crises.
- A long-term socially disintegrative expansion of financial income in relation to earned income, combined with asset price inflation and an inflated supply of financial assets.
- In some countries, currency devaluation to the extent that 'money printing' is accompanied by declining competitiveness, falling productivity and imported inflation.

These dangers certainly also exist without monetary financing. Excessive fiat money is a general problem, regardless of whether it is sovereign money from national central banks or private money from banks and shadow banks. Certainly, the motives and allocation patterns of private money creation differ from those of central-bank sovereign money when this is circulated through government expenditure and thus largely for real-economic first uses of the money. This makes a difference. On the other hand, the first use of money does not determine its further uses in circulation. Not much would be gained by having to choose between rampant non-GDP investment or rampant government spending, and the question of who is going to keep the 'printing press' going more freely – the banks and shadow banks, or the government; with the central bank always accommodating, directly and indirectly, the demand for money from either side.

Where is the money concentrated after all – in the private or public sector? in GDP finances or non-GDP finances?

If the first use of money goes into real-economic purposes, or if it flows first into non-GDP finances, it does not stop circulating. Where does the money then flow to? Does it continue to circulate in the respective hemisphere? Does it move to the other hemisphere, even back and forth? Or is it concentrated in either of the two in the longer run?

So far, economics has not provided an answer to this question. Input-output tables according to Leontief are not informative in this respect. Stock-flow analyses based on aggregate sector balances, too, have so far not adequately covered the issue of GDP finances and non-GDP finances (although sector balances could be further developed in that direction).

[19] TLTRO = Targeted Longer-Term Refinancing Operations.

The quantity equation according to Newcomb, Fisher and others is equally uninformative in its present form.[20] In this model, the velocity of money circulation is not an empirically measured parameter, but an abstract, over-aggregated computational result (output divided by money supply), a value of which one cannot know what it actually means. The computational result of a decelerating velocity of circulation is a grotesque arithmetical artefact. It stems from the fact that large money volumes circulate in (non-registered) non-GDP finance rather than GDP finance reflected in economic output or GDP. This would only become visible by a corresponding disaggregation – which would show that money never circulated as fast as it does today due to IT developments and high market concentration in the banking sector.[21]

As far as the relationship between the private and public sectors is concerned, the two were mutually supportive over the past decades. The tax ratio (taxes and social security contributions as a percentage of GDP) has risen in old-industrial countries since World War I until 1975-90, depending on the country. Since then it has fluctuated between 25-30% (Switzerland, USA, Japan) and 45-50% (France, Sweden, Denmark).[22] Public-sector expenditure flows into private real-economic proceeds and income. Conversely, the private sector still covers by far the largest part of government expenditure through taxes and duties.

However, part of real-economic income is channelled out of the real economy through cumulative savings, partly set aside in deactivated savings deposits and time deposits at banks, partly in investment trusts, partly in direct purchases of shares, bonds and derivatives, overall mainly in non-GDP finance.

With growing prosperity, this may initially be a useful way of building financial reserves or own capital, all the more, as some of the money put into non-GDP finances is liquidated from time to time to be used for real economic expenditure and investment. Nevertheless, on balance more money is converted into financial capital or deactivated in bank deposits than is reactivated for real economic purposes. As mentioned in the figures chapter, active money in M1 as well as inactive money in M2/M3 has grown several times faster than nominal GDP over the past decades. Investments in financial assets (both with shadow banks and relevant departments of traditional banks) have long outgrown the stock of bank deposits. In general, financial assets, which until 1980 were two or four times GDP, depending on the country, jumped to a level twice to three times as high.

Furthermore, a one-sided relationship between the public and private sectors is created by the fact that the deficit portion of government expenditure is financed by borrowing from the private financial sector. As a result, a corresponding part of government expenditure is spent on current interest payments and repayment of maturing debt. Only a small proportion of the creditors of the accumulated debt are households and firms. On international average, they hold only about 5–10%, in rare cases up to 15% of government bonds. About one third of government bonds remain in the hands of banks, while shadow banks (large funds and insurance companies) now own about half. In addition, the central banks have now become holders of government bonds on a large scale as a result of their QE crisis policy, or indirect

[20] The equation is essentially $M \times V = P \times T$. This means that the quantity of money M multiplied by its velocity of circulation V (use frequency of the money) is equal to the sum of the prices P realised in all transactions T (or the general price average multiplied by the total number of transactions). For simplicity's sake, GDP is usually used instead of $P \times T$.
[21] Disaggregation of the quantity equation into financial and real-economic money uses has been proposed in Huber 1998 224–230, Werner 2005 185–190, Walter 2012.
[22] Tax and contribution ratios in the OECD member states 2018, Statista.com/Statistik/Daten/.

monetary financing of government expenditure, respectively. This has not yet completely changed the overall picture. It is still the private financial sector that cumulatively benefits from public debt, with the hemisphere of non-GDP finance being the main beneficiary. It was, however, not exactly the intention of the welfare state to boost financial capital.

Prosperity and finance

Financial firms reinvest most of their profits in non-GDP finances, unless the profits are distributed to the firms' owners. The owners also reinvest most of this income in non-GDP finances. Generally, non-GDP finances are fed by the fact that the disposable part of the income of the upper middle classes and higher classes – whether earned in the real or the financial economy – is invested in financial assets. Otherwise, the income of these classes flows into status-appropriate equipment and high-priced consumption. Both high-priced consumption and financial assets retroactively reinforce the unequal distribution of income and wealth, with the emergence of new social disparities and divisions.

The question of how much of current income flows into financial assets depends largely on the general level of income and wealth and its distribution. Where there is hardly any wealth, there will hardly be any financial investment. Where, by contrast, there is a high level of disposable income, correspondingly high levels of savings, reserves, equity, i.e. financial and real assets, will be built up. Similarly, those sectors of the real economy will grow that serve the demand patterns associated with higher income and prosperity. These include higher education, medical care, cultural consumption, travel and expensive leisure activities, quality of life and home ownership, in short, demand for high-quality and luxury products and services of all kinds.

It remains unclear whether growing prosperity as measured by GDP goes hand in hand with reduced or increased inequality. If things go well, income and wealth develop reasonably in line with the Pareto optimum according to which increasing productivity means that everyone is better off, albeit incomparably better off, but without making anyone worse off. In the 1950s until about 1980 economic growth was accompanied by reduced inequality. This soon changed with the accumulation of new assets, generally with the take-off of financial-market capitalism around 1980. Since then, GDP-disproportionate growth of non-GDP finances has been accompanied by increasing social inequality.[23]

This suggests that where high levels of productivity and wealth coincide with growing distributional inequality of income and wealth, there will be a pronounced growth of non-GDP finance, or vice versa, the more GDP-disproportionate non-GDP finances, the more this will lead to increased inequality. As long as financial assets grow in proportion to output and earned income, existing social disparities are unlikely to be much increased. But if capital income and wealth grow disproportionately to GDP, this implies increased inequality of income and wealth.

Why is non-GDP investment more lucrative than GDP finance?

The question why more money is flowing into non-GDP finances and relatively less into GDP finances is, on the surface, easily answered: because non-GDP finances entice with higher or faster profits, at a same or even lower risk. But how can it be that non-GDP finances are

[23] See Fullbrook/Morgan 2020, Atkinson 2015 16-44, 180, Atkinson/Piketty/Saez 2011.

usually better off in terms of return and risk than GDP finances? There are reasons for this in both hemispheres. In real-economic terms, these include saturation in the life cycle of many markets and a related decline in growth and profits. On the other hand, there are counter-acting developments due to new technologies, industries, products and services in the course of ongoing structural change.

For another thing, the financial sector offers a wide range of options for purchasing financial assets on credit. To this end, not only existing money is used, but additional money is created, be it bankmoney (bank deposits) or third-level means of payment (money market fund shares, stablecoins). The disproportionately increased supply of money in relation to GDP is multiplied by accelerated circulation of the money brought about by IT, such as automated high-speed trading, and new securitisation methods, such as special purpose vehicles, asset-backed securities, or traditional and new types of derivatives, which can be offered in any number.

If bank credit that generates bankmoney as well as credit from shadow banks using bankmoney and further money surrogates predominantly flow into the demand for non-GDP finances, and the latter are expanded and made available more quickly, the process itself feeds the growth and profits of non-GDP finances involved, similar to a Ponzi scheme. In itself it could be a never-ending story, were it not for the troublesome real economy. It too has to meet growth and profit expectations it cannot always meet, while growing non-GDP financial income is also increasingly accessing real-economic output which they did not initially contribute to finance.

The well-heeled demand for high-end goods and services is causing an upward spread of relative prices, as is particularly evident in the case of real estate and housing. The well-heeled demand retroactively contributes to amortising the financing of respective offers, albeit with purchasing power on a scale that outcompetes most of the earned income and savings of most employees and self-employed. In this way, crowding-out of earned income and savings through financial income and wealth actually happens in real-economic supply and demand. In the run-up to the French Revolution, Marie Antoinette was attributed the satirical statement that if the people had not enough bread, they should eat cake. In the present context, the majority of working people could be advised to simply earn more financial income.

Inflation (CPI) and asset inflation

The quantity theory of inflation has existed since J. Bodin (1568). It says that if an increasing stock of money creates demand for a supply that does not grow at the same rate, this results in a general increase of prices. This corresponded to the experience of the Spanish silver inflation of that period. In the 1960/70s, M. Friedman came out with an extreme view of the matter: 'Inflation is always and everywhere a monetary phenomenon'.[24] But besides an overshooting supply of active money, inflation can also result from real factor shortages, for example a shortage of land or labour. In the modern world, an increase in the price of labour is partly pre-financed by borrowing, which in turn can lead to an increase in CPI levels.

[24] Friedman 1991 16, 1992 198.

Although oversimplified as a textbook model, quantity theory describes an actual mechanism. Upon the failure of monetarism in the 1980s, the baby was thrown out with the bathwater, especially in post-Keynesianism, where the question of limits to monetary quantities has since been considered almost irrelevant. The link between money supply and inflation is said to have disappeared. This is a short-sighted presumption. Half and more of nominal GDP growth at 2–3% remains inflation (CPI) at 1–1.5%, and moreover there has been high asset inflation.

With globalisation since the 1980s, the international aspect has gained in importance in the form of imported inflation, or disinflation, respectively. Newly industrialising countries, as low-wage countries, offered an ever increasing range of goods at low prices. In this way, an increasing and often cheaper supply of goods went hand in hand with rising wages and demand at low inflation.

Above all, orthodox economics as well as post-Keynesian economics have failed to disaggregate the financial circulation of money into GDP finances and non-GDP finances. Once this is done, it becomes clear that the GDP-disproportionate growth of the money supply resulted in increased effective demand primarily in the area of non-GDP finances, much less in the area of GDP finance. This is why there have been repeated episodes of strong asset inflation rather than high CPI as was previously common.

As is normally the case with real-economic CPI, asset inflation too is more than just asset *price* inflation, but is also reflected in an expansion and differentiation of financial assets by *quantity* and *type*. The bubbles in financial markets are not only price bubbles (not even necessarily those), but also expansion of differentiated financial assets. This is particularly evident in the case of derivatives, new securitisation vehicles, increased volumes of securities, more mergers and acquisitions, more IPOs, or an increased supply of real estate as property prices continue to rise.

Limits to the economy's monetary absorbency. Oversupply of money tendered as borrowed capital. Tendency towards zero interest combined with low growth

Real-economic cycles can overheat with regard to credit extension, investment and debt, resulting in economic recessions or even crises. A similar problem exists with regard to cycles in non-GDP finance.[25] To what extent can non-GDP finances expand without their benefits (build-up of savings, proprietary capital, wealth) becoming a problem for all? In other words, what are the limits of an economy's monetary absorbency and financial carrying capacity? To approach this problem, it is useful to distinguish between own capital and borrowed capital (debt capital). Depending on whether a financial instrument represents own capital or borrowed capital, monetary and financial overshooting has different consequences.

In the trade in debt capital (loans, bonds, other securities), a tendency towards lower interest rates arises when there is an ongoing over-supply of money, or such capital, respectively. In an artificial continuation of this trend, zero and negative interest rates are forced. The much-cited savings glut is about an oversupply of non-GDP financial capital as debt capital. The tendency has existed since around 1980. The previous era of high interest and high inflation has since been reversed into an era of interest rate cuts and disinflation. With the very low interest rates currently attained, the limits of that development have been reached and to a

[25] Cf. Borio 2012, 2017.

degree exceeded in the form of negative interest. Thinking of negative interest rates as an unconventional but logical and even beneficial continuation of conventional interest rate policy is rationalist fiction, expression of a paradigmatic fixation that does not want to admit that at the lower bound of zero interest it has reached its own limits, too.[26]

Who, as a bank customer, is voluntarily ready to keep deposits at negative interest in the longer term? Who, as a capital market creditor, is voluntarily prepared to invest money at negative yield? So far this has only worked for Japanese and European government bonds. The negative yield for the creditor is the result of a low or zero interest rate combined with a redemption discount (or payout premium) for the borrower. Buyers of such government bonds thus make a loss. There are various reasons why institutional investors have so far done so anyway. The portfolio of bond funds still consists of a certain mix of old profitable and new unprofitable bonds, so that there is still some overall profit. Some funds, especially pension funds, are obliged by statute to invest in government bonds. Under conditions of uncertainty, it may seem wiser to invest money in comparatively safe government bonds with a small loss for the time being than to take significantly higher risks on overbought stock and real estate markets.

The situation will not stay the same. If interest rates oscillate around zero, many pension funds will have to change their statutes or close down. Finance ministers will have to pay higher positive interest rates again, or offer their bonds below par in order to place them on the market. This will cause problems for public budgets in view of the high debt levels and trigger serious budget crises and political upheaval in some countries. What then? What has long since begun then will happen on an even larger scale: Indirect monetary financing of government spending becomes the new normal. The central banks continue to buy up an ever larger share of government bonds. Or central banks and governments start to break the taboo on *direct* monetary financing. The Bank of England has in fact began with this since Easter 2020 by granting the government unlimited overdraft on its central-bank account. The Bank of Canada has long practised direct monetary financing, initially on a large scale from the mid-1930s to the early 1970s. Today, the Bank of Canada acts as an auctioneer for government bonds and bills, *directly* absorbing onto its own balance sheet 20% of each issue.[27]

Low interest rates normally reflect weak rather than strong growth prospects, including weak rather than strong CPI. This will remain so as long as the overshooting money supply remains active in non-GDP finances, generating low interest rates together with asset inflation. If, on the other hand, more money that was previously inactive in GDP finances becomes active in the real economy, this will result in some inflation. If without stronger growth or structural change in the real economy itself, this will result in stagnation – or split growth with split CPIs, in the sense that segments of upscale consumption and their prices increase, but the rest of the economy tends to stagnate. It would appear that such split development presently already exists with regard to housing and high-end consumption.

Against this background, to expect low to negative interest rates to stimulate real-economic investment and other expenditure is a misleading half-truth. First and foremost it is trading in proprietary capital which benefits from low and zero interest rates. Very low interest rates are by no means an automatic incentive for debt trade, GDP investment and the real economy.

[26] Cf. Huber 2019.
[27] Becklumb/Frigon 2015.

Rather the opposite. In particular, negative interest rates on holding money and negative yields on bonds are a programme to promote stagnation in the real economy; the higher and more broadly imposed on all players, the more demotivating and contractionary. In the end, negative interest rates only serve to siphon off money to the benefit of the banks' and central banks' profits. In fact, negative interest comes close to a counterproductive money tax rather than representing interest or a fee for account management.

Limits to the economy's financial carrying capacity. Oversupply of money for purchasing proprietary capital. Tendency towards asset inflation and financial crises

Proprietary capital can increase in value far beyond the return from interest, dividends, rents and leases. So the low level of interest is mainly used for real estate transactions. As a result, real estate is highly financialised, a sub-sector of non-GDP finance attracting investment in search of value accretion.[28] The real-economic construction of houses benefits from this to some extent, but with decreasing tendency due to sharply rising land prices and construction costs. The incentive to invest cheap money in expected capital appreciation applies in the same way to price increases in shares and commodities.

For example, shares. Dividends are not unimportant, but an expected or not to be expected price increase has become the more important factor. Real-economic success certainly plays a role in the competition among shares, but it is primarily expected value growth that speaks for or against a particular share. The resulting increase in demand for shares is driving prices. How far real growth will follow is often still up in the stars, but the increase in market value of the stock in question is there for the time being.

Everyone involved knows that a price-earnings ratio cannot rise to the sky, and that on the way there, the risk increases with the price. But to where? The sobering answer is, one cannot know. As the saying goes, it works until it doesn't. But we do know what it will be: a slide in share prices, a destruction of financial capital, perhaps to a limited extent, or perhaps as the next major financial collapse and the economic crisis it will trigger. The main causes of this are always to be found in over-crediting (based on hypertrophic money creation and funding procedures), over-investment and over-indebtedness.

The associated financial market failure as a dynamics of self-propelling overshoot has been described in Minsky's financial instability hypothesis, in particular the final Ponzi stage (exponential snowball effect).[29] Shiller, in his positive-feedback theory of financial crises, coined the term 'irrational exuberance'.[30] These mechanisms have always existed in capitalism, as a form of crowd madness, such as the Dutch Tulip Mania in 1636/37, the French Mississippi Bubble and the English South Sea Bubble, both in 1720, the founders' crash in the German Reich and Austria-Hungary in 1873, New York Black Friday in 1929, up to the Dotcom Bubble in 2000 and the Subprime Crash in 2008. But under today's conditions of virtually unlimited and cheap money it almost looks as if things have gone from the rare exception to being the new normal of finance.

[28] Ryan-Collins/Lloyd/Macfarlane 2017 pp.109, pp.169.
[29] Minsky 1982, 1986.
[30] Shiller 2015 pp.225.

When it comes to trading in money (domestic and foreign currency exchange), things are somewhat different. In a sense, this is literally an Old Testament trade, ages before there were transferable debentures since the late Middle Ages (debt capital) and four hundred years of tradeable shares (equity capital). Nevertheless, since the definite end of the gold-based dollar in 1971/73 and the free floating of currency exchange rates ever since, today's currency speculation is historically unparalleled. The volume of foreign exchange trading is several hundred times greater than the cross-border trade in goods and services in the real economy.[31]

Finally, trading in derivatives (options, futures, swaps). Derivatives may relate to all the above-mentioned types of trading in equity and debt, interest and foreign exchange. Their original purpose of hedging prices for livestock, grain, etc. into the future is still fulfilled today in extended applications, for example as credit default insurance (which, of course, defaults if there are too many bad loans at once). Beyond this, however, derivatives trading has moved a long way from its original purpose. The nominal value of all derivatives was already 10 times the world's GDP in 1990 and grew to 55 times by 2008.[32] Only 2% of the contracts are exercised, the rest is closed early. This means that 98% of derivatives trading is pure betting game in the 'global casino' (Keynes).[33] Among the traders it is a zero-sum game, meaning that someone's win is someone else's loss. Even large financial corporations have got into trouble because of such losses.

Non-GDP finances are not neutral

The betting game in derivatives and foreign exchange as well as trading in stocks and real estate might not be so remarkable if only the actors involved were affected. However, the dynamics of non-GDP finances is by no means neutral to the real economy, but has an impact on all areas of economy and society. It leads to developments that are partly economically dysfunctional and partly unjust and socially disintegrating.

The matter is unjust in terms of achievement. Non-GDP financial income represents as much purchasing power as earned income, and grants the same access to the goods and services supplied by the real economy. The supply is changed retroactively in the direction of an upwardly split structure of prices and consumer items. Even if earned incomes do not fall in absolute terms, they are outpaced by disproportionate rises of financial incomes and cut off from the supplies these are able to purchase. This is itself already a bit of an economic dysfunction, inasmuch as pronounced class-specific patterns of consumption and lifestyles have less overall economic potential than broader-based structures of supply and demand.

The overshoot dynamics of non-GDP finances are dysfunctional not least because of the general tendency towards financial over-investment and over-indebtedness, resulting in financial and economic crises. According to a historical study by Deutsche Bank Markets Research on 400 years of financial crises, these occur more frequently and severely today than was the case in former times.[34] According to another much-cited study by the IMF covering the period from 1970 to 2007, 425 national and international financial crises occurred worldwide, including 145 systemic banking crises, 72 sovereign debt crises and 208

[31] Bjerg 2014 25.
[32] Deutscher Bundestag 2020 7–8.
[33] Chesney 2014 33, 50. In the same vein Financial Crisis Inquiry Committee 2011.
[34] Cf. Deutsche Bank Markets Research 2017.

currency crises.[35] Such crises not only destroy financial capital, but also damage or even destroy real capital, companies, jobs and the working and private lives of people.

What to do?

Financial crises will basically not be prevented in the future. One should not necessarily try either. Despite the risky dynamics of non-GDP finances, they basically fulfil a useful function in the life cycle of firms and households in terms of building up savings, capital reserves and proprietary capital. The pertinent question is: How to better rein in non-GDP finances? how to curb their excess dynamics? analogous to the economic policy of defusing business cycles that could lead to severe crises in the 19th and 20th centuries.

Money system

The most important prerequisite for successful financial market policies is to achieve effective control over the money, more precisely over money creation and the ongoing flexible readjustment of the money stock, particularly the official means of payment (legal tender). Control of money creation does not normally mean control of the uses of money, except for its first uses. Over time, the role of monetary authority has fallen to the national central banks, at least in terms of intention. Even where the central banks are still corporate institutions of commercial origins they are now subject to public law in essential matters of monetary policy and leading personnel.

In the existing bankmoney regime, however, it is still the banking sector, and increasingly shadow banks, that largely determine money creation and thus pre-determine the central banks' reactive monetary policy. As long as the situation remains like this, little will be achieved and one will digress into bureaucratic regulation of secondary importance such as, for example, the Basel rules on bank equity and liquidity buffers under conditions of fractional reserve banking. QE has saved the situation so far, but has not remedied it. What would ultimately remain if necessary, in the absence of a fundamental change in the money system, is the heavy-handed toolset of capital controls and global credit guidance by the central bank. Even in Western market economies this was quite common during and after the Second World War, in some cases even until the 1960s. But this certainly opens up a rather unpleasing perspective.

The most effective control over the money stock is ensured by a full sovereign money system, that is, a money monopoly of the central bank without competing private means of payment. Historically, the decisive reason for the emergence of money surrogates was the persistent shortage of gold and silver in combination with growing populations and economies. With the modern transition to a pure fiat money system, there is no good reason for money surrogates anymore, but there are good reasons to effectively keep control of the money supply that can now so easily be created at will. The control of money - under fiat money conditions more than ever - is a sovereign prerogative, especially as the financial markets are continually failing in this respect due to their positive-feedback overshooting dynamics.

[35] Laeven/Valencia 2008.

What is currently emerging is a renewed mixed money system by way of introducing central bank digital currency (CBDC) side by side with bankmoney.[36] CBDC, or sovereign digital currency respectively, is intended to be a universal means of payment, i.e. for general unrestricted use by banks and non-banks alike. CBDC and continued bankmoney will coexist and compete with each other. CBDC is thus taking over the former role of central-bank issued cash. Sooner or later, cash will have disappeared, depending on how long the public continues to use cash to an extent that allows the cash infrastructure to be maintained at a cost-covering level. A different and open question is whether CBDC will displace bankmoney over time. In any case it is certain that digital central-bank money in general use will gain weight relative to bankmoney. As a result, the effectiveness of monetary policy will increase to the extent to which the share of CBDC in the money supply M1 grows.

At the same time, new private money surrogates are being added, currently in the form of MMFs, e-monies and stablecoins. Because of existing and impending regulation, the danger that they could get out of hand and produce corresponding crisis dynamics is not really in the foreground. Instead, the initial diversity of such means of payment is likely to be absorbed over time by an oligopoly of only a few but all the more important private currencies. Internationally, these would be beyond the jurisdiction even of big nation states. This has already become clear with the example of the 2019 plan for a global Libra stablecoin by Facebook. Such developments can be prevented by ensuring that new money surrogates

- are denominated in a currency unit of their own, not in the official currency
- are covered 1:1 with central-bank money, not bankmoney or other money surrogates.
- A small proportion of the coverage in central-bank money may be used for other operations, but
- central bank and government must not support under any circumstances the money surrogates in question. (Bankmoney would have vanished long ago into the thin air it came from if central bank and government had not rescued it time and again, thereby promoting and securing its dominance and para-sovereign status).

If these requirements are met, a central bank's monetary policy will predictably be transmitted to the new money surrogates.

Indirect monetary financing of public expenditure is likely to continue. It ought to be combined with the introduction of CBDC. The central bank can pay its open market purchases of government bonds in CBDC, whether the sellers are banks, shadow banks, companies or households. At the same time, the banks' largely idle glut of excess reserves can be converted into CBDC, or opened up for dual use: usable as conventional liquid excess reserves or as CBDC in general use.

