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*Original Paper*

# Effects of the Covid-19 Measures on the Economy and the Environment

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***Abstract***

*The effects of the Covid-19 pandemic and governmental countermeasures are described in this work by putting it in the framework of the Energy Theory of Value. It is found that the downturn in economy is not accompanied by an equal downturn in energy consumption nor of carbon emissions. Moreover, not even the empirical fifth-power law linking the former two is any longer sustained, more so proving the state of virtualization of our economy (disconnecting it from a physical reality). It is also found that the reduction of carbon emissions had no impact on the dynamics of carbon in the atmosphere, which goes on business as usual. All these results undermine the planned policies of the world agenda.*

***Keywords***

*Energy Theory of Value, Covid-19, carbon emissions, climate change, fiat currency*

## 1. Introduction

As the new year (2021) has started and economical and natural data are coming in, we can make a balance of the effect the corona-virus (Covid-19) pandemic has had so far on the world. As we look around us, the impact is enormous; people losing their jobs, traveling basically stopped, and governments endebting themselves ever more in order to prop up what is left of the economy. Yet, we have to analyze this in a holistic way, and not only look at the psychological effects. For that we can make a energy-based analysis, using the Energy Theory of Value (ETV), a physics generalization of the Marxian Labor Theory of Value that expresses the socially (human) necessary effort needed to produce things. If we combine this with the political agenda, as stipulated by stakeholders in the

political-economic realms, we can make an analysis of the impact of the pandemic on economy and nature. This is what we will endeavor in this work.

## 2. Method

In this work, we will analyze the publicly available data of economy and the atmosphere to find out what was the impact of the Covid-19 virus on the economy and the atmosphere.

## 3. Result

To understand the impact of Covid-19 on the economy, we first must discuss the fiat currency system. To start with a remarkable fact: 21% of fiat money circulating in 2021 has been "printed" (electronically added) in 2020 (Katusa Research, 2021). It reminds us of the old joke about science that was going around in the 1980s: "Extrapolating, by the end of the 21st century the amount of space the Physical Review journal will occupy on the library shelves will grow faster than the speed of light. However, it does not contradict the laws of Einstein, because information density will tend to zero". Similarly, money printing in 2021 is reaching infinite speed. However, it does not go against any laws of physics, because the intrinsic value of money will tend to zero.

It does, however, mean that real commodities (all those that cost energy to produce, like wheat, gold and bitcoin) will see a sharp increase in price. Oil and gold can reach infinite market quotations because every barrel costs an amount of energy to produce. Every next ounce of gold or barrel of oil is more difficult to obtain and hence the price can grow steadily. Combined with exponential money printing, the price of physical commodities will rise exponentially. Bitcoin, however, has an added property compared to natural resources. Because of the increased extraction cost, oil will never be fully mined, and we can consider oil as an infinite resource. Yet, bitcoin will end in 2140 when the last coin will be calculated and is thus truly finite (there will be 21 million of them (Decrypt, 2021)). Bitcoin is thus expected to rise in a hyperbolic way, with a singularity in 2140.

But, how did we get here? To put it short, first we had real energy-based commodities (such as gold) for a direct-trade "currency". More like bartering; Goods were traded and gold (and the likes) were going in the opposite direction. Later, storage safes (banks) emitted deposit notes that were used instead of gold for practical reasons. Then the banks started emitting more banknotes than they had physical gold in the safes in a so-called Fractional-Reserve-Banking (FRB) scheme, which diluted the gold. Then the link with gold was cut altogether in the fiat-currency scheme of Bretton Woods (after also the bank of England had already given up gold-backed money earlier). "Fiat" because it was based on the people's trust it had any value, there where it actually no longer had any value whatsoever. From this moment on, money could be printed out of thin air. This was further made worse by electronic money (not to be confused with crypto-money, the latter cannot be created out of thin air). Creating money literally costs nothing. Well, about $E = kT = 4.11\times10^{-21}$ J, the cost of changing one bit of information, independent of the value created, the value merely depends on the numeric

position/weight of the bit changed. This energy can be considered zero.

Money now became an instrument of megalomaniac leaders and all those who thus had the power to control the others. Some, having given the power, actually feel an obligation to act ("If I can and it is good [for mankind] I have a moral obligation to do it"), others act merely in self interest ("If I can and it is good [for me] I am incentivated to do it"), or are simply sociopaths ("If I can I will"). We cannot determine the reasons for people's behavior; we can only see that they behave in a certain way, and note that it is enabled by the system of fiat currency. We henceforth sum them all up by "sociopaths" for simplicity's sake, a conclusion actually reached by Andrzej Łobaczewski who calls those in power as such (Lobaczewski, 2007). We now have world leaders that manage the world as if it was their own ant farm to run. This behavior is found uniquely on the left side of the political spectrum. That is because the ideology of the right side of the spectrum is liberalism, to leave people alone. Only the left has an ideology that makes their politicians act as described above. The fiat currency system is the friend of leftist policies and politicians; one can print money out of thin air and with that finance a centralized-power society agenda.

Yet, this financial system is not enough to fully control the world in all its facets, and it actually destroys itself, as we have seen in the financial crisis experiment (sic) of 2008. We must understand that no money system—including fiat currency—is feasible in a free market. That can easily be understood. Let's start with this simple observation about the three main actors in society:

- Citizens bring money to the bank and expect profit
- Banks lend money to entrepreneurs and expect profit
- Entrepreneurial citizens borrow money from the banks and expect profit

Not being philanthropists, if any of the actors lose an outlook on profit they will withdraw from the market and the game stops. However, in a zero-sum game (constant amount of money) the total profit is zero and either nobody wins anything, or at least one actor loses and the game stops. Now, would you enter the game with some risk and with zero outlook on profit? No? Well, don't expect others to do it. The game thus stops. The game has to be made into a positive-sum game. Money has to be steadily increased. Enters the (leftist) state. The state assumes the role of eternal loser and increases debt every year. Money is printed and inserted into society through state debt (fresh money in exchange for treasury notes) and handed out to state employees and to finance lossy PPPs (public-private partnerships), money that is then slowly transferred to the other actors in society, that keep on making profit on average. Especially those in power, i.e., banks and large companies.

Of course, people want real profit, and not just more money. And profit is expressed in joule (energy) and not dollars or euros. I do not care if my 100 thousand euro investment today tomorrow becomes 200 thousand euros, if today I can buy a house for 100 thousand and tomorrow only the garage door of that house for 200 thousand euros. Fortunately, the system managed to increase energetic profit for everybody (except the state), and not only financial profit. That is because the energetic value increased faster than the money supply. Some credit goes to the aforementioned world managers, even if treating

other human beings as cattle is fundamentally immoral.

The system thus needs an eternally increasing energy growth (as any natural biological system requires an ever-increasing entropy production). This cannot be achieved in a finite planet. Even though we are still far away from saturation: Seeing our planet as a single entity, Earth, with a radius of 6,371 km in a radiation bath of 1.361 $kW/m^2$ receives $1.7x10^{17}$ W energy, whereas the 170,000 TWh/year global energy consumption is only $1.9x10^{13}$ W, or about 0.01% of energy input. Yet, we might already start seeing signs of saturation long before we get to saturation values. And technocratic leaders, foreseeing this problem of the system, started talking about "sustainable growth" (a contradiction in terms). Things will go bad in a system where money or capital in general will only be lent out if it leads to capital gains (energetic profit) and if no profit then the lending game stops.

In 2008 an experiment was done, (not) justified on basis of a publication "Growth in a Time of Debt" of Reinhart and Rogoff (2010), stopping the scheme of money insertion into society through state debts. All countries with debt-to-GDP ratios above 90% were cut off from the money supply. The result was predictable (maybe more so in hindsight). The game returned to a zero-sum game and the economy immediately halted; the financial crisis. That because actors had the free choice to leave the free market and they did, because the outlook on profit was grim.

Immediately when the results of the experiment came in the money-printing game was restarted, with only Greece as collateral damage. Now with quantitative easing program of the de facto leaders of the world, the central banks (joined in the International Monetary Fund). The solution was thought to lie in the last phrase of the previous paragraph. The free will had to be removed from society and the free market abolished. A plan was prepared for that. While still for some years hidden from public view (and everybody that mentioned it thus conveniently called a conspiracy thinker), it is now in full sight. Klaus Schwab of the World Economic Forum is the head figure presenting this plan of The Great Reset (Schwab & Malleter, 2020; Schwab & Vanham, 2021). In fact, Schwab is beautifully portraying the role of evil mad sociopath in his videos; talking in heavy German accented he reminds us of Dr. No of any James Bond movie. However, we will not analyze format, but only contents.

The Great Reset is the financial-economic facet of the New World Order that is the political system of full-spectrum dominance of the world by the leaders described above. It involves elimination of private property and abolition of all freedoms. Best described by the WEF statement "You will own nothing and you will be happy" (Parker, 2016). It finds support among nearly all of western leaders, who foresee for themselves a leading role in shaping the world, either by identifying their moral duty to do so and a megalomaniac idea that they can, or simply from their sociopathic tendencies (Lobaczewski, 2007). Only a few "populists" still protested, but they were easily dealt with in smearing campaign on the media that the system controls (basically all of them). For the simple man in the street: "[Yo]u're not required to sign up. All you need do is sit still and accept the transformation to totalitarianism as it plays out" (Casey, 2021).

The first step in the process of the Great Reset is to fully wreck the free-market economy in such a way that people will turn to the government for handouts. People will no longer receive on basis of their contribution to society, as in a pure meritocracy or a truly free market. They will receive on basis of their needs. And it is expected from them that they will contribute according to their abilities (or government handouts will be stopped). This is the ideology of communism, as paraphrased by these famous words of Karl Marx in his 1875 Critique of the Gotha Program (Marx, 1875), "To each according to his needs and from each according to his abilities".