Such a type of mixed money system, in which central-bank money increasingly gains weight, achieves a great deal in terms of monetary and financial-market policy. This is because financial institutions will no longer be able to provide additional money at the push of a button to the same extent as before. Instead, they will have to finance loans and investments from money already available far more than hitherto. This alone may not yet create a level playing field between GDP finance and non-GDP finance, but it will contribute significantly to such a balance. This expectation is supported by the above-mentioned fact that financial assets in America and Europe developed within a relatively constant ratio to GDP until around 1980

[36] Cf. BIS 2018, 2019, Bordo 2018, Huber 2020 II, IMF 2018, Kumhof/Noone 2018, OMFIF 2019, 2020.

and only since then have moved away from that ratio. The same is true for US house prices, which, adjusted for inflation, hardly rose at all until around 1980, but have risen steeply in real terms since then.

Monetary policy

Despite QE policies and monetary financing, central banks will try to limit themselves to *monetary* policy. Nevertheless, monetary policy *is* politics. The top positions in a central bank are about political leadership, certainly presupposing expertise, but not an office for 'technocrats', as is often demanded in misjudgement of the political nature of the matter. Monetary policy and fiscal policy can cooperate, but their responsibilities and the boundaries between them must not be blurred.

Central banks con no longer avoid broadening the range of issues and indicators relevant to monetary policy, including the range of policy tools to be used. The ECB has increasingly narrowed its mandate to price stability (CPI), even if EU law also provides for the support of economic policies where this is consistent with monetary and financial stability (TFEU Art. 127). The monetary policy of the US Federal Reserve and the policy of the US Treasury place much greater emphasis on national economic policy and international currency policy.

As of late, another central bank function is to ensure the liquidity and solvency of systemically relevant financial institutions, not explicitly by law, but as a matter of fact. As long as banks continue to issue much bankmoney on a fractional reserve base, that function is likely to be maintained. However, since central banks are not only 'bank of banks', but also 'bank of the state', the de facto liquidity and solvency support should explicitly apply to the public sector as well. Central banks are in fact already performing this function through their QE programmes.

So far, central banks appear not to feel concerned about asset prices and non-GDP finance, even though asset inflation quite obviously is the one hemisphere of price level stability, the other one being CPI. The inclusion of asset inflation requires an enhanced analytical framework. Some tools are already available, for example empirical methods of bubble spotting, while others still need to be developed, for example to be able to say something more precise about the limits to an economy's monetary absorbency and financial carrying capacity.

The range of reference variables relevant for monetary policy and to be weighed against each other is thus widened: CPI, asset inflation, the foreign exchange rate and international position of the currency, interest rates, real-economic cycles and employment, as well as financial cycles and non-GDP finances – while ensuring liquidity in the public and private sectors, for GDP and non-GDP finances. The money supply itself is not an objective but an instrument of monetary policy, not an end in itself but a means of achieving the best possible balance of the relevant reference variables. Monetarism got that totally wrong.

The ECB has interpreted its mandate to maintain price stability as requiring it to set an operational inflation target at or closely below 2% CPI. This is questionable, not unlike setting a specific target level of interest rates. During the monetarist era it was believed that monetary policy should set itself growth targets for the quantity of money (M1, M2, M3, or similar). The success of monetary policy is then evaluated by the (non-)attainment of the respective targets. Such operational targets are dispensable, if only because central banks

may be able to influence those variables to a certain extent, but cannot control them effectively and attain such targets as it wishes.

It would be more appropriate to continuously weigh up the entire set of sensitive reference values against each other, in this way assessing the situation and drawing conclusions on taking or not taking measures, and communicate decisions accordingly. The public would presumably understand the sense and purpose of such a weighing-up of trends and goals much better than a target fetish of '2% inflation', a figure that seems to be concrete but remains an abstract fixation. There would of course be public discussions on the weighing-up of the various factors. This is desirable. Although modern central banks must be independent in their monetary policy decisions, comparable to the independence of the judiciary, they are not outside the *res publica*.

As far as policy instruments are concerned – using money quantities or interest rates – monetary financing of government expenditure should, within limits, become a regular tool, within limits defined by *monetary*, not budgetary considerations. This should be combined, as already mentioned, with the introduction of CBDC, in that the amounts of monetary financing are paid out in CBDC.

Interest rate policy means using central-bank interest rates to control credit extension and the quantity of money in the banking sector. In today's bankmoney regime, the nearest thing to control is in interbank credit, otherwise not. However, monetary policy can be expected to become more effective in this respect the more the share of central-bank money in relation to bankmoney and other means of payment increases, working as a quantity lever that strengthens the transmission effect of central-bank interest rates. One will remember that influencing interest rates through quantities is more effective than the reverse. A comeback of quantity policy would also be a result of QE policies of recent years. QE measures are a striking example of steering interest rates through quantities.

Financial transaction tax

Financial NGOs have advocated the introduction of a Tobin tax, that is, a tax on forex transactions, named after the economist James Tobin. Keynes had proposed a tax on stock trading in the mid-1930s, on the assumption that this would curb excesses in the 'global casino'. Such taxes on stocks and securities trading had long existed in various countries. In the course of international deregulation of capital transactions since around 1980, most of these taxes were abolished. This contributed to unleashing financial markets.

In an attempt to correct the mistake, eleven EU states decided in 2013 to introduce a transaction tax on all types of financial transactions, however at the countries' own discretion. As a result, some countries dropped out, others are still hesitating or want a special, not a general transaction tax. In the meantime, seven of these EU countries have introduced one or the other slimmed-down version, mainly on the purchase of shares and bonds of listed companies, at a rate of 0.1-0.3%, in some cases also on certain types of derivatives at a rate of 0.01%. Politicians are holding back out of concern they might weaken their country's international position in finance. The low tax rates, however, have little or no effect. The overall ratio of taxation increases, while the situation does not really change.

A more effective financial transaction tax would be justified for the sole reason of closing the only remaining gap in the systematics of turnover taxes. There is VAT on goods and services, real estate transfer tax, insurance tax and some other minor sales taxes, but there is no or only a marginal tax on financials. A serious financial transaction tax should be a general tax on *all* types of financial transactions, albeit at different levels depending on the type of transaction (shares, bonds, foreign exchange, derivatives). The additional tax should be implemented in a revenue-neutral way. This could mean, for example, reducing in turn the VAT rates on real economic goods and services.

Lock-up periods

With regard to periods of overheating financial markets, another instrument would be the use of lock-up periods for transactions in foreign exchange and securities. This means the temporary requirement to hold a financial position. When a particular financial instrument is bought, it has to be held for a certain period of time before it can be sold again.

Lock-up periods are an administrative measure, as such an alternative, or supplement, to the financial transaction tax as a fiscal measure. A lock-up period goes further than the fiscal speculation periods known so far. For example, there is a fiscal speculation period of ten years for residential property. If one sells after this period, the proceeds are tax-free; sold before, the proceeds are taxable. A lock-up period is not about taxation.
Lock-up periods are temporary and variable in application. They are not meant to be imposed as a standing rule. The length of lock-up periods – whether minutes, hours, days or weeks – would have to be specified in every application for the different type of transaction. Lock-up periods would be effective with regard to the international 'touring circus' of hotspots in non-GDP finance. These can cause great damage, as for example in the Asian crisis in 1997/98.

Tiered interest rates for GDP finance and non-GDP finance

The ECB has embarked on a new path with the TLTRO programmes to promote bank lending to the real economy. The programme makes a de facto distinction between loans for GDP finances and non-GDP finances, and involves preferential conditions (interest rate, maturity) for GDP finances. The principle of tiered interest rates to the benefit of GDP finances can certainly be developed further on a permanent basis.

The TLTRO programme is in great demand. In the first place, it is the central-bank interest rates that are tiered. A more effective measure would be to oblige banks and shadow banks to transmit the tiered conditions to customer transactions. 'Green TLTROs', as proposed by Positive Money Europe, Brussels, can be included advantageously in such a framework.[37]

Credit and investment ceilings rather than separate banking

Black Friday 1929 triggered the financial and economic crisis of the 1930s. One of the answers given in the USA was the introduction of separate banking. Banks had to decide whether they wanted to operate in future either as a commercial bank granting current loans

[37] van't Klooster/van Tilburg 2020.

on a fractional base of central-bank reserves, or as an investment bank without central bank refinancing. Both in one bank should no longer be possible. As a result, financing of an investment bank's securities purchases by creating its own bankmoney was prevented.

However, the laws on separate banking did not prohibit investment banks from borrowing from commercial banks in order to leverage transactions in securities, mergers and acquisitions, and others more. So it was clear that such sort of separate banking would not really serve its purpose. Having to borrow funds increased the costs of investment banks, but apparently not up to the threshold where things would have changed fundamentally. The American separate banking laws were soon relaxed, also allowing investment banks back into central bank refinancing, and finally repealed by Clinton in 1999. Basically, separating the investment business from the lending business makes little sense. What really would matter is separating money creation from the uses of money in the financial economy. This is one of the things a sovereign money system achieves.

To contain non-GDP leverage, asset inflation and bubble formation within the existing system, there is a simpler, but currently somewhat forgotten, alternative: specific credit ceilings set by the central bank if the circumstances require. The granting of loans or the investment or acceptance of funds for certain types of financial transactions may be capped for a certain period of time. Such ceilings can be variably adjusted to changes in the situation, tightened or loosened, and finally lifted again.

Setting ceilings or caps is a strong intervention in the capital markets, although not as extreme as price administration or a price freeze or even a general trade ban. Nevertheless, ceilings are among those instruments that should be the ultima ratio – in a situation when it is far better to intervene timely and resolutely than to let financial markets escalate until collapse in a severe crisis.

Derivatives trading

Taking out fire insurance for your own house is a sensible thing to do. However, it would be ambivalent and invite abuse to take out fire insurance for other people's houses. This is ruled out for good reason. Only the owner of an object can take out fire insurance for that object. When applied to derivatives (options, futures, swaps and certificates), this means that derivative contracts should only be permissible to the extent that attributable risk positions (underlyings) are in the possession of the authorised parties. This still allows derivatives to hedge the price of products, and also, for example, derivatives on indices, interest rates or exchange rates, provided an attributable risk position to be hedged exists.

Income policy and fiscal policy

Income policy and tax policy are among the key frameworks for the economy. As their institutional and legal arrangements vary from country to country, it would be going too far to go into details here. However, it is true for all industrial countries that the state makes a significant contribution to general financialisation by financing sovereign debt through banks and financial markets. This can be corrected to a degree by monetary financing of government expenditure, and also by the way in which income, wealth and inheritance are taxed. For example, inheritance tax should spare business assets and owner-occupied housing, but

should implement higher tax rates on non-GDP financial assets. Fiscal policy is complicated, but the principle pursued here is simple: Until structurally stable and balanced conditions are reached, the tax burden on the real economy and earned income, including entrepreneurial and self-employed income, must be eased, while non-GDP financial income must be curbed. This certainly opens up a new perspective for fiscal policy.

Annex

More on the terms real economy, GDP finances and non-GDP finances

The *real economy* comprises all product and labour markets, that is, the transfer of money when buying or selling work and services, infrastructure, goods and intangible goods (e.g. use rights). The so-called informal sectors of the real economy comprise unpaid work such as housework, D-I-Y and volunteering, as well as the hidden or underground economy and black labour (except for money laundering and similar financial transactions). Unpaid activities also require money, but do not normally generate income. Informal real-economic activities and their money value are not included in GDP.

The *financial economy* begins when money is lent/borrowed or invested or donated or paid as tax. If lent/borrowed or invested, the money becomes capital. Commercial finance is used to fund activities via financial markets, especially money and forex markets, capital markets and derivatives markets. The transfer of money takes place in the basic forms of lending (against interest and repayment) and financial investment. The latter includes trading in equity investments, shares, debentures of all kinds (e.g. bonds), other financial contracts, as well as insurance premiums and benefits.

The non-commercial part of the financial sector includes the transfer of money through taxes and levies on the basis of public law, as well as the voluntary transfer of money, more or less selflessly, through sponsoring, foundations, donations, gifts, and inheritance.

Just as GDP finances are upstream of the real economy and in feedback with it, so the monetary economy is upstream of the entire financial economy, and part of it; especially regarding money creation, the putting into circulation and withdrawal of means of payment in official currency by banks, central banks and shadow banks, as well as money exchange and currency trading.

In financial transactions, whether non-GDP or GDP finances, earned income is usually generated for financial services provided. This income is included in GDP but represents a small percentage of the financial transactions concerned.

As regards the boundaries between the two hemispheres of finance, there are occasional overlaps, but the functional difference is clear. Contributing to GDP, or more generally speaking, to economic output, is

- Financing of investment and other expenditure related to the real economy (infra-structure, goods, labour, services, or user rights).
- Private equity, whether as 'white knight' recapitalisation of companies of viable substance but in need of renewal, or, more importantly, as venture capital investment

in real-economic research, development and commercialisation (most recently with a focus on clean technologies).
- Overdraft facilities, as they are normally used to finance household expenditure in the real economy. This also applies to overdraft and bridging loans to firms and public households.

By contrast, non-GDP finances include, for example,

- Secondary trading (after IPO) in shares, bonds and other securities.
- Trading in shares in investment funds of any kind to the extent they invest the capital they manage in non-GDP investments.
- Insurance companies to the extent they provide capital cover through non-GDP investments.
- Derivatives trading beyond real hedging of underlyings held by a company itself.
- Leveraged buy-outs, the financing of friendly and hostile mergers and acquisitions (although these can change the market position of a company with longer-term real economic effects).
- Private equity as the 'locust' activity of the wanton dismantling of companies, making profitable residual segments available for resale.
- Real estate trading that does not serve the construction and maintenance or the modernisation of building stock, but represent pure capital investment.
- The same applies to trading in commodities as a purely financial investment.

Transactions in physical assets thus do not automatically serve the real economy. In real estate transactions, the dual-use character of real and financial assets can be pronounced. When a bank finances a construction project this is clearly about financing a production process in the real economy. Things are less clear with mortgage borrowing which can be used for real expenditure on investment and consumption, but also for non-GDP transactions. Such differences hardly appear from aggregate statistics.

In the case of bonds, it can be assumed that the money taken up is used for real economic purposes. This applies to bonds issued by companies as well as to government bonds, except for those parts of new debt that are used to pay interest on and redeem old debt.

The initial placement and additional issues of shares are likely to finance investments in the real economy or other company expenditure. However, the proceeds of the share issue can also be used to redeem existing liabilities or to increase the equity ratio, either for financial reasons or regulatory requirements. Even if the latter may be indirectly relevant to the real economy, it is directly a non-GDP act.

Another non-GDP investment is the deactivation of bankmoney in the form of bank savings and time deposits.

Generally speaking, money that does not flow into the real economy has no effect on quantities and prices, and therefore has no direct impact on producer and consumer price inflation. Money that flows into the financial economy, whether in GDP finances or non-GDP finances, influences asset prices (asset inflation) as well as the quantitative expansion of financial-market supply.

References

Arcand, Jean-Louis / Berkes, Enrico / Panizza, Ugo (2012) "Too Much Finance?" *IMF Working Paper*, WP/12/161, June.

Atkinson, Anthony B. / Piketty, Thomas / Saez, Emmanual (2011) "Top Incomes in the Long Run of History." *Journal of Economic Literature, 49:1, 3–71.*

Atkinson, Anthony B. (2015) *Inequality. What can be done?* Cambridge, MA: Harvard University Press.

Becklumb, Penny / Frigon, Mathieu (2015) *How the Bank of Canada Creates Money for the Federal Government: Operational and Legal Aspects*, Library of Parliament, Publ.No. 2015-51-E, Aug '15.

Bernanke, Ben S. (2016) *What tools does the Fed have left? Part 3: Helicopter Money*. The Brookings Institution.

Bhatia, Ashok Vir (2011) "Consolidated Regulation and Supervision in the United States." *IMF Working Paper*, No. 23.

BIS (2018) *Central bank digital currencies*, prep. by the BIS Committee on Payments and Market Infrastructures, Basel: Bank for International Settlements, March.

BIS (2019) *Proceeding with caution. A survey on central bank digital currency*, written by Christian Barontini and Henry Holden, Bank for International Settlements Papers no. 101, Jan.

Bjerg, Ole (2014) *Making Money. The Philosophy of Crisis Capitalism*. London/New York: Verso.

Bordo, Michael D. (2018) *Central Bank Digital Currency. The Future Direction for Monetary Policy?* Shadow Open Market Committee, E21 Manhattan Institute, March 9.

Borio, Claudio (2012) "The financial cycle and macroeconomics: What have we learnt?" *BIS Working Papers,* No. 395, December, Basel: Bank for International Settlements.

Borio, Claudio (2017) *Secular stagnation or financial cycle drag?* Basel: Bank for International Settlements.

Buiter, Willem / Kapoor, Sony (2020) "**To fight the COVID pandemic polic**y makers must move fast and break taboos." *voxeu.org*, 6 Apr.

Buiter, Willem H. (2014) "The Simple Analytics of Helicopter Money. Why It Works – Always." *Economics*, Vol. 8, 2014-28, August 21, 1-51.

Chesney, Marc (2014) *Vom Großen Krieg zur permanenten Krise*. Zürich: Versus Verlag.

Deutsche Bank Markets Research (2017) *Long-Term Asset Return Study*, 18 July.

Deutscher Bundestag (2020) *Dokumentation zu den Begriffen Finanz- und Realwirtschaft*, WD 5 – 3000 – 003/20.

Financial Crisis Inquiry Committee (2011) *Report of the National Commission on the Causes of the Financial and Economic Crisis in the United States*. Washington, DC: US Government Printing Office, January.

Friedman, Milton (1991) *Monetarist Economics*. Oxford, UK/Cambridge, Mass: Basil Blackwell.

Friedman, Milton (1992) *Money Mischief*. New York: Harcourt Brace Jovanovich.

Fullbrook, Edward / Morgan, Jamie (eds) (2020) *The Inequality Crisis*, Bristol: World Economics Association Books.

Huber, Joseph (1998) *Vollgeld*, Berlin: Duncker & Humblot.

Huber, Joseph (2017) *Sovereign Money – beyond reserve banking*. London: Palgrave Macmillan.

Huber, Joseph (2019) *Negative Interest – hoping in vain for a miracle too.* sovereignmoney.site/negative-interest.

Huber, Joseph (2020) *Dominant Money*, parts I and II, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=35134111, Jan.

IMF (2018) "Casting Light on Central Bank Digital Currency." *IMF Staff Discussion Note*, written by T. Mancini-Griffoli et al., Washington D.C.: International Monetary Fund.

Jackson, Andrew / Dyson, Ben (2013) *Sovereign Money – paving the way for a sustainable recovery*. London: Positive Money.

Jordà, Òscar / Schularick, Moritz / Taylor, Alan M. (2014) "The Great Mortgaging: Housing Finance, Crises, and Business Cycles." *NBER Working Papers*, No. 20501, Sep.

Kumhof, Michael / Noone, Clare (2018) "Central bank digital currencies – design principles and balance sheet implications." *Staff Working Paper No. 725*, May, London: Bank of England.

Laeven, Luc / Valencia, Fabian (2008) "Systemic Banking Crises. A New Database." *IMF Working Paper* WP 08/224.

Lennkh, Alvise / Bartels, Bernhard / Vasse, Thibault (2019) "The rise of central banks as sovereign debt holders." *SUERF Policy Note*, Issue No 109, Oct.

Liikanen Report (2012) *High-level Expert Group on reforming the structure of the EU banking sector*, chaired by Erkki Liikanen, Final report, EU-Commission, Brussels, 2012.

Lonergan, Eric / Jourdan, Stan (2016) *Citizens' Monetary Dividend. Upgrading the ECB's toolkit*, QE4P Policy Brief, Sep.

Minsky, Hyman P. (1982) "The Financial Instability Hypothesis. Capitalist Processes and the Behavior of the Economy." In: Kindleberger, C.P./ Laffargue, J.-P. (Eds.): *Financial Crises. Theory, History, and Policy,* Cambridge University Press, 13-39.

Minsky, Hyman P. (1986) *Stabilizing an Unstable Economy*. New Haven: Yale University Press.

OMFIF (2020) *Digital Currencies – a question of trust*. Written by Bhavin Patel and Pierre Ortlieb, London: OMFIF.

OMFIF/IBM (2019) *Retail CBDCs, the next payments frontier*. London: Official Monetary and Financial Institutions Forum/Costa Mesa, CA: IBM Blockchain Worldwire.

Positive Money (2015) *QE4P (Quantitative Easing for People),* www.qe4people.eu.

Ryan-Collins, Josh / Lloyd, Toby / Macfarlane, Laurie (2017) *Rethinking the Economics of Land and Housing*. London: New Economics Foundation and ZED Books.

Ryan-Collins, Josh / van Lerven, Frank (2018) Bringing the helicopter to ground: a historical review of fiscal-monetary coordination to support economic growth in the 20th century, *Working Papers PKWP1810*, Post Keynesian Economics Society (PKES).

Ryan-Collins, Josh (2015) "Is Monetary Financing Inflationary? A Case Study of the Canadian Economy, 1935–75." *Levy Economics Institute of Bard College, Working Paper* No. 848, October 2015.

Shiller, Robert J. (2015) *Irrational Exuberance*, revised and expanded 3rd edition, Princeton NJ: Princeton University Press.

Sigl-Glöckner, Philippa (2018) "Ein Blick ins Innere des europäischen Finanzgetriebes." *Makronom*, 7 Mai 2018.

Turner, Adair (2016) *Between Debt and the Devil. Money, Credit and Fixing Global Finance*. Princeton University Press.

van Lerven, Frank / Hodgson, Graham / Dyson Ben (2015) *Would there be enough credit in a sovereign money system?* London: Positive Money.

Van't Klooster, Jens / van Tilburg, Rens (2020) *Targeting a sustainable recovery with Green TLTROs*, Sep, Positive Money Europe, Brussels, and Sustainable Finance Lab, Utrecht University.

Walter, Johann (2012) Quantitätsgleichung – neu zu interpretieren? *Wirtschaftswissenschaftliches Studium*, 41. Jg, Heft 3, März, 151-155.

Werner, Richard A. (2005) *New Paradigm in Macroeconomics*. New York: Palgrave Macmillan.

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The digital twin of the economy: proposed tool for policy design and evaluation

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Abstract
The macroeconomic models of the 'mainstream' are hardly useful as expert support tools for policymakers. There is a need for an adequate instrument which does more realistically replicate the real-life economy and, thus, would provide better (unbiased) advise to politicians. The concept of the *digital twin of the economy* introduces an economic tool and platform which allows the dynamic-experimental development as well as objective-transparent evaluation of macroeconomic policies and is constructed on two consecutive methods: Firstly, the building plan of the underlying economic model is established by an *economic architecture*, that is an investigative approach to uncover hidden contexts for more transparency, and, secondly, the complex nature of the economy, as designed/created after that blueprint, is then dynamically as well as realistically simulated by *agent-based modelling*. The purpose of this tool and its respective platform, apart from the provision of reliable recommendations for political decision-making, is the promotion of interdisciplinary innovative research to enhance the state of knowledge in economics and to facilitate the transformation to a much more economically/ecologically sustainable as well as socially fairer economy/society.

1. Introduction

The complexity of the economy is steadily increasing due to the growing interconnectedness (e.g. global value chains) as well as rising product variety (e.g. intertwined financial services). Macroeconomic models, such as *dynamically stochastic general equilibrium models* (DSGE), miss much of the real life complexity because of – among others – unrealistic assumptions (cf. Romer, 2016) and due to these deficiencies, serve only to a limited extent as appropriate support for political decision-making (cf. Mankiw, 2006). As an example for its insufficiency,

> "the DSGE model ignored issues that turned out to be key in the 2008 crisis; not surprisingly, the model neither predicted the most important macroeconomic event in the past three-quarters of a century nor provided good guidance as to the appropriate policy responses" (Stiglitz, 2018, p. 90).

An objective economic-political tool for the development as well as evaluation of economic policy initiatives and measures [over a longer period] requires a more reliable basis which need to be much closer to reality than currently used models, especially those DSGE ones.

In a vibrant world with a tremendous variety of actors, who do not only pursue heterogeneous preferences or objectives, but also differ significantly in their characteristics, no representative agent, household or firm reflects this diversity adequately – contrary to what currently used models with their aggregation as well as simplification endeavours suggest. Models of so-called 'mainstream economics' have at least at this point reached their limits – namely to support the provision of reliable real-world policy advices since they cannot, for example, represent the vital essence of the economy as a *complex system,* in which a multitude of interacting individuals "constantly change their actions and strategies in response to the outcome they mutually create" (Arthur 2015, p. X). A realistic representation of economic participants like firms with their usually intricate processes, various dependencies as well as

numerous interactions can, therefore, not be achieved within the limitations of mathematical (deterministic) models that are widely used (cf. Gahlen, 1972). Assumptions made in those 'mainstream models' hardly reflect the economy properly because "as soon as one considers the economy as a complex adaptive system in which the aggregate behaviour emerges from the interaction between its components, no simple relation between the individual participant and the aggregate can be established" (Kirman, 2017, p. 37). Moreover, in today's globalized and thus highly connected world, it is getting increasingly difficult to adequately predict the impact of economic policies – both the desired results as well as the undesirable side effects, when the model just replicates a tiny as well as separated slice of the respective economy.

In contrast to many other sciences like biology or physics, macroeconomics is confronted with the restriction that large-scale experiments on a macro level with real market participants just as firms or social groups are barely feasible due to financial as well as legal reasons and hardly acceptable from an ethical point of view. Though, as Mankiw and Taylor state,

> "there are two major fields of experimentation in economics that are worthy of note. Experiments in economics can be conducted in [1] a 'laboratory' where data can be collected via observations on individual or group behaviour, through questionnaires and surveys, interviews and so on, or [2] through the collection and analysis of data that exists such as wages, prices, stock prices and volumes of trades, unemployment levels, inflation and so on [whereby this second one also includes so-called *natural experiments*]" (2017, p. 21).

However, neither can one cover all research questions by these two types of experiments, nor are they sufficient for a holistic policy advice. The collection of data only illuminates the past but does not represent the future in a sufficient way. Only models allow to predict the future, even if the past might give some highly considerable indications about the future course.

Therefore, the creation and application of models are essential. Sure, models cannot replicate the reality one by one. Simplifications as well as limitations are necessary to a certain extent. Nonetheless, models which simplify the reality with the assistance of convenient assumptions and misrepresenting aggregations lead to distortions and can scarcely contribute to address practical economic policy issues. Moreover, "the danger is that the simplifications bias the answers, sometimes in ways that we are not aware of" (Stiglitz, 2018, p. 90). Fortunately, modern IT can outgrow most of these authenticity barriers as it allows creating increasingly complex models and thus, not requires assumptions aiming at simplifying the model. Today, modern computer technology and growing IT capacities can handle models which come much closer to reality and support to prepare the foundations for objective/wise decisions. As

> "with the aid of computer-based modeling environments, we can simulate complex patterns and better understand how they arise in nature and society. Whereas in many areas of science we have relied on simplified descriptions of complexity – often using advanced mathematical techniques that are tractable and allow us to calculate answers – we can now use computation to simulate thousands of individual system elements […]. This allows new, more accessible and flexible ways to study complex phenomena – we [simply] simulate to understand" (Wilensky and Rand, 2015, pp. 13–14).

Nevertheless, an orchestrated approach is required to harness the forces and opportunities of modern computer technology with the aim to use them for the enhancement of economics.

There is a need to digitize macroeconomic models in order to adequately describe the reality and to create a tool that is capable of realizing economic policy initiatives more successfully.

2. Mastering the complexity of economics with economic architecture

Approaches from the corporate and military world evidence how complexity problems might be tackled well. The use of *enterprise architecture management* (EAM) does provide some revealing insights into corporate operations (e.g. manufacturing processes), organizational structures (e.g. consolidation potentials) or the business ecosystem (e.g. supply chains), and enhances the comprehensive understanding by, for example, shedding some light on hidden contexts. There exists a multitude of definitions about *enterprise architecture (management)*. Generally, *architecture* is in the IT defined as "the fundamental concepts or properties of a system in its environment embodied in its elements, relationships, and in the principles of its design and evolution" (ISO/IEC, 2011). A rather business-related description states that

> "*enterprise architecture* (EA) is a discipline [and/or sometimes also referred as a method or practice] for proactively and holistically leading enterprise responses to disruptive forces by identifying and analyzing the execution of change toward desired business vision and outcomes. EA delivers value by presenting business and IT leaders with signature-ready recommendations for adjusting policies and projects to achieve targeted business outcomes that capitalize on relevant business disruptions" (Gartner, 2020).

In other words, *enterprise architecture* investigates the properties as well as the structure of an organization's elements and the relationships between its individual components. It is therefore intended to be a rather static description of the exact nature as seen from different perspectives due to its various *views*. As an obvious analogy, one might imagine the building plan of a single-family house since it describes in detail a building with all required information for its construction. The key purpose of such plan is to provide a graphic representation of what/how is to be built. Moreover, it should be concise and coordinated to avoid, if possible, ambiguity as well as confusion. It is drawn to scale and encompasses several elevations. So, almost each craft gets its own detailed view to grasp all relevant construction specifications of that house/project, including layouts, dimensions, building materials, as well as techniques.

Apart from the creation of continuous (functional) transparency in order to cope in time with the actual state of affairs, such architectural approach supports the future-oriented alteration of business processes as well as application of technological innovations to steadily changing market conditions and evolving business purposes. Besides its primary focus on information technology, *enterprise architecture* serves as a beneficial analysis method for the entire organization. With an architectural presentation, complex problems can be examined more holistically. Moreover, different levels of granularity are feasible, whereby the depth of detail can be adapted to the respective information needs. An insightful use case which highlights the benefits of *enterprise architecture management* is given by the IT transformation at Dell.

> "In Dell's case the EA team began by establishing an enterprise vision – a blueprint to guide individual projects. This blueprint laid out the structure of the enterprise in terms of its strategy, goals, objectives, operating model, capabilities, business processes, information assets, and governance. Using the blueprint, enterprise architects can now inventory all applications and the

> underlying technology currently in use, and then map the applications to business capabilities to identify omissions and redundancies. Completing an inventory and mapping exercise has revealed overlapping and duplicate applications that are now candidates for consolidation" (Oracle, 2012, p. 3).

Another need for this holistic approach may arise when new technologies for efficiency increases are considered. As an example, one may imagine a company looking for a new industrial control software for the manufacturing process. Before, it should be known which devices must be connected and which resulting requirements the software must meet. The architectural model can provide that information, which makes the project less complicated and costly. The essence of an *enterprise architecture* is provided by purpose-related frameworks, such as *TOGAF Standard* or *NATO Architecture Framework*, which do generally include "conventions, principles and practices for the description of architectures established within a specific domain of application and/or community of stakeholders" (ISO/IEC, 2011).

The application of the *architecture method* might also be suitable and useful with regard to the (macro)economic domain. Similar to the above-mentioned frameworks, it would first be necessary to establish an *economic architecture framework*, by which economies or individual sectors (e.g. industrial clusters) could be described in detail to ensure the connectivity of the models even on a broader level. Due to such modelling conformity and compliance, scientific collaboration would be easily conceivable across different institutes or research projects. In parallel to the formal-mathematical methodology, another scientific language would be created, which could facilitate a more illustrative and comprehensible communication. Thus, even people non-trained in economics could participate in such projects and interdisciplinary research would be promoted. *Economic architecture* may not only substantially increase transparency, it also enables the execution of deep analyses and the raising of optimization potentials. Besides, there is an overarching aspect of *economic architecture* as it may open the path to a comprehensive as well as continuous coordination between requirements of the economic sphere and those of human beings. For it must not be forgotten that the economy should serve humankind while preserving its natural habitat and not the other way around.

3. Close-to-reality simulation of the economy by agent-based modelling

Based on *economic architectures*, so to speak the building plans or blueprints for the next step, industrial clusters or, as a result of intensive modelling endeavours, an entire economy could be even artificially replicated in a quite realistic manner (by assembling all necessary sub models into one large one). *Agent-based modelling* (ABM) or *simulations* (ABS), which so far have delivered impressive results in social scientific research, can serve as simulation software to bring the artificial/replicated economy to life. Briefly, "agent-based modeling is a computational method that enables a researcher to create, analyze, and experiment with models composed of agents that interact within the environment" (Gilbert, 2020, p. 1). In other words, *ABM* facilitates the creation of scalable models with a variety of heterogeneous agents in an adaptive nature. Thus, complex systems can be built in which agents dynamically coexist or cooperate with each other and their surroundings while making situational-adapted decisions based on their individual-programmable characteristics and preferences. From this bottom-up perspective, emergent phenomena can be examined in a vivid way. Also, future-oriented experiments can be carried out in different settings and the outcomes, among others, can be displayed graphically in real time. There are various ways of analysing the results with the existing macroeconomic toolkit in the aftermath, too. *ABM* can therefore be used to

address economic decision-making problems as well as research questions that can hardly be solved with, for example, the classical (regression) analysis and optimization techniques.

A remarkable (practical) example of the insightful application of *ABM* can be found in the modelling of financial markets. *Agent-based financial market models* have thus already proven to be valuable as artificial laboratories to help, for instance, improving the institutional framework by testing regulatory policies (e.g. transaction tax), as these models can mimic well the market dynamics (Westerhoff, 2008). Due to the individually programmable features of modelling very dissimilar/numerous intricated matters and simulating complex systems, the *ABM method* has experienced growing occurrence across various disciplines, just as from biology over physics to traffic science (cf. Wilensky and Rand, 2015). Moreover, *agent-based modelling* is also considered as an appreciated tool for economic policy analysis (cf. Fagiolo and Roventini, 2017) as well as economic policy design (cf. Dawid and Neugart, 2011).

In terms of building such models, one is quite unbound in its modelling opportunities and has therefore a huge variety of options. However, Railsback and Grimm (2019, 7ff.) suggest, for example, to start with a simple model and enhance it, just as the *Scrum Framework* proposes for software development or project management. This iterative and incremental approach is rational because in the beginning, there is barely sufficient understanding of the system and thus, it is hard to decide which elements and contexts, among others, are actually relevant. If prepared properly, *economic architecture* could at this point deliver the model's specifications as well as that required understanding of the respective system. Moreover, this building plan would bring essential transparency as well as conformity into the *ABM* creation process.

A vital tool for *agent-based modelling,* that is successfully used in many fields, is *NetLogo;* an open source and freely available software provided by the Northwestern University. This programming language and integrated modelling environment allows for an easy introduction to *agent-based modelling* as well as *simulation* of complex systems but is also broadly used in academia. It has already been applied to economic problems and could hence showcase its value (cf. Hamill and Gilbert, 2016). In addition, this software (package) provides an extensive model library with many suggestions and comes along with the support from a large community. However, there do also exist several other suitable tools (cf. Abar et al., 2017).

Crucially, *ABM* allows to include insights from modern approaches, as set out in *Prospect Theory* (Kahneman and Tversky, 1979) and *Behavioral Economics* (Thaler, 2016), by giving agents realistic human behaviours and characteristics. This might be done, for example, by implementing relevant cognitive biases and thus bounded rationality. Additionally, *economic field experiments* (cf. Banerjee and Duflo, 2017) could be carried out to identify regional peculiarities. Reasonable microfoundations are required, but not in form of "macroeconomics built on foundations that center on optimizing decisions by households and firms [because] for such an approach to be tractable too much needs to be abstracted from" (Summers, 2018). Consequently, microfoundations must be built on realistic terms to further the understanding of the mechanisms behind economic events aiming at the ability to influence them. This can probably not be achieved with formal-mathematical methods or equation-based modelling and their required unrealistic assumptions (to make mathematics tractable), as mentioned before, like those of rational expectations, as introduced by Lucas (1976). It is crucial to allow a certain level of diversity in economic models which corresponds to the fact that human beings are, among others, quite different from each other and that they are not pure rational utility maximisers. As an enormous advantage, ABM – in comparison to those restrictive, traditional methods – can handle this easily as it is not constrained by such mathematical tractability.

The required data to equip agents and their environment with realistic properties are already largely available through well-established statistical authorities and commercial market research institutes. *Big data* further improves data availability in quality as well as quantity. Of course, it is mandatory that people's privacy rights are observed. Furthermore, as a wide range of jurisdictions today disallow an abuse of data, the same should apply to the models. It must be prevented that this concept is misused to create dangerous dependencies and (quasi-)monopolies, aimed at empowering detrimental market concentration or rent-seeking by misappropriation of this proposed *research tool* and its underlying *collaborative platform*. Henceforth, a balance must be achieved between the required transparency and desirable data protection (keyword *transparent citizen)* in order to generate individual prosperity, global sustainability, and far-reaching equality of opportunity with support of this approach.

4. Interdisciplinary modelling platform for policy analysis and design

The amalgamation of *economic architecture* and *agent-based modelling* could thus establish a *digital twin of the economy,* by which real-world economic activities and phenomenon are realistically simulated and represented, respectively. A technical definition states that a

> "digital twin is a set of virtual information constructs that fully describes a potential or actual physical manufactured product from the micro atomic level to the macro geometrical level. At its optimum, any information that could be obtained from inspecting a physical manufactured product can be obtained from its digital twin" (Grieves and Vickers, 2017, p. 94).

A rather business-oriented explanation generally claims that "a digital twin can be defined, fundamentally, as an evolving digital profile of the historical and current behavior of a physical object or process that helps optimize business performance" (Deloitte, 2017, p. 3). Hence, economic policy initiatives, like measures to endorse or facilitate key industrial clusters, could be experimentally designed and objectively evaluated as well as effectively and efficiently implemented. Various policy alternatives could be run through on such tool/platform and only those that have proven to be fruitful in the test phase may go into the realization phase. This procedure allows an appropriate cost-benefit analysis at an early stage. Additionally, it helps to face subjectivity or fact distortion in political and economic debates. Political initiatives like measures combating the climate crisis or actions furthering the maintenance of infrastructure could be advanced by that rather straightforward set of methods. Hence, governments or citizens' movements could be allowed to apply that *digital twin* to let objectively evaluate their concepts while being able to improve the details. The use of taxpayers' money and the overall benefits of such proposed initiatives for society could be thus easily evaluated against alternatives. Yet, this approach would not only be suitable, among others, for optimizing existing structures and regulations but could also help to design innovative scenarios for less developed regions: Development aid as well as subsidies could be much more beneficially deployed. The current economic crisis due to the coronavirus does provide a good use case for that idea: with the *digital economic twin*, governments could experimentally test different rescue packages for upkeeping and recovery of the economy to see which measures might be the most effective and less costly ones. More specifically, by modelling, for example, the consumer buying behaviour of an entire heterogenous population, one could figure out which (e.g. income or social) groups should be financially supported to realize the highest GDP as well as welfare gains from those endeavours. As a tremendous and pretty unique advantage, reliable and unbiased quantitative advices/recommendations would arise as final results.

Well-maintained and steadily enhanced models of the most relevant economic systems could contribute, among others, to carry out those high-qualitative as well as time-critical analyses, particular, in times of crisis where quick responses are needed. Hence, such model(s) might help to develop internationally coordinated policy recommendations as previously stated. Notably, the interoperability and connectivity between these modelling methods – *economic architecture* and *agent-based modelling* – is of key importance just as it is important that each of this method has its own framework and standards. Yet, "there is a real and major problem with the use of ABM in economics and that is the lack of standardisation" (Hamill and Gilbert 2016, 239). However, if basic modelling conventions and principles were observed, a holistic picture could be created by various contributors over time. In other words, models which are representing different sectors could be combined to create a bigger picture of the economy. This requires a wide range of *standard elements*, or to put it differently, reusable *building blocks*, which specify, among others, certain market participants and market structures. Consequently, such *building blocks* require a broad approval in the research community. Those elements could, for example, represent a group of agents whose psychological or financial characteristics are specified so that they correspond to the current state of research. Hence, for realistic modelling, interdisciplinary cooperation would be vital. Furthermore, widely agreed *standard elements* allow for a high degree of transparency, thereby making it more manageable to evaluate the quality of a model's methodology and the (empirical) relevance of the results obtained. Additionally, the full disclosure of how these single elements are set up and composed is vibrant in order to make them widely usable in the respective community.

Though, it is obvious that such large model could not be created at once. Therefore, it is not proposed to instantly build a *super model* with all real-world elements and relationships, but the idea is about initializing a database with sub models contributed by different originalities, which can then be merged for analysis purposes, research projects or to some extent also for commercial matters. Decisively, the overall quality and consistency of those models as well as control processes are crucial. So, it is central to establish a starting point in form of a *modelling platform*, which means the development of widely accepted modelling conventions, both in *economic architecture* and a*gent-based modelling*, as well as the creation of a *web portal* with underlying *repository* to facilitate the assembly of those different kinds of models.

With that *modelling platform* or *web database*, respectively, in combination with a (distributed) version-control system, the audit-proof administration and editing of models could be handled by many authorized institutes/users. Different levels of confidentiality and access rights would ensure that sensitive data, concerning, for example, critical supply chains, are not publicly available. Moreover, that proposed *centre of excellence* for the *digital economic twin* could also accommodate the evolution of modelling conventions and progress-driven exchange of information. For management and security purposes, that research platform should probably be associated with an independent research organization such as the Max Planck Society.

5. Concluding remarks

New technologies do not just allow innovative business models but also enable economics to overcome its deficiencies (e.g. unrealistic assumptions). Thus, modelling in economics should take advantage of the opportunities in the wake of increased data availability and computer performance because the "unreality of premises is not a virtue in scientific theory; it is a necessary evil – a concession to the finite computing capacity of the scientist […]" (Simon, 1963, 231). Additionally, due to its descriptive, empirical character, such *digital twin* and its

single parts (e.g. program modules or statistical foundations) would satisfy the *Criterion of Falsifiability* (Popper, 1959) and does further prevent *Model Platonism*, which refers to the "immunization against experience as a neoclassical tendency" (Albert et al., 2012, p. 300).

The experimental possibilities as well as knowledge gained from such application would be immense. But the related effort and required IT resources (e.g. access to *high performance computing*) are immense, too. It must be stressed that this concept of the *digital twin of the economy* is by far not intended to promote any kind of *planned economy*. The aim of this proposed tool is to achieve a better understanding of our globalized and complex reality in order to design proper economic policies and successfully implement them. Additionally, hidden optimization potentials or synergy effects could be explored, which empowers a more resource-efficient as well as sustainable economy. Global value chains could be rendered more apparent for public authorities to support them in investigating infringements (e.g. illegal logging or labor law violations). In times of a severe crisis, important supply chains would be analysable in a timely manner and then widely maintainable through appropriate measures.

Finally, the guiding principle of this concept states that the complexity of economics requires a comprehensible modelling approach without mathematical rigor and unrealistic assumptions for practical policy advice. Just as Albert Einstein noted, *you should make things as simple as possible, but no simpler*. With that proposed macroeconomic tool which is based on detailed and realistic microfoundations, even the challenging path to a *Circular Economy (EU, 2020)* could be guided properly. This concept endorses the individual perspective and puts human beings at its centre, so that *humanity in economics* (Pobuda, 2017) might come to prevail. For the purpose of the *social-ecological market economy*, it could further enhance its regulatory framework to promote individual prosperity and global progress amid a liberal society.

References

Abar, S.; Theodoropoulos, G.K.; Lemarinier, P. and O'Hare, G.M.P. (2017) "Agent Based Modelling and Simulation Tools: A Review of the State-of-Art Software", *Computer Science Review*, 24, pp. 13–33.

Albert, H.; Darrell, A. and Maier-Rigaud, F. (2012) "Model Platonism: Neoclassical Economic Thought in Critical Light", *Journal of Institutional Economics*, 8(3), pp. 295–323.

Arthur, W.B. (2015) *Complexity and the Economy*. Oxford: Oxford University Press.

Banerjee, A.V. and Duflo, E. (2017) *Handbook of Field Experiments*. Amsterdam: North Holland.

Dawid, H. and Neugart, M. (2011) "Agent-based Models for Economic Policy Design", *Eastern Economic Journal*, 37(1), pp. 44-50.

Deloitte (2017) *Industry 4.0 and the Digital Twin: Manufacturing Meets its Match*. Available at: https://www2.deloitte.com/content/dam/Deloitte/cn/Documents/cip/deloitte-cn-cip-industry-4-0-digital-twin-technology-en-171215.pdf (Accessed: 27 April 2020).

EU (2020) *Circular Economy Action Plan.* Available at: https://ec.europa.eu/environment/circular-economy/pdf/new_circular_economy_action_plan.pdf. (Accessed: 29 April 2020).

Fagiolo, G. and Roventini, A. (2017) "Macroeconomic Policy in DSGE and Agent-Based Models Redux", *Journal of Artificial Societies and Social Simulation*, 20(1) 1.

Gahlen, B. (1972) *Der Informationsgehalt der neoklassischen Wachstumstheorie für die Wirtschaftspolitik*. Tübingen: J.C.B. Mohr.

Gartner (2020) *Enterprise Architecture (EA)*. Gartner Glossary. Available at: https://www.gartner.com/en/information-technology/glossary/enterprise-architecture-ea (Accessed: 26 April 2020).

Gilbert, G.N. (2020) *Agent-based Models*. (Quantitative Applications in the Social Sciences, 153). Thousand Oaks, CA: SAGE.

Grieves, M. and Vickers, J. (2017) "Digital Twin: Mitigating Unpredictable, Undesirable Emergent Behavior in Complex Systems", in Kahlen, F.-J., Flumerfelt, S. and Alves, A. (eds.) *Transdisciplinary Perspectives on Complex Systems: New Findings and Approaches.* Cham: Springer, pp. 85–113.

Hamill, L. and Gilbert, G.N. (2016) *Agent-based Modelling in Economics*. Chichester, West Sussex: John Wiley & Sons.

ISO/IEC (2011) *Systems and Software Engineering – Architecture Description* (Standard No. 42010).

Kahneman, D. and Tversky, A. (1979) "Prospect Theory: An Analysis of Decision under Risk", *Econometrica*, 47(2), pp. 263–291.

Kirman, A. (2017). "Complexity and Economic Policy", in Love, P. and Stockdale-Otárola, J. (eds.) *Debate the issues: Complexity and Policy Making.* Paris: OECD Publishing, pp. 36–38.

Lucas, R.E. (1976) "Econometric Policy Evaluation: A Critique", *Carnegie-Rochester Conference Series on Public Policy*, 1, pp. 19–46.

Mankiw, N.G. (2006) *The Macroeconomist as Scientist and Engineer*. Cambridge, MA: National Bureau of Economic Research.

Mankiw, N.G. and Taylor, M.P. (2017) *Economics*. Andover, Hampshire: Cengage Learning.

Oracle (2012) *IT Transformation at Dell: An Oracle EA Case Study*. Available at: https://www.oracle.com /technetwork/articles/entarch/oea-dell-case-study-1521201.pdf (Accessed: 26 April 2020).

Pobuda, P. (2017) *Humanity in Economics*. München: Studylab.

Popper, K.R. (1959) *The Logic of Scientific Discovery*. New York, NY: Basic Books.

Railsback, S.F. and Grimm, V. (2019) *Agent-based and Individual-based Modeling: A Practical Introduction*. Princeton, NJ: Princeton University Press.

Romer, P.M. (2016) *The Trouble with Macroeconomics*. Available at: https://paulromer.net/the-trouble-with-macro/WP-Trouble.pdf (Accessed: 25 April 2020).

Simon, H.A. (1963) "Problems of Methodology", *American Economic Review*, 53(2), pp. 229–231.

Stiglitz, J.E. (2018) "Where Modern Macroeconomics Went Wrong", *Oxford Review of Economic Policy*, 34(1-2), pp. 70–106.

Summers, L.H. (2018) "The Financial Crisis and the Foundations for Macroeconomics", *Washington Post,* Available at: https://www.washingtonpost.com/business/2018/09/13/financial-crisis-foundations-macroeconomics/ (Accessed: 15 April 2020).

Thaler, R.H. (2016) "Behavioral Economics: Past, Present, and Future", *American Economic Review*, 106(7), pp. 1577–1600.

Westerhoff, F.H. (2008) "The Use of Agent-Based Financial Market Models to Test the Effectiveness of Regulatory Policies", *Journal of Economics and Statistics*, 228(2-3), pp. 195-227.

Wilensky, U. and Rand, W. (2015) *An Introduction to Agent-based Modeling: Modeling Natural, Social, and Engineered Complex Systems with NetLogo*. Cambridge, MA: MIT Press.

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Heterodoxy, positivism and economism.
On the futility of overcoming neoliberalism on positive grounds

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Abstract
Though with a delay of almost one decade, the prevalence of the unitary paradigm of neoliberal-neoclassical economics, which just seemed to have been called into question after the great financial crisis of 2007, is challenged today more severe and from diverse sites. The number of heterodox voices and dissenters is rising. However, there is a mainstream of this heterodoxy, and this heterodox mainstream considers itself as the truly positive economics, operating, at long last, "free of ideology" (Stiglitz, Peukert, Rochon/Rossi), i.e., value free and "neutral", striving to overcome the unitary paradigm and its ideology by an "empirical turn" (Naidu/Rodrik/Zucman).

The overall thrust of orthodox economics, obfuscated by declarations of its own value-freedom, is and has ever been to render the market principle as the true principle of practical (ethical) reason, i.e., of rightness as such, which is the meaning of economism. This is the prerequisite of the orthodox desire to offer an ethical justification for the economization of the world and our lives in all respects. Any deviation is called "irrational". A merely empirical oriented heterodoxy, if it is to be called heterodox economics at all, is not capable of refuting this normative validity claim, and, thus, overcoming orthodox economics – though the strong impression is that it wants just that. In spotting its sole difference to orthodoxy in empirical matters, positivist heterodoxy, at best, comes down to the paradigm of market failure, which is ambiguous in its political implications and which, when construed with the highest degree of inner consistency, results in continuing and even strengthening the project of economizing all life matters.

Also, a positivistically constricted heterodoxy fails to recognize that any purely positively oriented social science is in fact a variant of economism, be it in the form of a general instrumental science, transforming science into a business, or in the form of the paradigm of counterproductivity, demonstrating "empirically" that the refusal to market obedience is always in vain and detrimental to those who try. For overcoming economism and market fundamentalism, an ethical turn is needed.

Contents

* PD Dr. Ulrich Thielemann, MeM – Denkfabrik für Wirtschaftsethik, Berlin, Elaboration of the lecture "Heterodoxe Ökonomik jenseits von Ideologie und ethisch-normativer Ideologiekritik? Das ethisch-kritische Paradigma von Ökonomik" held on March 2, 2019, in the context of the conference in honor of Karl-Heinz Brodbeck with the title "Wissen und Nichtwissen der ökonomisierten Gesellschaft. Aufgaben der Politischen Ökonomie im 21. Jahrhundert", Cusanus University, Bernkastel-Kues, Germany. The German version of the text will be published in Ötsch, Walter Otto, Steffestun, Theresia (Hg.): Wissen und Nichtwissen der ökonomisierten Gesellschaft. Beiträge zu einer neuen Politischen Ökonomie, Metropolis Marburg 2020 (Band 13 in der Reihe "Kritische Studien zu Markt und Gesellschaft").

1. The Status of normativity and its dependence on categorically different cognitive interests

Within the social sciences (economics included), there is a great deal of misunderstanding about the status of normativity in addressing the social world (which of course includes "the economy"). This can be illustrated by the predominant understanding of business ethics which is, if the idea of an explicit link between "economy" and "ethics" is not rejected from the outset,[1] routinely understood as an "applied ethics".[2] In this view, "ethics" does not stand for rightness as such, not for the correct, ethically appropriate interpretation and assessment of the economy as a part of the social world, but for a special set of norms that originates from tradition and for which professional "ethicists" are responsible today. This shrinking form of business or economic ethics (as the ethics of economics), understood as an "applied ethics", seeks to show how and whether "de-contextualized" (Habermas 1991, p. 24) norms founded in general ethics, or "preferences" somehow classified as "moral", *can be* "applied" to the economy.[3] Economic ethics then becomes a "reflection on the possibilities and limits of normative regulation of the actions of economic actors" (Heidbrink/Lorch/Rauen 2019, 125).[4] The logical consequence of such an ethics "under the conditions of the modern economy" (Homann/Blome-Drees 1992, p. 14) is that the existing market power relations are acknowledged (and thus generally legitimized) in their dynamics by hypostasizing them as a quasi-natural "fact".

And then it can either turn out that the norms in question are "applicable" or "realizable" "under the conditions" of competitive markets' reign, or that they are not. In the first case we are dealing with the "Business Case for Ethics", or with an ethics of "win-win", which dominates practically the entire discussion under the heading of "business ethics" and also large parts of the political discussion, with regard to the former at least until recently.[5] The advocates of this thinking call out to us: acting responsibly is "possible" also in the business world, it is even necessary in order to be truly, and not putatively, acting myopically,

[1] In 1991, the faculty (obviously of the Department of Economics) at the London School of Economics saw "no correlation between ethics and economics" and rejected a donation for a Chair in Business Ethics. Mofid 2015.
[2] Cf. Aßländer 2011, Aßländer/Schumann 2011, Göbel 2006, 75, Holzmann 2015, Reichert 2013.
[3] Cf. on the criticism of the concept of "applied ethics" Ulrich 2016, 103ff., Thielemann 2000, 2001.
[4] All translations of German texts in the following are by the author.
[5] Criticism of the win-win ethics of the business case, i.e. the assertion that it pays off to do what is ethically right or required, usually with the add-on: "in the long-term", is recently rising. Cf. on the mostly empirical (instead of validity-logical) criticism Kuhn/Weibler 2011, Reyes/Scholz/Smith 2017, Shapira/Zingales 2017, Boda/Zsolnai 2016, Pennekamp 2019.

successful.[6] In the second case, the "illusion" (Karl Homann) of any attempt to moralize or, in the sense of Polanyi, to embed markets becomes apparent. This "discovery" (Hayek 1982, 65ff.), however, ultimately only confirms the higher morality, or the "superindividual wisdom" (Hayek 1960, 110), of the market principle. This thinking finds its most widespread expression in the assertion not only of the ineffectiveness, but even of the "counterproductivity" of "well-meant" intentions when pursued "under the conditions" of the mundane rule of the market principle.[7]

The alternative to such hypostasizing, uncritical thinking is an ethically grounded economic theory. Ethics is about the rightness (justice, fairness) of human relationships. Such a novel economic theory aims at the critical clarification of the relationships between people in the interaction-nexus called the market from an ethically reflected point of view: In which particular, possibly problematic way do the economic actors, the participants and the affected parties of the competitive market, put themselves in relation, or are put in relation, and then: by whom? Market relations are relations between people.[8] And relationships of interaction, relationships between "us humans", must first and foremost be just – and not "efficient". Economics, or any academic endeavor to study "the economy", it is argued here, inevitably draw an affirmative or critical picture of the specific interaction relationship that a market economy is. To draw a "neutral" picture, as self-proclaimed "positive" economics claims for itself, would be an affirmative and thus a normative image, because it gives the message that ethically everything is in order (Thielemann 2010, 67f., 2009, 98ff.). The inevitably normative message of any economic theory is given to political addressees (students, politicians, the general public), which at the same time also form its subject area.[9] Therefore "economics is ethics" (Brodbeck 2002a) – for better or for worse.[10] Which term is chosen for such an economic science that critically reflects its own inevitable normativity is of secondary importance. Possible terms are Integrative Economic Ethics (Ulrich 2008), Ethical-Critical Economics, Political Economy, or Social Economics.

In order to illuminate and classify the paradigmatic counter-positions sketched so far, the "classical" theory of three types of fundamental cognitive interests and corresponding, categorically different types of knowledge, developed by Jürgen Habermas (1971), is still instructive. In the following, it will be presented in slight modification and without any anthropological validity claim. What is the purpose of economic research? What is the type of its validity claim? What kind of knowledge does it create? To these questions, which are hardly ever asked, the theory of cognitive interests can provide answers and contribute categorical classifications.

Habermas (1971, p. 308f.) assigns a "technical cognitive interest" to positive (not necessarily nomological) social sciences.[11] They understand their subject as an ensemble of causal

[6] In fact and inwardly consistent, however, legitimacy here is defined by profitability, i.e., redefined in line with the logic of the market. Cf. Thielemann/Wettstein 2008. This validity-logical argument is also found in Aßländer/Nutzinger 2010, 230.
[7] Cf. section 5.
[8] The understanding of economics as Social Economics is based on this actually trivial fact. Cf. for example Elsner 2015, p. 235.
[9] This is the core of the performativity argument. Cf. Callon 1998, MacKenzie, et al. 2007, Ötsch/Pühringer/Hirte 2018, 19ff., Ferraro/Pfeffer/Sutton 2005.
[10] The similarities and differences between the approach of Karl-Heinz Brodbeck and the ethical-integrated approach (Integrative Economic Ethics) are expounded in Thielemann 2019.
[11] The natural sciences are disregarded here. Basically, their cognitive interest must be a technical one.

relations which are "the case" (Wittgenstein) and ask for the *truth* of statements about them.[12] The "practical" as well as the "emancipatory cognitive interest", on the other hand, understand their subject area as a context of meaning, or as a life-world, and inquire after the correctness of the circulating interpretations of the social world, and in the end they are concerned with the question whether the present courses of action are right or wrong, legitimate or illegitimate. The "practical cognitive interest", as it is understood here, aims essentially at legitimizing the existing social order, including the dynamics of change incorporated in that order. The "emancipatory cognitive interest", as it is understood here, aims at critically questioning the legitimacy of the existing social order and its inherent dynamics. Both normative (instead of "positive") research orientations do not exclude the possibility that the object of investigation is at least partially determined by causal relationships that are not embedded in contexts of meaning, i.e., that they are systemically structured.[13]

1.1 Positive economics

Neoclassical standard economics declares itself as a "positive" science, conceptualizing the economy as a given causal relationship or as an ensemble of "facts" (i.e. power relations). The determination and conceptualization of these facts is deemed to be "value-free". This kind of theory aims at "explaining" the causal relationships between these facts. Classical "neoclassical" representatives of this view are Lionel Robbins (1945) and Milton Friedman (1953). The claim of value-freedom means that what positive economists say is deemed to be beyond any moral doubt and their statements ethically unimpeachable. The claim can be found in the textbooks of Mankiw (2008, 30ff.) or Samuelson and Nordhaus (2006, 6), also, for example, in topical contributions on questions of income and wealth inequality (Fratzscher 2016, 71, 77ff). Levitt/Dubner (2006, 11) succinctly formulate this self-image in this way:

> "Morality represents the way we would like the world to work, and economics represents how it actually does work."

However, as we have known since Max Weber (1949, 72, 80ff.), the description of the "functioning" of a causal social structure presupposes "particular points of view" which are, of course, normative and obviously have, as for instance in the notion of a "functioning market economy", the purpose of justifying the existing order (in its dynamics). However, this would mark the "practical cognitive interest".

This does not mean that a positive social science, and thus positive economics, merely determining what is objectively the case (and thus true), were not possible. However, there is a practical (normative) sense of such a quest of knowledge here too. It is the generation of "instrumental knowledge [Verfügungswissen]" (Mittelstrass 1982, 19f., Apel 1979, 29, 234), that is, the increase of "the technical control over objectified processes" (Habermas 1971, 309). For without knowledge of existing causal relationships, whether in the natural or in the social world, without knowledge of the "constraints", it is not possible to intervene successfully in an existing causal nexus. Because homo oeconomicus already knows his preferences, what is lacking alone are information about the objective, or objectified, world in order to know which interests can be, and how these can be, enforced against resistance in order to maximize his own privately defined utility. Homann/Suchanek (2005, 347) express the internal

[12] The three cognitive interests correspond to the three basic validity claims truth, rightness and sincerity, Habermas first set forth in his 1971 Gauss Lectures (Habermas 2001, 85ff.).
[13] On this fundamental distinction between system and lifeworld, also based on Jürgen Habermas, see Thielemann 2019, 364 ff., and the literature cited there.

connection between the positive identification of objectified causal relationships and the instrumental will to dispose of them through the formula "explaining for the sake of making [Erklärung zwecks Gestaltung]". Therefore, the categorical separation, which can be found as early as in John Neville Keynes (1917, 12f., 22) and in Walras (1896, 11ff.), between "positive science" committed to "truth" on the one hand and "art" on the other, which is supposed to generate "recipes", i.e. to provide instrumental knowledge under the aspect of its "usefulness", does not make sense. Correspondingly, Walras (1896, 13) notes:

> "It is the arts that make the truths that science has discovered useful, and that, without the arts would remain sterile. It is also almost always the principal motive of the work of science. Mankind rarely studies solely for the pleasure of having knowledge; he has, in general, a goal of usefulness for his work, and this goal can only be achieved by the arts."

1.2 Market affirmative economics

Market affirmative economics is tacitly or declaredly normative. The tacit variant, which imagines itself as a "positive and thus value-free" theory, can be understood as an "implicit ethics" (Brodbeck 2003). The explicit variant can be found, for example, in the economic theory of Karl Homann (1989, 48), which is explicitly represented under the title "economic ethics". Homann declares his approach as a "foundation of morality from interests" – which means: as theory justifying *the* interest orientation, *the* rationality of success, or of homo economicus as the pinnacle of the moral principle. The representatives of the Austrian School, Ordoliberalism and Public Choice can also be classified here, insofar as they admit the normativity of their own statements.[14]

Market affirmative economics, or economism, aims at enthroning the market principle, or the principle of competition, in all aspects of life, thus arguing systematically towards the progressive economization of our lives. A cognitive interest in the "preservation and expansion" of a "self-understanding derived from tradition", which Jürgen Habermas (1971, p. 310) characterized as "practical", is only present here in so far as economistic views are already widely established, which in times of the ubiquitous dominance of neoliberalism is quite probable. It is also conceivable, however, that market affirmative economics could establish itself as a critical, at least not affirmative science – namely, when economistic views have not yet sufficiently established themselves in common believes or in the thinking of the addressees of the theory (in fact, the elites), so that opposition can be expected from there. This was the case, for example, for the particularly market affirmative Austrian strands of economics in the 1920s, when the Historical School was still the mainstream within economics (see Ötsch 2019, 101ff.). Even then, however, this doctrine served interests with market power or financial strength (ibid., p. 104f.), which Weber (1968, 730) calls "parties interested in power in the market" because their interest is that ultimately only market power (financial power and the ability to obtain it) matters.[15] As in the (pure) market only power rules – the negative power of withdrawing benefits previously granted, i.e., choosing the exit-option – in other words: as "markets run according the 'one-dollar-one-vote' rule" (Chang 2014, 393), market-affirmative economics here is classified as falling into the second category of a

[14] Cf. Willgerodt 2009. Willgerodt (1924-2012) was a member of the Mont Pèlerin Society and the Friedrich A. von Hayek Society.
[15] The original German term is "Marktmachtinteressenten", and a better translation would be: "people interested in market power".

cognitive interest, which Habermas calls “practical” (it might also be called “conservative”) and which here is termed affirmative.

The “practical” (affirmative) cognitive interest aims at generating eo ipso normative “orientation knowledge [Orientierungswissen]” (Mittelstrass) or “knowledge of understanding [Verständigungswissen]” (Apel 1973, 68, 73), but with a counter-enlightening intention: it acts as a supplier of ideology, legitimizing existing power structures and the dynamics resting in them. Market affirmative economics is to be called an ideology because the advocacy of the market principle to reign supreme firstly serves the “people interested in market power” (Weber) and secondly because and in so far it is already pre-decided. Opposing views, relativizing pro market arguments, are not taken seriously from the outset as they would cast doubt on the bindingness (rationality) of the notion that the market principle should rule.

1.3 Market critical economics

Market-critical economics is concerned with the critical reflection of the notion that the market principle should reign supreme, which includes the inclination to declare only market-based arguments as relevant. It wants to sort out what is ethically at stake when the market logic unfolds. The type of knowledge it provides is orientation knowledge, or more precisely: “reflective knowledge” (Karl-Otto Apel). The cognitive interests of market-critical economics is emancipatory. This emancipatory thrust is needed first, as economism is difficult to comprehend and thus the examination of its (implicitly normative) validity claims is highly demanding, second, as the unfolding of the logic of the market also creates pressures from which it might be worth to emancipate ourselves.

2. Heterodox economics as the true positivism?

It took almost a decade that, after the great financial crisis that began in 2007, the dominance of the neoliberal-neoclassical paradigm began to being increasingly questioned. The number of heterodox voices is increasing. However, the mainstream, if one can say so, of this heterodoxy sees itself as the truly positive economics. The neoclassical mainstream is classified by Stiglitz (2002) – not a heterodox, but, after all, a dissenter – as an “ideology”, not as a “science” (Stiglitz 2002). Also, Helge Peukert (2018a, 2018b), surely a heterodox economist, places his critical review of current microeconomic and macroeconomic textbooks under the guiding question: “Science or Ideology?”

“Ideology” here is understood positivistically as any kind of normative judgement, whether affirmative or critical. From the standpoint of the positivist program, normative judgments or “ideologies” have the detrimental effect of “obfuscating” the identification of “the facts” (Rochon/Rossi 2016, 25). In contrast, “ideology” in the ethical-critical understanding is a justification of existing power relations and corresponding interests, without this justification claim being able to be ethically redeemed when subjected to critical scrutiny. Of course, there is no “objective” concept of an ideology. In contrast to quite normal (also academic) controversies about the judgement of the social world as well as structuring it in the case of “problems” – that is what ethics is all about –, however, the claim to characterize a position as “ideological”, and thus morally wrong, is compounded by the feature that the justification claim

in question is obtained by means of unfair tricks – for instance by omitting conflicting facts,[16] by concealment (Hedtke 2015, 24) or the distorted presentation of counter-positions and thus by the lack of willingness to controversy, and in particular by obscuring one's normativity through the declaration of one's own position as "value-free", and thus through immunization against criticism.

Steve Keen (2011, 35, 158) also sees in the neoclassical mainstream not a "science" but a "religion" that draws a "mythical" picture of "reality". If economics wants to become a "true science", it must be measured by the "accuracy of its predictions", i.e. it must correspond to the ideal that was "first demanded by Milton Friedman". If economics wants to become "a rigorous discipline", heterodox economist John Komlos (2019, 3) contends, its statements must be "based essentially on verifiable empirical evidence". Economics as a "critical pluralist" endeavor should strive solely for "judgments about what is true", i.e. "which of the contesting ideas explains the observable facts best" (Freemann 2009, 9f.). Arne Heise (2016), a German heterodox economist, argues that the only criterion for excluding an economic position as unscientific is the "applied positivist fallibilism", i.e. the "empirical falsification" of its statements, which can therefore only be hypotheses about cause-effect relationships. Those, who demand "ethical reflection" by the discipline, demand "interdisciplinarity", not "plurality".[17] Heise must assume that economics, as an academic discipline, must be regarded as value-free. In the words of Friedman (1953, 4): The validity claims of genuine economists are "independent of any particular ethical position or normative judgment". Also, economics, as such, needs to be kept free of normative reflections. At best, these would have their place in an external discipline like business ethics or economic ethics, albeit it would remain unclear how these would relate to each other. What is only clear is that, from a positivist standpoint, ethical reflections should not affect the specific economic validity claim. Also, heterodox economist Helge Peukert (2018a, 52f.) assigns "normative approaches", which may operate under the header "economic ethics", to the "neighboring disciplines" of economics. Strictly speaking, these would be just supporting disciplines, because they have the purpose of increasing the explanatory power of economics in its quest for capturing "causal laws".

The "ultimate motivation" for Helge Peukert's (2018a, 13) critical examination of the neoclassical mainstream is an "economic ethical concern". This possibly applies to many, if not to most of the heterodox critics.[18] This makes sense. For if neoclassical orthodoxy is ideology (in the non-positivist sense), then there is no way to refute its validity claims without ethical reflections. But on the contrary, Peukert does not attribute normativity (critical or affirmative) to the theory itself, but to its "pre-analytical" or "pre-scientific assumptions about the subject area" (pp. 17, 63). Normativity is "external to theory" (p. 48f.). Contrary to their "scientific" claim to limit themselves to "factual statements", the neoclassical mainstream textbooks were "ideologically colored" in an "unexpected" way (p. 315, 324). Namely, they were pervaded by "market-apologetic" (p. 112) or "market-affine viewpoints" (p. 8) and thus afflicted with normative judgments that were to be located "beyond academia and beyond neoclassical theory" (p. 315). In many cases "neoliberal-conservative conclusions" were to be

[16] This is the moment of "untruth" in Hans Albert's definition of ideology as "usefulness" for stabilizing existing power relations. Cf. Albert 1972, 125f.
[17] According to Heise, ethical-critical approaches that expressly do not declare themselves to be "value-free", for example in the sense of a truly Political Economy or a Practical Social Economy, *a priori* are not among the possible paradigms which in the course of the pluralistic renewal of economics, for which Heise pleads, should be included in the circle of approaches to be discussed and contested.
[18] Heise/Sander/Thieme (2017, 77) also attest "almost all heterodox theory schools" a, as they call it, "market-critical heuristic" – as if this were an odd coincidence. ("Almost", because the Austrian School of Economics and Ordoliberalism are also considered heterodox schools of thought.)

found “that go far beyond microeconomic questions” (p. 324). These were “private opinions” which were “unobjectively” (since scientificity is merely pretented) “foisted” to the students (p. 171).

Thus, positivist heterodoxy believes that the principled market affirmation of neoclassical economics – and by the way also already, albeit with some concessions, of classical economics[19] – is a “theory-external” (Peukert) accident, but mainstream economics in its core, cleaned of these impurities, is a “positive” theory “independent of normative judgements” (Friedman). In contrast to the view I argue that the *validity claim* of the orthodox, i.e. neoclassical economics itself (with some qualifications already of the classical economics), i.e. what Albert (1980, 63 ff.) calls their “context of statements [Aussagenzusammenhang]”, is in fact normative and always has been: The market principle should rule. The only controversial point is what exactly are the characteristics of the market principle and what are the preservation conditions of the market logic to rule.[20] For the general theory of equilibrium (textbook economics), the model-formalistic proof of the existence of a “market-clearing” and “stable” equilibrium, which is seen as the central feature of the market regime, is tantamount to the “proof of the optimality of a market economy" (Elsner 2015, 237) and considered as the prerequisite “for the belief in ‘the market’” (Ötsch 2019, 397), i.e. for the justifiability of the market principle to rule the world.[21] For the Austrian school of economics, which is more in the Menger rather than Walrasian line of neo-classical economics, the central characteristic of the, therefore dynamic, evolvement of the market logic it is not the existence of equilibria but the “entrepreneurial discovery” (or creation) of disequilibria, which is brought to bear in the “defense of the market” (Huerta de Soto 2008, 31) as the “the obvious and simple system of natural liberty” (A. Smith), which moreover maximizes “the total product” (Hayek 1979, 14).[22] In both cases, we are thus dealing with a “practical cognitive interest” (in the above sense), and thus with a normative claim to validity. There are systematic or “logical” (Myrdal 1958, 1) reasons for this, which can be developed in a meaning-critical way.

Economists, like other social scientists, want to show something. They have something *meaningful* to say about their subject area, affirm the existing logics of action or possibly critically examine them. In short, they want to generate orientation knowledge. Robert Heilbroner (1973, 139) also sees it this way:

[19] Cf. on the “classical dogma”, the normative core of which was continued and enhanced in the neoclassical period, Brodbeck 1996, 6ff, 325. The essential difference between classical and neoclassical economics may be seen in the fact that the former strives for an external and insofar critical criterion of evaluation for us (the addressees of the theory) for empirically existing markets (especially with regard to the question whether the income of the market participants represents value creation or value extraction), whereas the latter, on the other hand, wants to establish the market conformity of interaction relations itself as the principle of evaluation for us (so that, for example, that which achieves a price should be considered “value-creating” for us). On this reversal of the view, see Mazzucato 2018, 7, 65f., 140f.

[20] Wolfram Elsner (2015, 233), for example, sees in the “orthodoxy” of the “dominant (neoclassical) mainstream ... *the* ideology producer of the capitalist economic society par excellence”.

[21] Cf. on the technical – and crashing – failure of this attempt of mathematical equilibrium theory according to its own standards Ötsch 2019, especially p. 369ff., and the extensive literature mentioned there; moreover, briefly and concisely Elsner 2015, 236f. The perseverance of this specific attempt to justify the market principle to reign supreme can probably be explained by the prestige enjoyed by the mathematical form with which this theory is proclaimed. It signals “scientificity” (cf. Ötsch 2019, 172).

[22] For Hayek, this utilitarian maximization of overall utility is not a social goal, but is said to result from the desired rule of the principle of competition. Cf. Thielemann 2010, 296 ff.

> "I would venture the statement that every social scientist approaches his task with a wish, conscious or unconscious, to demonstrate the workability or unworkability [rightness or wrongness, author's note] of the social order he is investigating."

By its very intention, economic theory is in fact normative and not "value-free".

> "In the economic thinking and acting normativity has always been resting." (Ulrich 2004, 134)

This, however, is of no concern to positivists. That there cannot be, for the reasons mentioned, an "disinterested social science" (Myrdal 1958, 1) is admitted, but the "value premises" (Myrdal) are assigned to the "basic area" (Albert 1980, 63ff.); they are just "value *premises*" *of* the positive, value-free "explanation" of factually existing causal relations, whereby the sole aim is to minimize the influence of those "distortions" on them. This is how Peukert (2018a, 17) seems to interpret the Myrdal passage so that normativity is still to be located outside the actual theory, whose validity in itself can and should remain independent of those normative "value premises". Whether this interpretation meets Myrdal's (1958, 1f.) actually sometimes ambivalent position, however, is questionable, especially in view of his thesis of the "value-loadedness" of the "very concepts" with which we first bring the object to our and the reader's consciousness as something, as this, not as that.[23] The positivist externalization of the question of conceptualizing the subject matter is not only shown by the fact that one routinely sees a contradiction between "descriptions" and "prescription" (cf. critically Söderbaum 2019, 183), but also by the fact that one downgrades it to a question of "framing" (Peukert 2018a, 316 and the literature cited there), so that the sense (or nonsense) transported by the theory becomes a question merely of how the actual theory, which is regarded essentially as value-free, is "framed" (presented). In the preface to the English Edition of his 1932 book "Das politische Element in der nationalökonomischen Doktrinbildung", Myrdal (1953, vii) repudiated his former view "that when all metaphysical [normative] elements are radically cut away, a healthy body of positive economic theory will remain, which is altogether independent of valuations." Such an "implicit belief in the existence of a body of scientific knowledge acquired independently of all valuations" he now rejected as "naïve empiricism".

The first objection to the positivist illusion of a value-free, ethically neutral social theory, no matter whether it considers itself orthodox or heterodox, thus refers to the *merely apparent* positivist nature of an unacknowledged normative theory, aiming at the justification or possibly also at the rejection of prevailing circumstances and views. The second objection to positivist heterodoxy (or even positivist orthodoxy, although it is questionable what the systematic difference between the two is) is less significant, but systematically more serious. It is less significant because the case that a social theory (about economic activities on markets) is developed without the advocate of this theory subjectively raising a normative validity claim (showing that what is going on, in whatever respect, is right or wrong; or that circulating views on the current state of economic affairs are right or wrong) is hypothetically conceivable, but is hardly ever likely to be pursued. One would have to ask what should motivate this researcher, what would be her cognitive interest. One possibility would be a moral obligation to make "the truth" about the economy as a quasi-naked economic context accessible to the addressees of the theory. And here too the question arises: Which causal relations and which

[23] Cf. in detail Thielemann 2010, 104-130.

aspects of them are “relevant” or interesting and for whom? Somewhat more likely is the second motivation of a purely positive theory, the direction of which, as we have seen, must be a technical one: The theory would become a mutually advantageous business, the addressees would become the customers of the theory, who would be provided with instrumental knowledge. What is “relevant” is then shown by the addresses’ (as customers) ability to pay. I have described this view elsewhere as a consultancy theory (Thielemann 2010, 83ff., 101, 105f.). The second objection is systematically more serious, because even purely positive economics could not be regarded as value-free, as will be shown (see section 5).

In the following, the factual normativity of the neoliberal mainstream will be outlined briefly, not on the grounds of an allegedly purely positive theory (positivist ideology critique), but with an ideology-critical thrust that normatively rejects falsely claimed justifications (section 3). In section 4, the peculiar hybrid position of the (dominant) positivist strand of heterodoxy, which tacitly takes the normative standards of assessment of the mainstream for granted and questions their empirical validity alone, is elaborated: the market failure paradigm. The problematic normativity of a truly positivist economics reveals itself in the counter-productivity paradigm (section 5).

3. Neoclassical economics as market ideology

The German economist Friedrich Breyer (2008, 129) characterizes “the economists” (which apparently means all, at least all German-speaking professors) as “the most resolute advocates of the market”. (The advocates of the market failure paradigm would disagree; however, they hold hardly any professorships, at least in Germany. Moreover, in a certain sense they too are “advocates of the market” (cf. section 4). – And, of course, those who see this differently must not plead for “socialist planned economy” (Breyer 2008, 130), as this the binary thinking of many advocates of the market principle insinuates.[24] Rather, and quite obviously, the focal point of their argumentation might be a Social Market Economy in the true meaning, i.e. market interaction relations within which the market logic is socially and ecologically tamed and which can therefore be regarded as “embedded” (Karl Polanyi). Cf. Thielemann 2020.)

Even a good 10 years after the financial crisis, faith in the market continues to maintain its position among the experts advising politicians and shaping public opinion on the economy. This is shown by a statement of four of the five members of the German Council of Economic Experts, in which they (against the criticized fifth in the group, Peter Bofinger) blithely expressed their and all serious “economists’ love of the market” (Feld/u.a. 2017). (The alternative would of course not be hatred, but a distanced, unprejudiced view.) Here it is maintained that “trust in market processes” (Sachverständigenrat 2014) – apparently in turning everything for the good – is not merely an external “worldview smuggled into theory” (Peukert 2018a, 21). Rather, it forms the thrust of the entire neoclassical program (Austrian economics included) and marks its validity claim and its message to its audience. Lawrence Summers, Harvard Professor of Economics, Chief Economist of the World Bank, Secretary of the Treasury under Bill Clinton, one of the architects of financial sector deregulation, confessed in 1991:

[24] Cf. to numerous proofs of this thinking from the circle of economists, which leaves us only the choice “between capitalism and the Gulag” (Bregman 2019), Ötsch (2019, 29ff., 65, 160f.).

> "The single most important thing to learn from an economics course today … is the view that the invisible hand is more powerful [in advancing what is good, author's note] than the [un-] hidden hand… That's the consensus among economists" (Quoted in Chen/Hanson 2004, 12).

Even Dani Rodrik (2015, 186), critic of "hyperglobalization", considers the "invisible hand theorem" (which boils down to the legitimization of unconditional striving for success, classified by economists as "rationality") to be the "most significant achievement of the economic sciences". This position, this special (market-affirmative) economic ethics is marked by economists with "the economic view", which is placed next to other, inevitably also normative views[25] – and is of course represented suggestively with the claim of normative "superiority". With the authority of a science based on "expertise accumulated over centuries" (critically Ötsch 2019, 159), economic-ethical messages like the following are then proclaimed (Mankiw 2008, emphasis added):

- "*Rational* people" act as utility or profit maximizers (p. 6).[26] Correspondingly, the reading of the book "will make you a more astute participant in the economy" (p. ix).
- Open markets, or "trade", "can make everyone better off" (p. 9) – why just "can"?
- There is a "miracle of the market" (p. 153). The "magic of markets" is that "we can each work for our own self-interest and still produce a desirable social outcome" (Mankiw 2008, p. 14, quoting approvingly the former president of the Federal Reserve Bank of Dallas, Robert D. McTeer, Jr).

Why is this normative program of rising the market principle to the moral principle (practically-politically via Mont Pèlerin Society, cf. Walpen 2004, Ötsch 2019, 144ff.) an ideology or even, as Peter Ulrich (2008, 6) puts it, "the ultimate and perhaps most powerful major ideology of all time" – apart from the often accompanying immunization strategy of claiming its own "neutrality"?[27] Why is it a wrong ethic? In the following, some brief, systematic remarks on this are presented.

3.1 The Defense of homo economicus violates the moral principle

Ethics in the Kantian tradition is not just about a set of certain *norms*, but about the clarification and establishment of a *principle* of practical reason, i.e. correct (just, legitimate, responsible) practice, embracing individual actions (individual ethics) and political rules and regulations (political ethics). Practice refers to human action in general. Ethics and practical philosophy are synonyms.

Economic theory traditionally defines practical reason as instrumental reason or success rationality and calls this simply "rationality" – and not, for instance, "greed" or, with regard to

[25] For Schmidbauer (1974, 57) it is, after all, "undisputed that assessments from the so-called 'economic point of view' are not value-free".
[26] "Every conception of rationality has a normative significance, as it determines how people ought to act rationally", i.e. in a justifiable manner. Cf. Ulrich 2008, 79.
[27] Marcel Fratzscher (2016, 13) manages the feat of presenting "the economic perspective" on one page of his book first as a value-free perspective from which alone "causes and effects" (on whatever) would be examined, and then equate it with the normative standard of judging all social conditions that "reflect people's free decisions" as "desirable". The fact that the author himself does not notice the contradiction is probably above all an expression of the mono-paradigmatic tertiary socialization within the economic sciences that has been solidified for decades.

profit maximization, "greed for money", although this would be more appropriate (Brodbeck 2002b, 59).[28] "Maximizing behavior" (together with "market equilibrium and stable preferences") forms "the heart of the economic approach" (Becker 1976, 5). The "economic way of thinking" rests in the "principle of means-end rationality", i.e. systematic maximization of given ends, as the "principle of rationality" (Cheng 2016, 5). The justification of unbridled instrumental rationality as the true meaning of practical reason, i.e. correct action, forms the principle of identity of mainstream economics.[29]

This principle is hidden in the assumption, better: the assertion, of "universal scarcity". Scarcity is not, as the layperson might think, a fact that is inherent in "scarce" things, but an evaluation of facts. Without the will to increase utility, nothing at all is "scarce", and the universality of scarcity is only the reverse side of the absoluteness of the assumed and confirmed constant pursuit for advantage (cf. Thielemann 1996, 109, 117ff.).

In the older variant of the justification of unconditional striving for success ("utility maximization") as the principle of practical reason, the human capital theory, homo oeconomicus serves as the model for interpreting the social world. Gary S. Becker theory is the meticulously pursued attempt to reinterpret all human action as an expression of utility maximization and human life as a sequence of investment and disinvestment decisions in one's own "human capital" (cf. Bröckling 2016, 48 ff.). The message to the audience is, if everyone acts like this, then it must be right. In the newer variant, behavioral economics, homo oeconomicus moves away from the object of the theory ("the empirical") towards the addressee. This brings the theory of rationality to itself. For it makes little sense to raise the rationality of success, or utility maximization, to the level of practical reason, if all people were already "rational". This would make the self-ascribed role of economists as "proselytizers" (Mankiw) towards practical reason as instrumental rationality obsolete (cf. Graupe 2012, 62).

> "If people were as rational as economists assume, students need not be taught economics" (McKenzie 2010, xiv).

Seen in this light, Becker's program, which is also found in the economic textbooks, is part of the edifying literature that anticipates, supports, and initiates the educational achievement that the competitive market is carrying out anyhow (see Section 3.3). This is the performativity of this program.

Behavioral economics has set out to overcome the hitherto empirically advocated theory of rationality by empirically rejecting it. However, it does not want to overcome the equation of rationality (practical reason) with instrumental rationality. Its real thrust is to "identify untapped potential for improvement in companies, markets and organizations" based "on empirical knowledge of the human tendency to make faulty decisions".[30] Of course, "improvement" and "correct decisions" here is defined in terms of instrumental rationality. The fact that some do not act "rationally" now becomes the starting point, and the opportunity, for profitable advice to the addressee of the theory *as homines oeconomici* or customers, namely to control the behavior of those who cannot or not want to act as cunning as these customers do, e.g. by

[28] Greed here is not, as is often the case, equated with short-sightedness, i.e. with the inability to reach the highest possible success.
[29] Unbridled not in the sense of ignoring constraints, of course, but in the sense of disregarding all considerations other than success.
[30] This is the self-description of the consulting firm FehrAdvice & Partners from the year 2012, see Thielemann 2012a.

so-called nudging or by savvy framing strategies.[31] That is why this approach is called behavioral *economics*. It does not, as is often assumed, stand for a break with the dominant neoclassical paradigm or even a paradigm shift, but for its continuity (see also Mirowski 2013, 262).

The normative bindingness of "rationality" as rationality of success (instrumental rationality) is not at all called into question by this, but rather assumed without any discussion. It is always allowed and right to follow one's own interests and to increase one's utility (privately defined), otherwise one's own actions are considered "faulty". Ferraro/Pfeffer/Sutton (2005, 14) point to the performative power of this theory of rationality:

> "People may believe they ought to behave in a self-interested way or risk appearing foolish, gullible, or naïve."

The elevation of rationality of success to the principle of practical reason violates the categorical imperative (the moral principle) directly, in particular the prohibition of reification, formulated by Kant as the categorical imperative (cf. Thielemann 2010, 64ff.). Homo oeconomicus is, by definition, only interested in the impact characteristics of his interaction partners, their ability to pay and to deliver, not in the justifiability of his actions towards them. He acts "without regard for the reasons people have" (Anderson 1990, 183). Not only materially, in situ, this attitude is not justifiable (justifications are beyond the mindscape of homo oeconomicus), but also theoretically. The justification of homo oeconomicus as the right logic of action that is universally binding for us must also have to apply to the subject of the theory itself.[32] Therefore, this justification is subject to a performative contradiction (Apel 1998a): Performatively, it must, as all theories and all statements as validity claims in general, presuppose a different rationality than the rationality of success *as ultimately decisive*: discourse rationality (Thielemann 2001, 172f.).

3.2 The concealment of the losers in the process of "creative destruction"

At the latest since Joseph Alois Schumpeter's "Capitalism, Socialism and Democracy" (first edition 1942) we have known that the market, as a process of "dynamic", i.e. change-generating competition, is one of "creative destruction" (Schumpeter 1943, 81ff.). "Creation" and "destruction" are simply two sides of the same coin, so that one could also speak of "destructive creation" (Altvater 2006).[33] In short, competition creates winners and losers. "No pain, no gain." (Rodrik 2011, 57) It is not possible to increase somebody's income (regularly through more advantageous offers to others, this is the "creative", the "win-win" side) without reducing that of others. The additional demand corresponds to expenses that the buyers must have diverted away from their previous uses.

[31] The German law professor Rolf Stürner (2007, 420) also sees it this way: Behavioral economics makes certain "parameters of the human condition", which are classified as "irrational", "subject to a theory of economic decision-making in order to subordinate them to efficiency considerations in the sense of an improved 'rational choice'."
[32] Indeed, Kirchgässner (1996, 35) explicitly states: "Scientists, like all other people, are rationally self-interested individuals. The author of this article makes no exception."
[33] However, Altvater does not show how competition accomplishes its "destructive" work. On the whole, see Thielemann 2010, 160ff., 329ff.

> "Each new article, entirely or for the most part, creates its sale by the withdrawal of the public [the buyer's money] from the use of other articles" (Mises, 1940, 263).[34]

It is on this pressure – the pressure of the losers to be more "productive" and ultimately: to produce more – that economic growth is based and, in a historical perspective, the general level of prosperity we have achieved (see affirmative McKenzie 1988, 9f., critical Thielemann 2010, 357ff.). There is no growth without pain (Thielemann 2013).

In standard economics, as well as in the broader political debate, however, the losers of competition are overlooked or systematically ignored. At best, they only come into play in international competition (see, for example, Peukert 2018b, 61, 84, 89). And then not as a central message, but as a deviation from the principle that "free trade" and "open markets" benefit everyone. Any deviation from this tenet is only addressed beyond Econ 101 (see Rodrik 2011, 61ff.). And even then the "losers" are usually only regarded as those who gain less than others, since the "sum total" must have increased, but "the benefits of globalization" may be "distributed highly unevenly" (Stiglitz/Walsh 2005, 432ff.), in which then the actual justice problem is seen (Sen 1987, 34f.). The "beneficial" effect of the competition regime, or rather the "invisible hand" with its wisdom, metaphysically ascribed to it, is also attempted to be justified with the First Theorem of Welfare Economics (cf. Mas-Colell/Whinston/Green 1995, 549):

> "An equilibrium allocation achieved by a set of competitive markets will necessarily be Pareto efficient" (Varian 2010, 597f.).

This is actually "reassuring to know", because allegedly nobody loses in competition, but at least one of the market participants wins. Apart from that, the existence of some Pareto inefficiency state of affairs would also contain a "logical contradiction" (Varian 2010, 597), because, according to Varian (2010, 18), then "there would be some trade that would make two people better off without hurting anyone else". But this must have, in the "rational" world we live in, happened before! For a tiny moment and for the sake of this argument Varian turns into an Austrian economist and not only "logically" presupposes the existence of ultimately clever homines oeconomici but also ("illogically", so to speak) assumes the existence of some less clever market participants, so that the particularly clever homines oeconomici have the opportunity to exploit hitherto disregarded opportunities to their own advantage. Then, before the appearance of the particularly clever homines oeconomici, there is the possibility that the factual supply quantity is "less than the competitive amount". But if so, there must be some supplier, i.e. one of the particularly clever homines oeconomici, "who is willing to supply an extra unit of the good at a price that is less than the price someone [a potential buyer of that good] is willing to pay for an extra unit of the good". Thus, "there will be at least two people who could be made better off" (Varian 2010, 310f.).

But where does the money come from this buyer needs to employ in order to pay for this "extra unit"? The answer that von Mises gives is that she must have diverted the necessary purchasing power away from other usages, i.e., from other suppliers. And these sellers, from whom she now no longer buys, are the losers of this game. They are the less competitive competitors of the supplier of this "extra unit". The win-win for some, the seller and the buyer

[34] With the qualification "for the most part" Mises obviously refers to the logically only remaining possibility of dehoarding.

of the "extra unit", necessarily goes hand in hand with the loss of at least one other supplier.[35] How is it possible that these relations remain largely unaddressed in economic theory or (see the allegedly irrefutable welfare theorems) are misrepresented?

Of course, if one does not merely record the static result of competition and thus define away its essence (cf. Hayek 1948, 92), competition violates the Pareto principle,[36] at least in its simple version.[37] Obviously the blunt exposition of the so to speak "dirty secret" of the "perennial gale" (Schumpeter 1943, 84) of "destruction"– not only of income positions, but also of ways of life – inherent to the evolvement of market logic precisely *through* the "creative" achievements of other, particularly market-inclined actors, would be highly detrimental to the legitimization of the unrestrained unfolding of the competitive process. And so established standard economists can, without having to fear opposition, falsely, or at least obscurely, assert: "The removal of trade barriers increases trade and thus boosts income and welfare" (Sachverständigenrat 2014, 40).

In Stephan Schulmeister's most recent Keynesian-influenced neoliberalism-critical work, "Der Weg zur Prosperität [The path to prosperity]" (2018), a kind of summa of his oeuvre, competition is largely anathema. It is, however, the tacitly assumed constant that silently accompanies the line of the argument. All would be well if capital would act as a "servant of the real economy" and actually invest in means of production (tangible assets) instead of wasting the surpluses in speculative transactions (which works like hoarding), since then the eo ipso competitively generated unemployment would be immediately eliminated or would not arise at all (see Schulmeister 2018, 58, 89f., 125, 133, 206).[38] The fact that unemployment arises precisely because capital invests "in real terms" (on the primary market) in particularly competitive (or profitable) companies and thus employees and thereby jeopardizes the income position of others (cf. Thielemann 2012b) is neglected.

3.3 The loss of freedom through the evolvement of "free" markets

The vote of neoliberalism "for more competition and freer markets" (Sachverständigenrat 2014, 162) cannot be set forth positively, rather, it is an expression of a certain ethics. This is basically legitimate.[39] But neoliberalism, as a justification theory for the unfolding of "free"

[35] Of course, competition, on a basic level, does not, as commonly assumed, take place between "companies" – who is that? – but ultimately between employees, "workers", "laborers", people striving for incomes.
[36] See also Komlos (2019, 196): "Innovation is never 'Pareto efficient'."
[37] In a more sophisticated (more cynical) variant of the Pareto criterion, the losses incurred by competition, whose causality usually cannot be personally assigned, form the (quasi-natural) initial position from which alone Pareto improvements can then be measured. Of course, this is inadmissible, but it should correspond to the standard interpretation. Cf. Thielemann 2014, 329f. From the compulsion to invest (ultimately: in one's own "human capital"), the compulsion is distracted, and the only thing that should remain in consciousness is the return of investment, i.e. the advantage that everyone "can" achieve "on their own responsibility".
[38] Schulmeister should actually have no objections to the neoliberalism defining dogma that "entrepreneurial capital [and not speculative capital, author's note.] is to be courted" (Sinn 2005). What remains unclear then, however, is why he pleads, even beyond the fight against the evil of financialization, for comprehensive systems of social security (see Schulmeister 2018, 58, 268, 275 ff., 337 ff.).
[39] But then the established monism, which becomes dogmatism at the latest when the ethical-normative character of the discipline becomes apparent, is particularly disturbing. Unfortunately, its overcoming from within the discipline is not to be expected at present. The overcoming of monism from the outside, i.e., through science policy, is fought by the established economists by denying the excluded outsiders the freedom of science. The established, who are able to perpetuate *their* freedom of science by cooptation, claim it exclusively for themselves. The economist Isabel Schnabel, at that time member of

markets, by equating freedom with market freedom (to buy and sell whatever), totalizes *one* dimension of freedom, without honestly addressing the conflicts to other dimensions of freedom. This dishonesty is aggravating especially because these losses of freedom result precisely from the unfolding of that market freedom, namely from competition.

This applies on the one hand to the loss of personal freedom, which Max Weber (1930, 54f., 180ff.) already addressed in his study on Protestantism and capitalism. It is the loss of freedom to lead a life that is not fully geared to personal competitiveness, that is not a sequence of human-capital investments, that is not market-compliant without having to fear the threat of personal economic plunge. This can also be found in almost brutal openness in Hayek (1982, 75): "Competition will make it necessary for people to act rationally in order to maintain themselves." It is the "relatively more rational individuals" who will, "through competition, …make it necessary for the rest to emulate them in order to prevail", i.e., to survive. If one rejects the concept of rationality presupposed here which equates instrumental rationality with practical reason (rightness) it is rather difficult to derive from these insights, which tell us "the truth about the market" (Bröckling 2016, 43ff., 55), a principle affirmation of competition – ultimately: as a "discovery procedure" for practical reason in general.[40] About this truth the neoliberals themselves, especially Austrian economists, offer the best reference, with just a little bit of ethical-critical interpretation needed.

Competition forces the economization of the self. It is a kind of systemic (i.e., letting impersonal forces reign) educational facility. Not we ourselves autonomously, but competition heteronomously determines the educational content. In the competitive process, the compulsion to lead an entrepreneur life is inscribed (Thielemann 2010, 329ff.). Life becomes an ongoing investment in your own "human capital". There is a "pressure to permanently self-mobilize" (Bröckling 2016, 58). It is too risky not to give in to this compulsion as early as possible.[41] Since competition proceeds as an "everpresent threat", it already "disciplines before it attacks" (Schumpeter 1943, 85). A risk minimization strategy is, for example, to embark upon the path of studying economics, thus becoming "a more astute participant in the economy" (Mankiw) – in order to, if needed, stand on the side of the ones who lay off instead of standing on the side of the ones who are laid off. We are captives of (global) competition, which we, on the other hand, at the same time always boost, some more, some less.

The compulsion of competition is only lastingly effective because it is not exercised by identifiable others, but works as a systemic process and thus runs without instance, which is why Max Weber (1968, 1186) described it as a "masterless slavery". Responsibility for economic hardship, which one suffers without reducing one's work effort, is thus transformed into "personal responsibility". "No job? It's your own fault!" (Berg 1997) The "invisible hand of the market" does exist indeed, but the term "hiding hand of the market" is more appropriate (Bhagwati 1996, 33). The assertion that it works for the well-being of all is a moral judgement that is to be discussed politically time and again, otherwise bare ideology.

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the German Council of Economic Experts, sees a quota for dissenting positions as nothing more than a "fundamental intervention in the freedom of science" (Plickert 2018) – in her own and her like-minded colleagues' freedom.

[40] This comes down to a transcendental theory of competition, cf. Thielemann 2010, 311ff.

[41] This is the systematic reason why Keynes' prophecy of a general individual reduction of working hours with increasing prosperity did not come true – and not, at least not systematically, a widespread tendency to conspicuous consumption, as Skidelsky/Skidelsky (2013, 17f., 273ff.) contend. As long as the regime of competition reigns, the "course of affairs" will *not* "simply be that there will be ever larger and larger classes and groups of people from whom problems of economic necessity have been practically removed", as Keynes (1963, 372) thought. The Keynesians do not grasp competition.

For this, however, the body politic would need to be sovereign. However, this is at least questionable, and not only since German chancellor Angela Merkel officially proclaimed the "market-compliant democracy" in 2011 (Streeck 2014, 44f). As early as 1997, Herbert Giersch, a veteran of German neoliberalism, proclaimed the "end of an economic policy that seeks to counteract market forces." There is much to suggest that a policy that refuses to "court entrepreneurial capital" (Hans-Werner Sinn) and to "transform the nation-state into the neoliberal 'competition state' dominated by international capital interests" (Deutschmann 2015, 547) is likely to end up roughly where Greece currently finds itself.[42] The result is a technocratic "hollowing of democracy" (Heitmeyer 2018) and a regime for which Colin Crouch (2004) coined the term "post-democracy".

Part of the "economic" ethics or ideology of the mainstream is that it presupposes this loss of political freedom at least as a factual condition for its (anyway never value-free) recommendations or even (like Giersch) openly applauds the "market obedience" (critically Brodbeck 2009) in which the authority that could principally tame the market dynamics exercises itself. This taming would consist either in a global redistribution and regulation regime with otherwise still "open markets" or in "protectionist" initiatives to limit the unfolding of the market logic through global competitive non-aggression agreements.[43]

3.4 Forgoing ideology criticism

Heterodox economics is set out as a somehow critical endeavor. The broad strand of positivist heterodoxy, however, renounces the possibility (and necessity) of an ethically conceived ideology critique of the neoliberal mainstream economics. Positivist heterodox economics has to accept all what the mainstream justifies, and if not, it has to be up to another discipline, external to economics. But which one? And how would it relate to economics, heterodox or orthodox? Possibly the proponents of a positivist heterodoxy believe, in line with ethical skepticism (for instance critical rationalism), the question of the redeemability of the economistic validity claim of the rule of the market principle can only be a matter of inscrutable individual decision and not a matter of academics, i.e. rational discussion directed at some kinds of normative "truth", i.e. rightness (otherwise these discussions would be pointless).[44]

But value freedom, at least for a social science (such as economics) that inevitably gives its addressees clues for dealing with actors that form the subject area of that science, is an illusion anyway.[45] Contrary to its positivist claim, according to which normativity is "external to

[42] See also Hirsch (1995) on the competition state thesis. Genschel/Seelkopf (2015, 247), who do not consider the thesis to be blankly wrong, but "overly general and too simple", provide an overview of various representatives of this thesis. For empirical (in terms of anecdotal) evidence for this thesis, see Thielemann 2014, 338f. A critical examination of the view that the nation state is not subjected to impersonal pressures stemming from world or location competition can be found in Thielemann 2018.
[43] Cf. on this idea Thielemann 2009, 233ff., 2010, 452, Vontobel 2018. Wade (2017, 44f.) votes for a "cooperative internationalism" that should adjust the "open international trade system" in order "to provide more 'policy space' for national governments and regional blocs". Likewise, Rodrik (2018, 231f.) advocates "curtailing trade flows" that "undermine democratically legitimated domestic practices". However, he does not want to call this "protectionism", although it would do just that: protect democracies.
[44] Value *decisions* are indeed no matter for an (ethical-critical) social science. However, it is a matter of value *elucidation* as well as transcendental critique. Cf. Thielemann 2010, 124ff. In the preceding sections, the first one (3.1) is primarily a transcendental critique, the other two sections (3.2., 3.3.) are mainly a matter of value elucidation, especially by pointing out "forgotten" conflicts of value and of interests.
[45] Cf. the programmatic title of Tanja von Egan-Krieger's work: Die Illusion wertfreier Ökonomie (2014).

theory" (Peukert), heterodoxy, which presents itself as positive, is also full of normative concepts. Economists, as all social scientists, want to show something; they have something meaningful to say.[46]

4. The paradigm of market failure

It is striking that the positivist strand of heterodox economics adheres quite readily to the normative terminology and thus to the standards of evaluation of neoclassical standard economics (as an unacknowledged economic ethics). This applies above all to the *concept* of efficiency (alternatively "optimal") as well as to the efficiency *criterion* of assessing not only market interaction relationships. In fact, "efficiency" or more precisely "efficiency enhancement" is mostly understood in a utilitarian sense, as the growth of a fictitious total utility or simply as GDP growth (see Thielemann 2010, 291ff.). That is always good. Political representatives may redistribute (insofar they have a "preference" for justice), which is then addressed as the separation of "allocation" and "distribution". But of course they may do so only if this does not have any "behavioral effects" that could impair "allocative efficiency" in the end (see for evidence Peukert 2018a, 156 ff.). This is obviously an impossible idea, since employees should naturally feel the pressure of the markets. What "makes the prospect of unemployment less painful" (Blanchard 2017, 170) is to be avoided.[47] This utilitarian understanding is generally referred to as "Pareto efficiency" (claiming that nobody loses), because the losers of competition are forgotten or concealed – or because, and this is the more sophisticated variant of the Pareto principle, the losers themselves have to make sure to side themselves on the winning side by making the appropriate "entrepreneurial" efforts.

The undisputed acceptance of the normative evaluation standards of traditional economic theory is also reflected in the way standard heterodox or dissenting economists reject the "market fundamentalism" of "orthodox economics". According to Stiglitz (2002), this fundamentalism consists solely in the false assumption of orthodox economics that "markets are generally efficient", whereas behavioral economics is said to have empirically proven the factual "irrationality of market participants" in laboratory experiments. Thus, if they really acted "rationally", i.e., if they did everything that could be done in order to exploit the world to their own ultimate advantage (and if possibly other assumptions were fulfilled), then the invisible hand theorem according to which "free markets lead to efficiency" (Stiglitz) and even more: serve the just good of all, or the "public interest" (Adam Smith), would apply empirically and

[46] Helge Peukert's (2018a, 43ff.) characterization of the "counterpoints" that set the manifold heterodox strands of economic theory apart from the mainstream is practically throughout normative; they are not formulated as a set of hypotheses that contradict neoclassical orthodoxy. This might not be noticeable, since these "counterpoints" are mostly formulated in the indicative as if they were components of a positive theory. For example, when Peukert writes that "there are also non-material needs that must be taken into account as serious target values in economics" (p. 46), the question arises: for what? For a better "explanation" of price movements? Or for "analyses and conclusions" committed to "the truth" that are "based" on "values" and "influenced" by them (p. 50), but are not themselves of a normative nature? Peukert needs to think along these lines if he wants to hold on to the notion of the externality of normativity for any truly academic paradigm of economics. But if so, he fails to do justice to the ethical-critical impulse of the heterodox project – including his own.

[47] Wilhelm Heitmeyer (2018, 35) quotes a business journalist who notes: "If workers never fear losing their jobs, there's little reason to restrain wages. Some uncertainty, anxiety and fear are essential." The recent discussion about a trade-off between inequality and growth (IMF 2017) does little to change this view, because "efficiency" continues to be taken as the measure. This discussion "no longer focuses on the problems the poor have with market outcomes, but on the problems the poor cause for economic growth" (Kaufmann 2014).

thus would be true. – Of course this is not an assertion that could be formulated on purely "positive", value-free grounds.

Standard economics claims (here in the words of Varian, quoted by Peukert 2018a, 161) that "profits are exactly the right guide" to achieve the (alleged) "social goal" of increasing "efficiency". (That is what Hayek (1982, 67ff.) called "Competition as discovery procedure".) This, however, Peukert objects, "is only valid if all the many assumptions do actually apply". Really?

This is where an interesting – or, seen from a non-economistic viewpoint: perplexing – dispute is sparked between economists who have rather narrow or rather broad views on whether empirical markets "fail" or not – for example between "freshwater" and "saltwater" economists (Paul Krugman).[48] This dispute is perplexing because of the nonchalance with which both sides acknowledge the particular "economic" ethics and, as the young economists Earle, Morgan and Ward-Perkins (2017, 81f.) aptly point out, both presuppose "the perfect market as the norm". It seems, the heterodox critics of real markets in terms of their "failing" want to demonstrate with the adherence to this ethics their membership in the circle of economists, which underlines the dominance of economism as the "most powerful ideology" (Peter Ulrich) of our time. "The power of the [neoliberal] meta script" seems to be so pervasive that "even 'progressives'" believe they will only be heard if they "frame their arguments… in terms of failed markets" (Chen, Hanson 2004, 17). Then, however, it is doubtful, if their arguments are the same, or if they are twisted, i.e. economized.

Of course, the notion of "market failure" could, in principle, be understood quite differently. In its established use, however, it means that the empirically given market "fails" according to the ethical characteristics that economics has traditionally attributed to the ideal, true market. "Market failure" is, so to speak, the imperfection with which the market principle is actually effective. For whatever reason.

What follows from this is not clear. In general, it could be said that a policy to prevent market failures would be "to make markets act like *true* markets" (Stiglitz 2015, 119). But what would this mean? Possibly what critical sociologists call "authoritarian capitalism" (Heitmeyer 2018, 34, 118ff.). For if the market participants (and of course we are all market participants) refuse to obey to the logic of the market, then from the perspective of neoliberalism political "interventions in the direction of market laws are needed to accelerate their natural [or factual] course" (Rüstow 1963, 252f.). Naomi Klein (2008) has meticulously demonstrated what this means in concrete terms at the global level, namely a "shock strategy" against established systems of market regulation and social security.

This can also be understood as "planning for the market" (Thomasberger 2009), i.e. as a policy of suppression and disempowerment of all market-adverse societal forces aimed at limiting the progressively deeper and broader rule of the market principle through regulation and social security systems. This aspiration by the advocates of the rule of the market principle also explains their notorious opposition to democracy.[49] This results fundamentally

[48] For the extensive variant, which sees "market failures" everywhere, see for example Forder 2016, 77ff., Komlos 2019 (without using the notion very often), as well as Naidu/Rodrik/Zucman (2019); Stiglitz (2020, 323) concedes that, without using the term that often, his whole book (People, Power, and Profits) actually is about market failures; for the narrow variant see for example, Streit (2006, 94), who suspects behind the theory of market failure above all nirvana-economics, i.e. illusions.
[49] Cf. for numerous references Ötsch 2019, 127f., 151, 198, 231; Slobodian 2019, 249ff., 357ff.

from the fact that democracy is at best superfluous from a neoliberal point of view, since it is already clear how society as a whole is to be ordered: as a market or in such a way that the market in its present form does not "fail". Instead of a "phony capitalism" (Stiglitz 2015, 119, 164ff.) the true, pure market should prevail.

Though this neoliberal course of installing the "true market" by politically removing all market-adverse elements from the current state of how markets proceed may be internally consistent from the point of view of the paradigm of market failure, heterodox economists (if one does not include the Austrians or Ordoliberalism) usually have something different, even the opposite, in mind. The fact that real markets are "rife with market failure" and full of "market imperfections" is, in their view, the empirical proof that "neoliberalism – or market fundamentalism, market fetishism, etc. – is a perversion of mainstream economics" (Naidu/Rodrik/Zucman 2019, 5, 2) and that the market regime should not reign supreme.[50] Obviously, the complete enthronement of the market regime is assumed to be an unattainable ideal. Based on this, an "empirical turn" (Steinbaum 2019) is sufficient to demonstrate the need for a departure from "free-market oriented policies" (Naidu/Rodrik/Zucman 2019, 5).

> "Systematic empirical evidence is a disciplining device against ideological policy prescriptions embedded in preconceived theorizing. The empirical bent of economics makes it more difficult to ignore inconvenient facts, when real world markets do not behave like textbook ones" (Naidu/Rodrik/Zucman 2019, 3).

It seems, the general reason why heterodoxy calls itself "real-world economics" is a positivist one. Whoever gathers behind the approach of "real-world economics" would then signal that the entire market-affirmative normativity of orthodoxy is to be acknowledged and only the empirical conditions of its actual fulfillment are to be called into question. The alternative view would be that "real-world economics" focus on another *interpretation* and *evaluation* of the market interaction relations, a normatively more appropriate and in this respect more "realistic" one.

This strand of heterodoxy remains rooted in neoclassical economics or even explicitly commits itself to "mainstream economics" as Naidu, Rodrik and Zucman (2019, 1ff.) do. Market-failure heterodoxy believes its own approach to be merely "positive" (without, however, explicitly claiming his own "value-freedom"), because the specific normativity of neoclassical economics is taken for granted, and now it is only a matter of empirical verification of the actual existence of the "assumptions", under whose "caveat" the justifications of the rule of the market principle are usually placed. Our "support for markets" should be "dependent on empirical evidence", Komlos (2015, 27) believes. It is therefore merely an apparent or halved positivism. It remains dependent on the normativity of the economistic program with its "universals" and "higher order principles" (Naidu/Rodrik/Zucman 2019, 3).[51] It is only this normativity that gives meaning to the specific empirical investigations of this strand of heterodoxy.

[50] However, the "adverse effects" of international trade "on some local communities" is not, as Naidu/Rodrik/Zucman (2019, 3) argue, the result of market failures, but shows that the competitive market "works" instead of being impeded (see also Kaufmann 2019; Varoufakis 1998, 304). Correspondingly, in the usual lists of "failing" markets such *internal* effects of market transactions ("pecuniary effects", cf. the discussion in Thielemann 1996, 277ff.), which, via competition, incessantly produces losers and forces to "market obedience", cannot be found.

[51] The empirical side can then be used for exculpation. According to mainstream economist Rüdiger Bachmann (2016), the view he ascribes to heterodoxy – "modern mainstream economics" is "a high

The fact that the empirical side remains dependent on the economic frame of reference, which is undoubtedly presupposed, can be seen, for example (here, using Naidu/Rodrik/Zucman 2019 as an example), in the careless use of specifically normative terms and formulations such as "malfunction" (p. 3), "when markets work well" (p. 2), "efficiency" (passim), "superior" (p. 3), "second-best" (p. 5), etc. The authors seem to be completely unaware that these are all normative concepts of judgment, and nowhere do they justify or discuss what the normative conditions are for markets to be called "to work well" and "well" for whom. Even the Coase Theorem is accepted and only rejected as empirically irrelevant because of existing "transaction costs" (Naidu/Rodrik/Zucman 2019, 4).[52] What we have here is merely an empirically focused fine-tuning of economism.

This dependence of the supposedly heterodox paradigm of market failure, which considers itself purely "positive", on the unquestioned affirmative normativity which the tradition of economic theory has attributed to the "ideal market", obviously also explains why a heterodoxy that considers itself not as ethical-critical but as "positive" (and therefore supposedly "scientific") means to derive "economic-political conclusions" from facts or from hypothetical cause and effect relationships determined in "models", or to believe a model could carry "economic policy implications", with the only objection that the facts were different from what orthodoxy, operating in an "abstract heaven of pure theory", thinks, with the result of drawing the wrong, namely "neoliberal-market conservative conclusions" (see Peukert 2018a, 94, 159, 182, 324, 329). It is "logically impossible" to derive norms from facts or from hypotheses about facts (Myrdal 1953, 14). Rather, the norms must have been brought along and acknowledged beforehand. A heterodoxy, which locates its only difference to orthodoxy in the empirical, must recognize its normative standards of judgment in their entirety.

On this normative basis, political regulation of market interaction relationships can only be "justified" if it can be shown "that the market 'fails' in the area concerned" (Fritsch/Wein/Ewers 2005, 1).[53] Phenomena endorsed by the economic mainstream or even advanced by it (qua performativity) such as the economization of live, the political and individual loss of freedom or the competitive pressure to economic growth must remain accepted within the paradigm of market failure. However, the adherence to the neoclassical paradigm of "mainstream economics" as a "tool" (Naidu/Rodrik/Zucman 2019, 2), which only needs to be applied empirically in a more "realistic" way, and thus to all its normative implications and its "implicit ethics" (Karl Heinz Brodbeck), is incompatible with the idea "to subordinate textbook economic efficiency to other values such as democratic rule and egalitarian relationships among citizens" (Naidu/Rodrik/Zucman 2019, p. 6). In refreshing openness and contrary to the core message that a mere "empirical" readjustment of the neoclassical paradigm is

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mass on the free market with the state as Satan" – is in his eyes a distorted picture (apart from ridiculing heterodox views) only because established economic research is in the process of "theoretically and empirically exploring ever finer and more realistic alternatives to the simple model" of the "perfect market". The "simple model" itself is "already well understood", i.e. to be accepted as a normative frame of reference from which only its empirical conditions of fulfilment need to be clarified. Calling into question this normative frame of reference, the "perfect market", obviously is considered theoretically "unfruitful".

[52] The authors must therefore concur that it is, sensu Coase, "ultimately irrelevant" (Bössmann 1991, 868) (by the way: for the utilitarian benefit of "the world") whether the damaging party must compensate the damaged party if she wants to exercise the "external effect", or the damaged party must bribe the damaging party if he does not want to suffer the "external effect" – if only there were no "transaction costs". Cf. to the far-reaching normative implications of the Coase Theorem Thielemann 1996, 45ff.

[53] The claim to absoluteness of this antidemocratic normative validity claim of "economic theory" is also underscored by the fact that every market regulation is described by the authors as "intervention", which rhymes with "... into the legitimate sphere of privacy".

needed (by the way: in order to achieve certain normative requirements, such as "inclusive prosperity"), one of the authors, Dani Rodrik, confesses to "an explicitly pro-social justification for restrictions on trade, not trying to clothe the protectionism in terms of ameliorating some other externality or market failure" (Naidu/Rodrik/Zucman 2019, 6).[54]

5. The paradigm of counterproductivity

The paradigm of market failure states that the ideal market should rule, but for principled reasons cannot rule or for occasional reasons does not rule. Thus, contrary to the statements of its representatives, no positivist paradigm of economics has yet been achieved, because the approach remains dependent on the normative prescriptions of economism. Such an actual positivism would no longer be allowed to carry any normative validity claim, i.e. it would no longer be guided by either the "practical" (affirmative) or the "emancipatory" (critical) cognitive interest. This position (insofar as it is possible to speak of a "position" at all) would of course have to renounce all normative terminology in what it says and writes. "Efficient", "rational", "optimal", "distorted", "superior", "innovative", "failure", etc., all these terms and all possible alternatives with the same meaning should no longer occur. However, it is inevitable to construe the social world, i.e. to conceptualize the subject matter "as something", as this and not as that.[55] These concepts are *practically* (normatively) significant.

> "With every original constitution of an object 'as something' in a situation-world a valuation connected to human possibilities of life is necessarily connected" (Apel 1973, 145).[56]

Therefore, instead of being bluntly situated in prescriptions, the normative judgement on the object ("the norm") is often, and in mainstream economics mainly, "concealed in the concept" (Myrdal 1953, 192). This is what Myrdal calls the "perpetual game of hide-and-seek in economics". As there can be no "neutral" description or conceptualization of the subject matter, a positive economic theory in the proper sense can only be determined analytically, abstracting from its normative, justifying or possibly critical, contents.[57] This means that positivism, the reduction of a theory to the "actually" existing social cause and effect relations, can only be captured as one aspect of a social theory, but then the dominant one.

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[54] Also Helge Peukert's (2018b, 61) reference to the "dark sides and exaggerations of free trade", which regrettably remained untouched in mainstream textbooks, may refer to "market failure" only with a lot of contortions. It is also unclear how the reference to "the costs of adjustment" and to "income inequalities" as well as the demand to adopt "the perspective of the winners and losers of free trade" (ibid.) can be made compatible with the positivistically understood claim of "scientific justifiability" (Peukert 2018a, 176).

[55] The verbal and thus intersubjective nature of constituting meaning is called in reference to Martin Heidegger „Als-Struktur des Verstehens", cf. Apel 1998b, 122, 126 f., 158, 161, 88f, 93f, 129f, 514 ff. On p. 133 Apel writes: "The capacity of verbal interpretation of the world is *constitutive* for the perception of phenomena *as something*."

[56] Positivism attempts to counter the resulting refutation of its position by claiming the conceptualization of the object of social research could be and should be an "analytical filing system" devoid of any "substantial content" (Friedman 1953, 7, 11f.). Cf. for criticism of the futile positivist attempt to "neutralize the language of social science" (Albert), which Myrdal aptly characterizes as "naïve empiricism", Thielemann 2010, 85ff.

[57] And of course it would have to be defined object-related (to the market interaction relations), not by a question ("How to reduce scarcity?"), which is, as interpretation pattern (and as action guidance), normative anyway. Chang (2014, 27), among others, advocates an object-related orientation of economic sciences. This would be the prerequisite for a truly pluralistic economic theory landscape.

5.1 Positivist economics as a theory of success

In the positivistic view, all knowledge is "information". "Information" is knowledge from the point of view of its usefulness or exploitability (see Albert 1998 110ff., 115f.). The quest for knowledge must therefore a priori be confined to the empirical (measurable) social world as a causal context (instead of hermeneutically exploring its meaning); otherwise, this quest is "useless". The (economistic) reason is that such an objectified world defines the space of possible constraints; it marks the field of possible "opportunities" and "risks". Statements that cannot "fail on the facts" are, according to Albert, not "informative", their "informational content is zero". "Information content" and cognitive content are equated here.[58]

The fact that the subject and the addressee of positivist theory operate as homo oeconomicus and that their respective cognitive interest is thus technical or instrumental is emphasized by Albert not only by the terminology he uses ("useful", "interesting", "productive", "getting more information"), but also explicitly:

> "Humans are 'theoretical animals', which manufacture and spread theories and exploit them for their behavior" (Albert 1998, 51).

"The cognitive practice of humans", according to Albert (p. 59f.), is "steered through value aspects", i.e. private utility considerations or preferences, and it aims at "solutions" (p. 66), i.e. at improved opportunities of availability and control of things and outcomes. The "evaluation of the solutions offered" – by the scientific system or any other information provider – is done by the addressees as the customer of the theory in accordance with the demand to reduce "scarcity and uncertainty". "The characterization of the basic human situation, as it is standard in economics, also applies to this area", i.e. to science and the search for knowledge in general.[59]

This conception of social science leads to a consultancy theory, which creates instrumental knowledge of usefulness and nothing else, and for which knowledge is power, namely power to dispose. Science becomes a kind of success economics that clarifies whether and, if so, how the preferences of its addressees as customers can be effectively enforced against resistance, which is then called "problem solving". (Strictly speaking, whether this is done "efficiently", i.e. in a way that increases utility, or how the outcome can be achieved "most efficiently", i.e. in a way that maximizes utility, depends on the specific preferences of the customer. In the case of a preference for money or for achieving the highest possible profits or building up net asset positions, however, such material feedback on customer preferences is not required, since success is an (at least ex post) objectively measurable event). The exploration of these resistances makes the project an empirical undertaking. Without resistance or constraints, the benefits of homo oeconomicus would be "maximum", which shows that the project of "maximization" is meaningless without an empirical (objectified)

[58] In this regard, it is remarkable how little "informational content" the academic oeuvre of philosopher Hans Albert has. To give methodological account to oneself of the meaning and of the type of validity claim of one's own academic work seems to be one of the most challenging research tasks.
[59] From where Albert (1995, 12) got the "information" (he does not use the term directly here) that "the researcher" is also to be understood as an "economic subject" and "the results of his research ... are to be characterized economically as goods" remains unclear, however. Do these statements have an a priori character or can they be falsified? What would be the measuring conditions for a falsification? – Of course, all these statements by Albert are readings, intended to give normative meaning to the social world.

world of constraints.[60] It is homo oeconomicus, whose maximization calculus provides the grounds for the concentration of science (in the eyes of its representatives: the only true science) on the empirical, on the clarification of the relations between, so to speak, naked instances of effect or power, devoid of any intersubjectively shared meaning.

Even if this concept claims to be free of values, it is by no means beyond right and wrong (which is an unthinkable anyhow, since "neutrality" is to be debunked as affirmation). Its specific normativity, however, would not consist in a (possibly hidden) normative validity claim (for example, to prove the "efficiency" and thus goodness of the market regime), but rather in the partiality for those interests that are served by a specific scientific project (see Thielemann 2010, 87ff.).[61] After all, if theories are primarily directed at enhancing efficiency, the question arises: efficient for whom? The fact that the interests of others (obviously: less solvent or in general: less powerful groups) are not only ignored, but these others may and probably are harmed and see their position worsened, is not "informative" from a positivist point of view – unless there is resistance which could thwart the pursuit of interest of the original customer. Furthermore, everyone is free to commission a counter-expertise in order to "solve" his problems. Such an economic conception would be modelled after business administration, which is only "technocratically concerned with the multiplication of outputs and profits that are always thought to be the same, with the how and not with the what and the why, i.e. not with the reflection of the conditions of production and exploitation" (Kappler 2013, 306).

5.2 Positivist economics as proclaimer of the "brutal truths" of the rule of the market

However, the world is still not completely populated by homines oeconomici. Since we still cannot imagine to live in a world where justifications (even false ones, i.e. ideologies) have no meaning anymore, so that the individual would not care whether his or her situation is caused by, let's take any simple example, "exploitation" or lack of "personal responsibility", there is a need for the design of ideology, especially from the point of view of "people interested in market power" (Weber). Thus, another group of addressees comes into play. No longer homines oeconomici, but citizens with market-adverse claims, claims beyond instrumental reason.[62] A positivist economic theory as a proclaimer of the "brutal truths of economics" (Samuelson/Nordhaus 2010, 3) will "inform" them that "the risk of failure" (Albert 1998, 111) today has everything that is not in conformity with the market. Corresponding political or individual aspirations are thus "refuted" (p. 114) by "the consequences" of their possible or rather impossible realization, since they do not "prove themselves … on the basis of the facts" (p. 112f.).[63]

Positivist economics can be understood as a new way of legitimizing the rule of the market principle. It no longer presents itself with an ethical-normative validity claim, though unacknowledged, by declaring or glorifying this domination as "good for all" (often adding: "in

[60] The positivist and her customers are not interested in all what has been said so far. It is simply not "informative".
[61] Moreover, the unacknowledged normativity consists in the implicit and binding vote for the rationality of success as the epitome of practical reason, i.e., in the justification of homo economicus. Cf. Thielemann 2010, p. 64 ff. Of course, this presupposes that the addressees of the theory are not yet homines oeconomici, for which only success counts, resp. that these are not yet full-fledged homines oeconomici, but shall become so. That this normative validity claim is not contained in the instrumental concept of science (which is therefore a purely "positive" theory) is an unimaginable idea.
[62] Strictly speaking, we are dealing with two types of addressees: "people interested in market power" as clients on the one hand, normal citizens as the "target audience" on the other.
[63] A purely "positive" social science research program, explicitly declared as "value-free", contains only "information about the possibilities of action" (Albert 2002, 58).

the long run") or as an expression of "freedom", but by pointing to the facticity of this domination and presenting the audience "the costs" of deviating from a market-conform policy or lifestyle. This is pronounced in the topos of "lack of alternatives" to the continuation of the neoliberal path of "reforms". This position was probably first formulated in the 1950s (by Milton Friedman).[64] This is amazing as this was a time when market forces were much less pronounced, so that the social still had room in and for the largely national markets, which can be described as at least rudimentarily embedded or social market economy (see Thielemann 2020). The positivist variant of economism, however, is likely to be systematically caught up in the broad public only after a 40 years of practicing neoliberal reforms (since Thatcher, Reagan, followed by the neoliberal capture of social democratic parties) and thus the global enthronement of "free markets" and their systemic power. Since then, the empirical has practically completely changed over to market and competition.

This program can be described as a paradigm of counter-productivity (Hirschman 1991, Thielemann 2014). A "positive" social science, which of course must at the same time be regarded as "value-free", wants to make "validated statements" about "the reality", and then it can turn out that a policy considered desirable is "ineffective or even counterproductive" (Kirchgässner 2009, 447). This task is taken on by the theory of a so-called "evidence-oriented policy consultancy" (Schmidt 2014), which naturally appears with the claim of freedom of ideology (Burda, et al. 2014). This theory and the corresponding practice wants to educate policymakers – ultimately in a democracy: us citizens – about "the actual consequences of political decisions", whereby it is likely to turn out that a policy that seeks to reduce inequality "will produce exactly the opposite of what is desired" (Schmidt 2014, 229).

While Hayek (1948, 8, 268; 1982, 163) demanded "humility" and "obedience" to the "impersonal forces of the market", this "market obedience" (critically Brodbeck 2009; Ötsch 2019, 88 ff.) now appears in the "ideology-free", "objective", "scientific" form of the "evidence-based" insight into the "limited power of action" of (thereby) "good politics" (Schmidt 2014, 228). This is likely to be more effective from the point of view of the "people interested in market power" (Weber). The economist reads, as it were, in the "Book of the Market" in order to provide us with groundbreaking insights, in order to raise "objections from the factual context" to certain intentions for action and design (Albert 1998, 131), and to give us earthly people "systematic feedback on intended or already undertaken interventions" so that we can better assess their "effectiveness", which leads to an "informed policy" (Sachverständigenrat 2013, 271).[65]

Among the "insights" of this kind is, for example, that "in modern societies [i.e. the unfettered market] it is conceivable that the ethical dimension of a decision systematically dominates the economic dimension, but this is not enforceable" und thus remains unrealized (Wieland 2008, 98). Those who try it nonetheless are confronted with the "risk" of "evasive reactions". This includes, for example, the threat of relocation and the increased "bargaining power of capital" in globalized markets (Guschanski/Onaran 2018). This has led us into a world "in which states are in the process of being transformed into something like stock corporations that must earn the trust of their investors" (Streeck 2012, 144). From the naturalizing view of positivism, this

[64] Milton Friedman's (1953, 4f.) claimed that his concept of "positive economics" is "immediately relevant" for the resolution of "normative problems" because it shows "how any given goal can be attained" (or cannot be attained, in view of the "costs" of overcoming opposition from powerful actors), which is why a "normative economics … cannot be independent of positive economics".
[65] See on the initially sympathetic, then constructivist-scientistically reinterpreted (in both cases metaphysical) topos of "reading in the book of nature" Böhler 1981.

is nothing but a fact or an "information". From a positivist point of view, it is simply the case "that public policies that undermine the productivity and competitiveness of businesses are self-defeating" with regard of general prosperity and jobs (Porter/Kramer 2011, 51). The rules and regulations established by politics are thus constantly subjected to an "empirical test of their validity as 'good rules'"; this test reveals – and lets us "discover" (Hayek) – which policies "prove [validate] themselves" (Schäfer 2009, 432).[66] Looking from the present to the future, this is a prognosis, and from a positivist point of view only the "accuracy" (Steve Keen) with which it is formulated is of interest.

However, *who* is it actually, who produces "the consequences" of an intended action, which then "refutes" it (Albert 1998, 114)? *Who* causes the "true causal chains" that may undermine the "effectiveness of economic policy measures" (Burda et al. 2014)? If the reduction of "inequality" cannot be an "instrument" of politics and "inequality" is rather an (apparently: unchangeable) "outcome measure" (Schmidt 2014, 229), then the question arises: Outcome of *whose* action or counter-action?

Positivist economics already methodologically affirms and justifies the existing market power relations by hypostasizing them to a fact.[67] It affirms and justifies by virtue of its methodological design, not necessarily by the intentions of its representatives, the powerful and thus the effective logic with which the competitive market continually revolutionizes society. This is its normativity, which it denies, apparently precisely in order to establish this affirmation all the more irrefutably. The unconditional (*eo ipso* normative) recognition of market power relations is expressed in the positivist principle that the validity of the statements of the social sciences, which consider themselves to be "value-free", is "independent of the question whether these statements are in accordance with the moral convictions of the scientists who are presenting them or whether they are to the contrary" (Kirchgässner 2008, 3). Of course, this shall be true also, and especially, for the addressees of positivist economics, ultimately for the demos.

The ideology of this position consists systematically in the fact that the forces, which it attributes naturalistically to the "objective facts", are of course no forces of nature. We are not dealing here with natural phenomena, but with a social logic or a dynamic resulting from human actions and nothing else. In conclusion, the following holds: Economics cannot escape normativity one way or another – certainly not in the variant of "implicit ethics" (see section 3), but also not in the variant of a (as far as possible) "positive" theory.

Moreover, the position of economic positivism must be classified as particularist because the actors who thwart a political program or cause "counterproductivity" are no longer addressed and are thus absolved of all responsibility (cf. Thielemann 2014, 331f.).[68] This also holds true

[66] Cf. to a corresponding systemic theory of value, in which that which prevails is called the reasonable, right, legitimate, etc. or where enforceability in the competitive market "impinges" (Karl Homann) on the definition of what is to be regarded as just, Thielemann 2010, 389.
[67] Likewise Anzinger 2019, 3f.
[68] The universalism that Schmidt (2014) claims for "evidence-based policy advice" by assuming support for the concept by "the citizens" (p. 219), i.e. all citizens (albeit only after "intensive educational work" by "the economic researchers") must be rejected. For it is none other than "citizens" who "limit" (p. 231) the "impact" of politics (indeed, democratic politics) and generate "risks" (viz. the "risk" or better the danger of counterproductivity) when political measures are not "incentive-compatible" (Schäfer 2009, 432). This "incentive compatibility" of politics is, according to the economic expert Christoph Schmidt (FAZ 2019), currently not given in view of the "international tax competition", which is why "at the latest now a signal of tax relief for companies and citizens is appropriate". Some citizens (apparently the majority) should therefore realize that (given the power of another group of citizens) it would be "counterproductive" for

to the extent that the market-competitive dynamics – as a "self-dynamics" – is of systemic character and thus runs without instance. Positivist economics merely reproduces and thereby vindicates the "partiality of inherent necessity" (Ulrich 2008, 131ff.), i.e. the partiality of systemic forces (i.e. competition), namely for the "entrepreneurial" way of life and for the holders of net asset positions. This is then declared as "scientific, evidence-based" departure from the "ideologization of economic policy" (Burda et al. 2014). "Ideology" here is understood in a positivist sense as any form of ethical discourse, whereby freedom of ideology becomes a mode of social practice in which interaction takes place and should take place economically or "non-tuistically" (Wicksteed 1910, 174ff)[69] only via effects or via power (solvency, competitiveness).[70]

5.3 Heterodox positivism and the good news of a well-functioning true market

The systematic distinction between positivist orthodoxy and an equally positivist heterodoxy can only be that the latter ascribes different outcomes to market power relations than the former.[71] This applies, for example, to the thesis of the "counterproductivity" of minimum wages, which Friedman (1953, 5f.) already chose as an "obvious" example in his classic contribution to a positivist-conceived economics.[72] Now, the introduction of a (albeit rather moderate) minimum wage in Germany in 2014 was not at all "counterproductive", which is why this, according to heterodox economist Arne Heise (2018), formed "a scientific Waterloo for traditional economics", whose representatives all predicted (or evoked?) its "counterproductivity", i.e. mass layoffs. Peter Bofinger, not necessarily a heterodox, but a "dissenting" economist,[73] expressly welcomes in his minority vote the fact that the majority of the German Council of Economic Experts has turned to "evidence-based policy advice". However, he states to his colleagues that there is "no ambiguous, but rather unambiguous evidence that minimum wages do not lead to significant employment losses" – he adds however, only "if they are appropriately designed" (Sachverständigenrat 2013, 291). Up to this threshold, wherever it may be, recipients of very low incomes can say: "What a luck we had."

A positivist heterodoxy that has stepped up to make fundamentally different policy recommendations than positivist orthodoxy (and of course from "ideological" orthodoxy) has in principle three options available. First, it can empirically reject the counterproductivity of pursuing certain political or individual courses of action by admitting the existence of a much more extensive latitude of market-adverse courses of action than the advocates of ubiquitous market constraints assert.[74] Bofinger's above objection can be attributed to this concept. The same holds for the rejection of the "policy ineffectiveness thesis", which is often advocated by

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their interests to agree to policies that put a stop to the long-standing polarization of income and the concentration of wealth.

[69] Cf. on the rejection of "non-tuism" as the beyond of "altruism" and "egoism" Thielemann 1996, 144ff.

[70] On the corresponding category of moral inaccessibility of argumentation, see Thielemann 1996, 148.

[71] Another possibility is that power relations other than *market* power relations prevail, such as "social" ones. This, it seems to me, is one of the main points of Walter Ötsch's general account of "market fundamentalism" (2018), which he presents under the title "Myth of the Market".

[72] The external norm, whose compatibility or incompatibility with market power relations is under discussion, whereby in the second case it is considered "refuted", can perhaps be summed up with the formula of "decent pay for hard work" or the prevention of indecently low remuneration.

[73] Bofinger does not seem to ascribe himself to heterodoxy. "Who is that supposed to be, by what criteria is one considered a heterodox economist?" (see Plickert 2018) But he is ascribed to the group of "dissenters" (Heise/Sander/Thieme 2017, 74). Priewe (2016, 225), however, assigns Bofinger to heterodoxy.

[74] In the positivist frame of reference, these options for action have the character of external norms or "moral preferences". On the criticism of the conceptualization of morality as a "preference" see Thielemann 1996, 112ff., 132 ff.; Ötsch 2019, 265, 273; Sen 1977, 326f.

orthodox economists, as a pseudo constraint (Peukert 2018b, 54, 60, 79, 110). Since, according to Peukert, the "inevitability of economic 'natural laws'" does not exist in this way, especially in view of "institutional factors", there is room for "policy recommendations" beyond the neoliberal mainstream – provided these are "realistic".[75] With or rather against Milton Friedman (1953, 22), this empirical proposition can be summarized as follows: "The process of 'natural selection'" through competition, which "helps to validate the hypothesis" of counterproductivity or at least of the ineffectiveness of non-market compliant aspirations, is less far-reaching than the proponents maintain (or wish). At the limits of "realism", however, this conception would find its own limits.

Secondly, a positivist heterodoxy can assert a counterproductivity that is, so to speak, counterposed to neoliberal policy recommendations. This applies, for example, to the thesis of the counterproductivity of an austerity policy. Since it impedes growth, it undermines its own goal of reducing debt levels or restoring debt sustainability (see Blyth 2013, Sen 2015, Stiglitz 2016). This, in turn, can be interpreted as the contention of "productivity" and, in this respect, as the "market conformity" of "progressive" values and norms, which are primarily aimed at a more even distribution of income.

Insofar this second leads into the third variant of the rejection of positivist orthodoxy by a positivist heterodoxy: the declaration of the "productivity" instead of the "counter-productivity" of the external norms in question, i.e. the assertion of a business case for (all?) ethically justifiable norms in the sense of a Paretian ethic of win-win. Naidu, Rodrik, and Zucman (2019, 2f.) argue that their proposal for an "empirical turn" in economics is based on the fact that economic research, which is already largely empirically focused today (and as such can only show what social relations of effect or power actually exist), is an "ally for inclusive prosperity". The good news of their "narrative of progress", which can be "empirically verified" (Steinbaum 2019), is that "interventions" are possible that at the same time increase "efficiency" (meaning probably GDP growth) and "equality" (meaning less income polarization) (Naidu/Rodrik/Zucman 2019, 5). Thus, those who want to increase "efficiency" cannot avoid reducing inequality. The same applies to the reduction of "power asymmetries", which "make sense not only from a distributional standpoint but also for improving aggregate economic performance" (Naidu/Rodrik/Zucman 2019, 7).

In times of the rule of the market principle, as long as the absoluteness of this rule is not itself effectively called into question, progressives have only one way to make their norms respected. They must empirically prove the market conformity of adherence to the norm (i.e. by acknowledging this dominance), in other words: claim the existence of a business case for it. From an ecological point of view, for example, it is claimed that "a country that steers its industry towards the green economy with the help of adequate governmental framework conditions in good time will also be better positioned economically afterwards" (Kaltenborn et al. 2013, v), i.e. it will be ahead in global competition.[76]

[75] Possibly, however, the "realism" of these policy recommendations according to Peukert is not conceived of as a mere acceptance of systemic constraints but as a prudent weighing of conflicting interests or claims. This then would point to a completely different paradigm, namely an ethically critical focus instead of a positivist value-free paradigm.

[76] This is, of course, not strictly speaking an ethics of a general win-win (because the less "sustainably" positioned "locations" in the world economy will lose according to this assertion), but it is a thesis that asserts a progressiveness inherent in market power relations. Moreover, not only "ethics" will win, but also the one who does the right thing.

Joseph Stiglitz (2015, 103) actually believes that a policy of redistribution lies in the "enlightened self-interest" of everyone, including billionaires.[77] "If all members of the 1 percent pursued their enlightened self-interest, inequality would worry them and they would do something about it." Giving up resistance, for example against higher and more progressive taxation or against the fight against tax havens, would thus have to be seen by them as an investment, i.e. as costs that pay off in the long run. This either because redistribution would make them even richer in the long run (which obviously would not harm distributive justice, according to this argument) or because it would prevent them from becoming poorer in the future, so that they will be inevitably poorer than today, but less poor when enduring redistributive costs. The admission of redistribution measures could be an investment for the top one percent with regard to maximizing their income and assets (which includes feasibility), because otherwise either riots would loom and "social peace" would be revoked (maybe the people vote for progressives like Bernie Sanders), or because, and this is what Stiglitz is primarily concerned with, a "downward spiral of economic dysfunctionality" (p.129) would occur. The latter is the result of the fact that high-income earners withdraw large portions of their income from effective overall demand, in other words they are in effect hoarding or wasting moneys in speculative transactions, with the result that they lose their sources of profit (pp. 130, 186).[78] With regard to the "fair share" that "the super-rich" would have to pay (p. 240), this, like distributive justice in general, would, however, be made dependent on these payments having the character of an investment for the super-rich. What does not pay off or is not "good for business" (p. 127), should thus be considered unfair. This is economism in its purest form.[79]

A positivistically oriented economics (in which we abstract from all moments of the eo ipso normative interpretation of the object) cannot but record the "true" market power relations as "the facts". The (indeed interesting) controversy between positivist orthodoxy and positivist heterodoxy can only cover the idea that in each case different market power relations (widely understood) are assumed to exist (and thus also different constellations of true self-interest). The "market mechanism" itself as an interaction context remains outside of ethical reflection and is understood as an existing, quasi-natural fact and is thus factually affirmed. This is the normativity of a purely positive and therefore only supposedly "value-free" economics.

6. The ethico-critical paradigm of economics

The alternative orientation of an economics would consist in the critical explication of the market interaction relations themselves or of the market logic under ethically substantial epistemological perspectives (for example that of freedom in the comprehensive sense). The market logic is as it is. However, it can unfold more or less extensively. Of course, in the clarification of what is ethically the case with the market logic to evolve, both the actual causal relations are controversial and the normative aspects, under which the unfolding of market logic is an interesting object of knowledge in the first place. With regard to the positively

[77] The enlightened self-interest means the long-term, as opposed to the short-term, i.e. short-sighted interest. It is thus the true self-interest.
[78] Stiglitz, however, does not consider the possibility of a plutonomy (Kapur, et al 2005) where the rich largely consume their surpluses and invest particularly in their own luxury consumption. Ordinary people, the "non-rich" (Kapur), in this scenario function less as consumers but mainly as workers.
[79] Insofar, Stiglitz as an economist does not deviate from the principle of identity of his discipline, the "rationality principle" (see Section 3.1), which has been established at least since neoclassical economics became mainstream. Whether the decidedly progressive agenda of the brilliant critic Stiglitz follows this logic in its entirety is highly doubtful, however, and would be worth investigating on its own.

existing causal relationships it could be asked for example: Are "creation" and "destruction" two inevitable sides of the unfolding of market logic, or can there be "creation" without "destruction"? This question cannot be answered in a purely positive, i.e. positivistic, way because the "destruction" does not need to be measurable (e.g. through unemployment, insolvency or a drop in income). There are pragmatic reasons for this: Those affected will and must act, namely "entrepreneurially", so that a loss of income need not be detectable (Thielemann 2010, 214ff., 329ff.). With regard to the normative aspects, for example, the question could be: What dimensions of freedom should form the point of view under which the unfolding of market logic is critically examined?

It is only with this ethical-critical instead of positivist perspective that the option of limiting the development of market logic comes into view. Limitation both on the individual level of action: the pursuit of profit instead of profit maximization, and on the level of regulatory policy: "open markets" or global competitive non-aggression agreements ("protectionism"). Only then could economists argue not against but for the option of an embedded market economy, which presupposes the limited unfolding of the market logic – within markets and beyond. The position to exclude this option a priori by a positivist methodology is also normative.

> "Not to put the problems of creative destruction at the center of economic questions is also a value judgement of a science that is concerned with 'positive economics'" (Brodbeck 1996, 308).

References

Albert, H. (1972) *Ökonomische Ideologie und politische Theorie, 2*. Aufl., Göttingen: Otto Schwartz.

Albert, H. (1980) *Traktat über kritische Vernunft, 4.* Aufl., Tübingen: Mohr.

Albert, H. (1998) *Marktsoziologie und Entscheidungslogik*, Tübingen: Mohr.

Albert, H. (1995) *Die Idee rationaler Praxis und die ökonomische Tradition, Walter Adolf Jöhr Vorlesung 1995*, St. Gallen: Universität St. Gallen.

Albert, H. (2002) "Science and the Social Order." In: Brennan, G., Kliemt, H., Tollison, R.D. (eds.): *Method and Morals in Constitutional Economics. Essays in Honor of James M. Buchanan*, Berlin, Heidelberg: Springer.

Altvater, E. (2006) "Die zerstörerische Schöpfung. Kapitalistische Entwicklung zwischen Zivilisierung und Entzivilisierung." *PROKLA. Zeitschrift für kritische Sozialwissenschaft*, 36 (2): 157-175.

Anderson, E. (1990) "The Ethical Limitations of the Market." *Economics and Philosophy*, 6 (2): 179-205.

Anzinger, L. (2019) "Die vermeintliche Wertfreiheit der Mainstreamökonomik." ExMA-Papers, Zentrum für Ökonomische und Soziologische Studien Universität Hamburg, https://www.wiso.uni-hamburg.de/fachbereich-sozoek/professuren/heise/zoess/publikationen/exma-papers/exma-anzinger.pdf

Apel, K.-O. (1973) *Transformation der Philosophie, Vol. 2*: *Das Apriori der Kommunikationsgemeinschaft*, Frankfurt a.M.: Suhrkamp.

Apel, K.-O. (1979) *Die Erklären-Verstehen-Kontroverse in transzendentalpragmatischer Sicht*, Frankfurt a.M.: Suhrkamp.

Apel, K.-O. (1998a) "The Cartesian Paradigm of First Philosophy: A Critical Appreciation from the Perspective of Another (the Next?) Paradigm." *International Journal of Philosophical Studies*, 6 (1): 1-16.

Apel, K.-O. (1998b) *Auseinandersetzungen in Erprobung des transzendentalpragmatischen Ansatzes*, Frankfurt a.M.: Suhrkamp.

Aßländer, M. (2011) "Einleitung." In: id. (ed.), *Handbuch Wirtschaftsethik*, Stuttgart: Springer, 1-5.

Aßländer, M., Schumann, O.J. (2011) "Wirtschaftsethik als angewandte Ethik." In: Aßländer, M. (ed), *Handbuch Wirtschaftsethi*k, Stuttgart: Springer, 177-187.

Aßländer, M., Nutzinger, H.G. (2010) "Der systematische Ort der Moral ist die Ethik! Einige kritische Anmerkungen zur ökonomischen Ethik Karl Homanns." In: *Zeitschrift für Wirtschafts- und Unternehmensethik* 11 (3): 226-248.

Bachmann, R. (2016) "Gegen einen Pluralismus-Kodex." In: *Ökonomenstimme*, July 4., http://www.oekonomenstimme.org/artikel/2016/07/gegen-einen-pluralismus-kodex/.

Becker, G.S. (1976) *The Economic Approach to Human Behavior*. Chicago: University of Chicago Press.

Berg, W. (1997) *Kein Job? Selbst schuld!*, Bonn: Bouvier.

Bhagwati, J. (1996) "The Demands to Reduce Domestic Diversity among Trading Nations." In: Bhagwati, Hudec, R. (eds.), *Fair Trade and Harmonization*, Cambridge: MIT-Press, 9-40.

Blanchard, O. (2017) *Macroeconomics*, 7th ed., Harlow: Pearson.

Blyth, M. (2013) *Austerity. The History of a Dangerous Idea*, Oxford: Oxford University Press.

Boda, Z., Zsolnai, L. (2016) "The failure of business ethics." *Society and Business Review*, 11 (1): 93-104.

Böhler, D. (1981) "Naturverstehen und Sinnverstehen." In: Rapp, F. (ed.): *Naturverständnis und Naturbeherrschung*, München: Friedrich Rapp, 70-95.

Bössmann, E. (1991) "Der Wirtschaftswissenschaft eine neue Richtung geben." *WISU-Magazin*, p. 868-870.

Bregman, R. (2019) "Wir müssen das Biest Kapitalismus zähmen." Interview, Berliner Zeitung, February 2, https://www.fr.de/wirtschaft/wir-muessen-biest-kapitalismus-zaehmen-11746721.html.

Breyer, F. (2008) "Die Chancen der Sozialen Marktwirtschaft und die Rolle der Ökonomen." *Perspektiven der Wirtschaftspolitik*, 9 (2): 125-138.

Bröckling, U. (2016) *The Entrepreneurial Self. Fabricating a New Type of Subjec*t, London: Sage.

Brodbeck, K.-H. (1996) *Erfolgsfaktor Kreativität. Die Zukunft unserer Marktwirtschaft*, Darmstadt: Wissenschaftliche Buchgesellschaft.

Brodbeck, K.-H. (2002a) *Beiträge zu Ethik und Wirtschaft*, Gröbenzell.

Brodbeck, K.-H. (2002b) *Buddhistische Wirtschaftsethik. Eine vergleichende Einführung*, Aachen: Shaker.

Brodbeck, K.-H. (2003) "Ökonomische Theorie als implizite Ethik. Erkenntniskritische Anmerkungen zur reinen Wirtschaftswissenschaft." In: Breuer, M., Brink, A., Schumann, O.J. (eds.): *Wirtschaftsethik als kritische Sozialwissenschaft*, Bern, Stuttgart, Wien: Haupt, 191-220.

Brodbeck, K.-H. (2009) "Was heißt eigentlich Marktgehorsam? Wider die falsche Autorität der ökonomischen Mechanik." In: Aßländer, M., Ulrich, P. (eds.), 60 *Jahre Soziale Marktwirtschaft*, Bern, Stuttgart, Wien: Haupt, 45-67.

Burda, M., Schnitzer, M., Fitzenberger, B., Schmidt, Ch. (2014) *Evidenzbasierte Wirtschaftspolitik*. Thesenpapier zur Kerntagung des Vereins für Socialpolitik in Hamburg 2014, https://www.socialpolitik.de/docs/2014/Thesen_Evidenzbasierte_Wirtschaftspolitik.pdf.

Callon, M. (1998) *The Laws of the Market*, Oxford: Wiley.

Chang, H.-J. (2014) *Economics: The User's Guide*, London: Penguin.

Cheng, Li (2016) "Morality and Value Neutrality in Economics: A Dualist View." MPRA Paper No. 73797, https://mpra.ub.uni-muenchen.de/73797/.

Chen, R., Hanson, J. (2004) "The Illusion of Law: The Legitimation Schemas of Modern Policy and Corporate Law." *Michigan Law Review*, 103 (1): 1-149, https://ssrn.com/abstract=965207.

Crouch, C. (2004) *Post-Democracy*. Oxford: Wiley.

Deutschmann, Ch. (2015) "Die Entgrenzung der Märkte als Problem der Gesellschaftstheorie." *Leviathan*, 43 (4): 539-566.

Earle, J., Morgan, C., Ward-Perkins, Z. (2017) *The Econocracy. The Perils of Leaving Economics to the Experts*, Manchester: Penguin.

Egan-Krieger, T. von (2014) *Die Illusion wertfreier Ökonomie. Eine Untersuchung der Normativität heterodoxer Theorien*, Frankfurt a.M: Campus.

Elsner, W. (2015) "Sozioökonomie und Evolutorischer Institutionalismus." In: Hedtke, R. (ed.), *Was ist und wozu Sozioökonomie?*, Wiesbaden: Springer, 231-260.

FAZ (2019) Chef der Wirtschaftsweisen fordert Steuersenkungen, June 12, https://www.faz.net/aktuell/wirtschaft/chef-der-wirtschaftsweisen-fordert-steuersenkungen-16232505.html.

Feld, L.P., Schmidt, Ch.M., Schnabel, I., Wieland, V. (2017) "Vertraut dem Markt!" *Frankfurter Allgemeine Sonntagszeitung* Nr. 33, August 20, p. 20.

Ferraro, F., Pfeffer, J., Sutton, R. I. (2005) "Economics Language and Assumptions: How Theories Become Self-Fulfilling." *Academy of Management Review*, 30 (1), 8-24.

Forder, J. (2016) *Economics. A Beginner's Guide*, London: Oneworld.

Fratzscher, M. (2016) *Verteilungskampf. Warum Deutschland immer ungleicher wird*, München: Carl Hanser.

Freeman, A. (2009) "The Economists of Tomorrow." MPRA Paper No. 15691, https://mpra.ub.uni-muenchen.de/15691/.

Friedman, M. (1953) *Essays in Positive Economics*, Chicago: University of Chicago Press.

Fritsch, M., Wein, Th., Ewers, H.-J. (2005) *Marktversagen und Wirtschaftspolitik*, 6th ed., München: Vahlen.

Genschel, Ph., Seelkopf, L. (2015) "The Competition State: The Modern State in a Global Economy." In: Leibried, St., et al. (eds.), *The Oxford Handbook of Transformations of the State*, Oxford: Oxford University Press, 237-252.

Giersch, H. (1997) "Das Jahrhundert der Globalisierung." *Frankfurter Allgemeine Zeitung*, November 11, p. 13.

Göbel, E. (2006) *Unternehmensethik. Grundlagen und praktische Umsetzung*, Stuttgart: Lucius & Lucius.

Graupe, S. (2012) "The Power of Ideas. The Teaching of Economics and its Image of Man." *Journal of Social Science Education*, 11 (2): 60-85.

Guschanski A., Onaran Ö. (2018) "Determinants of the Wage Share. A Cross-country Comparison Using Sectoral Data." *CESifo Forum*, 19 (2): 44-54.

Habermas, J. (1971) "Knowledge and Human Interests. A General Perspective." In: *Knowledge and Human Interests*, trans. by Jeremy J. Shapiro, Boston: Beacon Press, 301-17.

Habermas, J. (1991) *Erläuterungen zur Diskursethik*, Frankfurt a.M.: Suhrkamp.

Habermas, J. (2001) *On the Pragmatics of Social Interaction. Preliminary Studies in the Theory of Communicative Action*, trans. by Barbara Fultner, Cambridge: MIT Press.

Hayek, F.A. von (1948) *Individualism and Economic Order*, Chicago: University of Chicago Press.

Hayek, F.A. von (1960) *The Constitution of Liberty*, Chicago: University of Chicago Press.

Hayek, F.A. von (1982) *Law, Legislation, Liberty, Vol. 3: The Political Order of Free People*, London: Routledge.

Hayek, F.A. von (1979) *Social Justice, Socialism & Democracy*, Turramurra, N.S.W: Centre for Independent Studies.

Hedtke, R. (2015) "Was ist und wozu Sozioökonomie?" In: id. (ed.), *Was ist und wozu Sozioökonomie?*, Wiesbaden: Springer, 19-69.

Heidbrink, L., Lorch, A., Rauen, V. (2019) *Wirtschaftsphilosophie zur Einführung*, Hamburg: Junius.

Heilbroner, R.L. (1973) "Economics as a 'Value Free' Science." *Social Research*, 40 (1): 129-143.

Heise, A. (2016) Für einen Pluralismus-Kodex, http://www.oekonomenstimme.org/artikel/2016/07/fuer-einen-pluralismus-kodex /.

Heise A, (2018) Eine Blamage für die Wissenschaft, in: Frankfurter Rundschau, December 6.

Heise, A., Sander, H., Thieme, S. (2017) *Das Ende der Heterodoxie? Die Entwicklung der Wirtschaftswissenschaften in Deutschland*, Wiesbaden: Springer.

Heitmeyer, W. (2018) *Autoritäre Versuchungen*, Frankfurt a.M.: Suhrkamp.

Hirsch, J. (1998) *Vom Sicherheits- zum nationalen Wettbewerbsstaat*, Berlin: ID-Verlag.

Hirschman, A.O. (1991) *The Rhetoric of Reaction: Perversity, Futility, Jeopardy*, Cambridge: Harvard University Press.

Holzmann, R. (2015) *Wirtschaftsethik*, Wiesbaden: Springer.

Homann, K. (1989) "Entstehung, Befolgung und Wandel." In: Pappi, F. U. (ed.), *Wirtschaftsethik*, Kiel: Christiana Albertina, 47-64.

Homann, K., Blome-Drees, F. (1992) *Wirtschafts- und Unternehmensethik*, Göttingen: Vandenhoeck.

Homann, K., Suchanek, A. (2005) *Ökonomik. Eine Einführung*, Tübingen: Mohr Siebeck.

Huerta de Soto, J. (2008) *The Austrian School: Market Order and Entrepreneurial Creativity*, Cheltenham: Edward Elgar Publishing.

IMF (2017) *Tackling Inequality*, Washington.

Kaltenborn, W., et al. (2013) *Treiber und Hemmnisse für die Transformation der deutschen Wirtschaft zu einer "Green Economy", Endbericht im Auftrag des Bundesministeriums für Bildung und Forschung,* Berlin.

Kappler, E. (2013) "Menschenbilder müssen scheitern. Menschen sind erkennbar bekannt." *Zeitschrift für Wirtschafts- und Unternehmensethik*, 14 (2): 301-314.

Kapur A, Macleod N, Singh N (2005) *Plutonomy. Buying Luxury, Explaining Global Imbalances.* Citigroup.

Kaufmann, St. (2014) "Gerechtigkeitsdebatte: Die Ungleichheit schadet der Weltwirtschaft." *Berliner Zeitung*, September 5, https://www.berliner-zeitung.de/wirtschaft/gerechtigkeitsdebatte-die-ungleichheit-schadet-der-weltwirtschaft-362848

Kaufmann, St. (2019) "Eigentum ist antastbar." *der Freitag*, Ausgabe 15, https://www.freitag.de/autoren/der-freitag/eigentum-ist-antastbar.

Keen, St. (2011) *Debunking Economics. The Naked Emperor Dethroned*, London, New York: Zed Books.

Keynes, J.M. (1963) *Essays in Persuasion*, New York: W.W.Norton & Co.

Keynes, J.N. (1917) *The Scope and Method of Political Economy*, 4. ed., New York: Macmillan.

Kirchgässner, G. (2008) *Homo oeconomicus. The Economic Model of Behaviour and Its Applications in Economics and Other Social Sciences*, New York: Springer.

Kirchgässner, G. (1996) "Ideologie und Information in der Politikberatung. Einige Bemerkungen und ein Fallbeispiel." *Hamburger Jahrbuch für Wirtschafts- und Gesellschaftspolitik*, Vol. 41, Tübingen, 9-41.

Kirchgässner, G. (2009) "Die Krise der Wirtschaft. Auch eine Krise der Wirtschaftswissenschaften?" *Perspektiven der Wirtschaftspolitik*, 10 (4): 436-468.

Klein, N. (2008) *The Shock Doctrine: The Rise of Disaster Capitalism*, London: Allen Lane.

Komlos, J. (2015) *Ökonomisches Denken nach dem Crash. Einführung in eine realitätsbasierte Volkswirtschaftslehre*, Marburg: Metropolis.

Komlos, J. (2019) *Foundations of Real-World Economics*, 2d. ed., New York, London: Taylor & Francis.

Kuhn, Th., Weibler, J. (2011) "Ist Ethik ein Erfolgsfaktor? Unternehmensethik im Spannungsfeld von Oxymoron Case, Business Case und Integrity Case." *Zeitschrift für Betriebswirtschaft*, Special-Issue: 93-118.

Levitt, St. D., Dubner, St. J. (2006) *Freakeconmics*, London: Penguin.

MacKenzie, D. A., et al. (eds.) (2007) *Do Economists Make Markets? On the Performativity of Economics*, Princeton: Princeton University Press.

Mankiw, N.G. (2008) *Principles of Mircoeconomics*, 5th ed., Mason: South-Western Cengage Learning.

Mas-Colell, A., Whinston, M.D., Green, J.R. (1995) *Microeconomic Theory*, Oxford: Oxford University Press.

Mazzucato, M. (2018) *The Value of Everything. Making and Taking in the Global Economy*, New York: Allen Lane.

McKenzie, R.B. (1988) *The American Job Machine*, New York: Universe.

McKenzie, R.B. (2010) Predictably Rational? In Search of Defenses for Rational Behavior in Economics, Heidelberg: Springer.

Mirowski, Ph. (2013) *Never Let a Serious Crisis Go to Waste. How Neoliberalism Survived the Financial Meltdown*, London, New York: Verso.

Mises, L. von (1940) N*ationalökonomie. Theorie des Handelns und Wirtschaftens*, Genf: Editions Union Genf.

Mittelstrass, J. (1982) *Wissenschaft als Lebensform. Reden über philosophische Orientierungen in Wissenschaft und Universität*, Frankfurt a.M.: Suhrkamp.

Mofid, K. (2015) Open Letter to Mark Carney, Governor of the Bank of England, June 12, https://www.gcgi.info/index.php/news/702-open-letter-to-mark-carney-governor-of-the-bank-of-england.

Myrdal, G. (1953) *The Political Element in the Development of Economic Theory*, London: Routledge.

Myrdal, G. (1956) *An International Economy. Problems and Prospects*, London: Routledge and Kegan Paul

Naidu, S., Rodrik, D., Zucman, G. (2019) "Economics for Inclusive Prosperity: An Introduction." In: Economists for Inclusive Prosperity (eds.), *Economics for Inclusive Prosperity: An Introduction*, p. 1-8, https://econfip.org/wp-content/uploads/2019/02/Economics-for-Inclusive-Prosperity.pdf.

Ötsch, W.O. (2019) *Mythos Markt. Mythos Neoklassik. Das Elend des Marktfundamentalismus*, Marburg: Metropolis.

Ötsch W, Pühringer S, Hirte K (2018) *Netzwerke des Marktes. Ordoliberalismus als Politische Ökonomie*, Wiesbaden: Springer.

Pennekamp, J. (2019) "Gewinn um jeden Preis." In: Frankfurter Allgemeine Sonntagszeitung, October 28, https://blogs.faz.net/fazit/2018/10/31/der-fall-khashoggi-gewinn-um-jeden-preis-10374/.

Peukert, H. (2018a) *Mikroökonomische Lehrbücher: Wissenschaft oder Ideologie?* Marburg: Metropolis.

Peukert, H. (2018b) *Makroökonomische Lehrbücher: Wissenschaft oder Ideologie?* Marburg: Metropolis.

Plickert, Ph. (2018) Das letzte Aufgebot der Gewerkschaften, Frankfurter Allgemeine Zeitung, November 13, https://www.faz.net/aktuell/wirtschaft/wirtschaftsweisen-kandidat-das-letzte-aufgebot-der-gewerkschaften-15887459.html.

Porter, M.E., Kramer, M.R. (2011) "Creating Shared Value. How to Reinvent Capitalism and Unleash a Wave of Innovation and Growth." *Harvard Business Review*, 89 (1/2): 62-77.

Priewe, J. (2016) "Wechselkurstheorie in drei Standardlehrbüchern der Volkswirtschaftslehre." In: Treeck, T.v., Urban, J. (eds.) *Wirtschaft neu denken. Blinde Flecken der Lehrbuchökonomie*, Berlin: iRights Media, 250-263.

Reichert, W.-G. (2013) "Effizient und gerecht? Alan Gewirths Community of Rights und das Konzept der Politischen Wirtschaftsethik." *Jahrbuch für Christliche Sozialwissenschaft*, Vol. 53, 249-273.

Reyes, G., Scholz, M., Smith, C. (2017) "Beyond the 'Win-Win'. Creating Shared Value Requires Ethical Frameworks." *California Management Review*, 59 (2): 142-167.

Robbins, L. (1945) *An Essay on the Nature and Significance of Economic Science*, 2. ed. London: Macmillan.

Rochon, L.-Ph., Rossi, S. (2016) "What is Economics?" In: ead. (eds.) *An Introduction to Macroeconomics. A Heterodox Approach to Economic Analysis*, Cheltenham: Elgar, 21-41.

Rodrik, D. (2011) *The Globalization Paradox. Democracy and the Future of the World Economy*, New York, London: Norton.

Rodrik, D. (2015) *Economics Rules. Why Economics Work, When it Fails, and How to Tell the Difference*, Oxford: Norton & Company.

Rodrik, D. (2018) *Straight Talk on Trade. Ideas for a Sane World Economy*, Princeton: Princeton University Press.

Rüstow, A. (1963) *Rede und Antwort*, Ludwigsburg: Martin Hoch.

Sachverständigenrat (2013) *Gegen eine rückwärtsgewandte Wirtschaftspolitik*, Jahresgutachten 2013/14, Wiesbaden.

Sachverständigenrat (2014) *Mehr Vertrauen in Marktprozesse*, Jahresgutachten 2014/15, Wiesbaden.

Samuelson, P.A., Nordhaus, W.D. (2010) *Economics*, 19th ed., New York: McGraw-Hill.

Schäfer, W. (2009) "Ordnungsökonomik ist Institutionenökonomik." *Wirtschaftsdienst*, 89 (7): 431-435.

Schmidbauer, H. (1974) *Allokation, technischer Fortschritt und Wettbewerbspolitik*, Tübingen: Mohr.

Schmidt, Ch. M. (2014) "Wirkungstreffer erzielen. Die Rolle der evidenzbasierten Politikberatung in einer aufgeklärten Gesellschaft." *Perspektiven der Wirtschaftspolitik*, 15 (3), S. 219-233.

Schulmeister, St. (2018) *Der Weg zur Prosperität,* Salzburg: Ecowin.

Schumpeter, J.A. (1943) *Capitalism, Socialism, and Democracy*, London, New York: Routledge.

Sen, A. (1977) "Rational Fools. A Critique of the Behavioral Foundations of Economic Theory." *Philosophy and Public Affairs*, 6 (4): 317-344.

Sen, A. (1987) *On Ethics and Economics*, Oxford: Wiley.

Sen, A. (2015) "The Economic Consequences of Austerity." *New Statesman*, 144 (5265): 28-33.

Shapira, R., Zingales, L. (2017) "Is Pollution Value-Maximizing? The Dupont Case." NBER Working Paper 23866, http://www.nber.org/papers/w23866.

Sinn, H.-W. (2005) "Im Gespräch mit Prof. Hans-Werner Sinn." *WSM Nachrichten*, October 30, p. 11, www.cesifo-group.de.

Skidelsky, R., Skidelsky, E. (2013) *Wie viel ist genug? Vom Wachstumswahn zu einer Ökonomie des guten Lebens*, München: Kunstmann.

Slobodian, Q. (2019) *Globalisten. Das Ende der Imperien und die Geburt des Neoliberalismus,* Berlin: Suhrkamp.

Söderbaum, P. (2019) "Toward sustainable development: from neoclassical monopoly to democracy-oriented economics." *real-world economics review*, issue no. 87, March 19, pp. 182-195, http://www.paecon.net/PAEReview/issue87/whole87.pdf.

Steinbaum, M. (2019) "Economics after Neoliberalism. The dead weight of decades of bad economics remains." February 28, http://bostonreview.net/forum/economics-after-neoliberalism/marshall-steinbaum-empiricism-alone-wont-save-us.

Stiglitz, J.E. (2002) "There is no Invisible Hand." The *Guardian*, December 20, https://www.theguardian.com/education/2002/dec/20/highereducation.uk1.

Stiglitz, J.E. (2015) *Reich und Arm. Die wachsende Ungleichheit in unserer Gesellschaft*, München: Siedler.

Stiglitz, J.E. (2016) *The Euro. How a Common Currency Threatens the Future of Europe*, New York, London: Norton.

Stiglitz, J.E. (2020) *Der Preis des Profits*, München: Siedler.

Stiglitz, J.E., Walsh, C.E. (2005) *Economics*, 4. ed., London: Norton.

Streeck, W. (2012) "Der öffentliche Auftrag der Soziologie." *Leviathan* 40 (1): 129-147.

Streeck, W. (2014) "How will Capitalism End?" *New Left Review*, 87, May/June, pp. 35-64.

Streit, M.E. (2006) "Der Neoliberalismus. Ein fragwürdiges Ideensystem?" *Jahrbuch für die Ordnung von Wirtschaft und Gesellschaft*, 57 (1): 91-98.

Stürner, R. (2007) *Markt und Wettbewerb über alles? Gesellschaft und Recht im Fokus neoliberaler Marktideologie,* München: C.H. Beck.

Thielemann, U. (1996) *Das Prinzip Markt. Kritik der ökonomischen Tauschlogik*, Bern, Stuttgart, Wien: Haupt.

Thielemann, U. (2000) "Was spricht gegen angewandte Ethik? Erläutert am Beispiel der Wirtschaftsethik." *ETHICA*, 8 (1): 37-68.

Thielemann, U. (2001) "Wirtschaftsethik als Anstrengung zur Überwindung von Philosophie-vergessenheit." In: Koslowski, P. (ed.), *Wirtschaftsethik. Wo ist die Philosophie*? Heidelberg: Springer, 145-178.

Thielemann, U. (2009) *System Error. Warum der freie Markt zur Unfreiheit führt,* Frankfurt a.M.: Westend.

Thielemann, U. (2010) *Wettbewerb als Gerechtigkeitskonzept. Kritik des Neoliberalismus*, Marburg: Metropolis.

Thielemann, U. (2012a) „Das Imperium schlägt zurück", *Denkfabrik für Wirtschaftsethik*, April 27, http://www.mem-wirtschaftsethik.de/memorandum-2012/repliken/die-zeit/.

Thielemann, U. (2012b) "Ethik des Finanzmarktes. Die unverstandene Rolle des Kapitals als angeblicher ‚Dienerin der Realwirtschaft'." In: Zschaler, F.E., Meck, S., Kleine, J. (eds.), *Finethikon. Jahrbuch für Finanz- und Organisationsethik*, Vol. 2, Stuttgart: Steinbeis, 31-60.

Thielemann, U. (2013) „Elementare Wettbewerbstheorie: Kein Wachstum ohne Schmerzen", *Denkfabrik für Wirtschaftsethik*, March 27, http://www.mem-wirtschaftsethik.de/blog/blog-einzelseite/article/elementare-w.

Thielemann, U. (2014) "Ökonomismuskritische Wirtschaftsethik. Jenseits des Partikularismus des Kontraproduktivitätsparadigmas." In: Schaupp, W. (ed.), *Ethik und Empirie. Gegenwärtige Herausforderungen für Moraltheologie und Sozialethik*, Freiburg: Academic Press Fribourg, 201-224.

Thielemann, U. (2018) "'Die Revolution der Mittelklasse'. Ein aussichtsloses Aufbegehren der Gilet jaunes gegen die Sachzwänge?" *Denkfabrik für Wirtschaftsethik*, December 18, http://www.mem-wirtschaftsethik.de/blog/blog-einzelseite/article/die-revolut.

Thielemann, U. (2019) "'Ökonomie ist Ethik.' Aber welche? Eine kritische Auseinandersetzung mit der Wirtschaftsethik Karl-Heinz Brodbecks." In: Graupe, S., Ötsch, W.O., Rommel, F. (eds.), *Spiel-Räume des Denkens. Festschrift zu Ehren von Karl-Heinz Brodbeck*, Marburg: Metropolis, 357-378.

Thielemann, U. (2020) "Die Revitalisierung der Idee der Sozialen Marktwirtschaft." Meinzer, M., Pohl, M. (eds), *Finanzethik und Steuergerechtigkeit*, Wiesbaden: Springer Gabler, 53-86.

Thielemann, U., Wettstein F. (2008) "The Case against the Business Case and the Idea of 'Earned Reputation'", *Berichte des Instituts für Wirtschaftsethik der Universität St. Gallen*, no. 111, St. Gallen, https://www.alexandria.unisg.ch/44099/.

Thomasberger, C. (2009) "'Planung für den Markt' versus ‚Planung für die Freiheit' Zu den stillschweigenden Voraussetzungen des Neoliberalismus." In: Ötsch, W., Thomasberger, C. (eds.): *Der neoliberale Markt-Diskurs. Ursprünge, Geschichte, Wirkungen*, Marburg: Metropolis, 63-96.

Ulrich, P. (2004) "Prinzipienkaskaden oder Graswurzelreflexion? Zum Praxisbezug der Integrativen Wirtschaftsethik." In: Ulrich, P., Breuer, M. (eds.): *Wirtschaftsethik im philosophischen Diskurs. Begründung und ‚Anwendung' praktischen Orientierungswissens*, Würzburg: Königshausen & Neumann,127-142.

Ulrich, P. (2008) *Integrative Economic Ethics. Foundations of a Civilized Market Economy*, Cambridge: Cambridge University Press.

Varian, H.R. (2010) *Intermediate Microeconomics. A Modern Approac*h, 8th ed., New York, London: Norton.

Varoufakis, Y. (1998) *Foundations of Economics. A Beginner's Companion*, London, New York: Routledge.

Vontobel, W. (2018) "Krieg um Währung und Jobs! Es braucht einen Waffenstillstand", *Blick*, October 1, https://www.blick.ch/id2048506.html.

Wade, R.H. (2017) "Is Trump wrong on trade? A partial defense based on production and employment." *real-world economics review*, issue no. 79, pp. 43-63.

Walpen, B. (2004) *Die offenen Feinde und ihre Gesellschaft. Eine hegenomietheoretische Studie zur Mont Pèlerin Society*, Hamburg: VSA.

Walras, L. (1896) *Elements of Theoretical Economics,* translated and edited by Donald A. Walker and Jan van Daal, Cambridge: Cambridge University Press.

Weber, M. (1930) *The Protestant Ethic and the Spirit of Capitalism*, New York: Charles Scribner's Sons.

Weber, M. (1949) *The Methodology of the Social Sciences*, trans. by Edward A. Shils and Henry A. Finch, Glencoe: Free Press.

Weber, M. (1968) *Economy and Society. An Outline of Interpretative Sociology*, Berkeley: University of California Press.

Wicksteed, Ph.H. (1910) *The Common Sense of Political Economy*, London: Macmillan.

Wieland, J. (2008) "CSR und Globalisierung. Über die gesellschaftliche Verantwortung von Unternehmen." In: Heidbrink, L., Hirsch, A. (eds.) *Verantwortung als marktwirtschaftliches Prinzip*, Frankfurt a.M.: Campus, 97-115.

Willgerodt, H. (2009) "Von der Wertfreiheit zur Wertlosigkeit." *Frankfurter Allgemeine Zeitung*, no. 49, February 2, p. 12.

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