But, how to make people accept such radical changes in society? What was needed was a deep and profound existential crisis. The world waited for a catastrophic event such as a killer virus, or one that could be sold to the public as such, in order to create a widespread panic, at which time the economy could be wrecked (creating further misery and a stronger desire for a leading role of government, a permanent move away from liberalism). In the meantime the propaganda of the pandemic was practiced (see for example Event 201, held by the World Health Organization [WHO] and other stakeholders in September 2019 (Center for health Security, 2020)). In January 2020 the rather harmless flu-like Covid-19 virus was chosen to be the needed "killer" virus. The WHO declared it a type-A ("most dangerous") virus and the wheels were set in motion. The train could no longer be stopped, because the agreements were signed by all 176 participating countries and it basically bypassed local governments once the virus was declared pandemic by the WHO.

We now have a communistic centralized-economy system where the government determines what where and when is produced, who can have what freedoms, and what rights are forfeited. In many countries the constitutions are bypassed. To say it simply, a totalitarian society has been implemented overnight. People get paid by government handouts, there where economic activity has been reduced to the bare minimum. And this is heralded by the system. Apart from giving the leaders the desired full control, it does reduce the ecological fingerprint of individuals (to be further reduced in the fight against Global Warming), see later on in this text. In their idealist utopist minds, mankind is eliminated (or at least reduced to a mere fraction of the current population) in order to save the planet. Why a planet, a clump of atoms devoid of human life, of which there are billions of trillions in the universe, is worth aiming for is beyond our grasp. But that is how sociopaths think.

To see how this can be right, a curious fact: Note that the country that already had the desired economic system, China, was both the source of the virus and one of the few countries in the world that do not seem to be much affected by it.

As mentioned before, in one of the Great Reset programs of the WEF it is said "You will own nothing and you will be happy". At first thought this might be a communist slogan, and in fact interpreted as such by many social media warriors. However, upon second thought, we have to think this is rather a corporate-fascist motto. That becomes clear when we analyze the program and rephrase the motto, putting stress on the word "you", as in "*You* will own nothing and you will be happy". The idea is that the new business model is one where people do not own things but rather pay for their usage. An

example may be Spotify. When you listen to music, you do not own the music, but rather you pay for the pleasure of listening to it. Since you pay to somebody, it means, *somebody* out there owns the music. Therefore, "You will own nothing, but we will [own everything] and will charge you for using it, as long as we allow it. Better behave". This is corporate fascism, where the ownership of things belongs to the elite and managed by local CEOs and politicians.

But let us take a look at the economy in numbers. With the year 2020 over, and the numbers coming in, we can do an analysis of the economic impact of the Covid-19 induced crisis. Remember, the medical emergency is given by nature, the economic crisis decreed by government. According to Enerdata (2021), the world economy shrank by 4.5% and the energy consumption dropped by 5.9%, with $CO_2$ emissions dropping even more, 8.6%, owing to the flexibility of fossil fuels to easily increase or reduce production; the installed non-fossil fuel capacity cannot be scaled down, whereas fossil fuels usage can easily be reduced. We thus indeed see the instantaneous correlation between economy and energy consumption. We remind our readers that a correlation between economy and energy consumption as 170 mW per US$ GDP in 2019 was found (Stallinga, 2020a). Moreover, it was found that this ratio is changing over time. Empirically it was found that the GWP (gross world product) grows much faster than the energy consumption and the GWP is proportional to the fifth power of the energy used per capita, the non-linearity caused by the monetary system that is not based on energy (like gold) but is free-floating instead, i.e., not linked to anything material. In the preceding year (2019), according to the data presented by Enerdata, the fifth power relation had been maintained; energy consumption grew by 0.6% and GWP by 3.1% ($1.006^5 = 1.031$ within the margin of error). Apparently a natural fifth-power law emerges without it being clear why this should be so.

In 2020 this relation was broken. The 5.9% reduction in energy consumption, if the fifth-power link with economy was a physical hard law, should have caused a GWP reduction of 26.2%, which was clearly not the case. We thus conclude that indeed the real (energetic) economy has dropped by 5.9%, which should have been accompanied by a reduction of measured GWP by 5.9% if the unit used to express the economy was well defined and based on energy somehow, but was in fact only 4.5% because of the monetary system increasingly virtualizing the economy.

Naturally, according to Piketty ("Capital in the 21st Century", 2013), the capital grows by 5% per year, a trend that is observed in the data, where production and energy consumption are proportional to the amount of means of production (capital). World wars and the introduction of fiat money have had the same effect on this growth, stunting it well below 5%. Moreover, the economy can grow faster than the increase in physical means. With virtualization of the economy we can even have economic "growth" in the absence of real physical growth; we can become poorer while the economy is growing.

Technically what they have been doing is to order the real economy to halt and for states to borrow astronomical amounts of money, then giving this away to state employees and state-funded projects without anything given back in exchange (for example, our salaries as professors keep on being paid, even without giving – seriously–lectures, and research has stopped; no energy spent), and this then

percolating back to the banks and state. We are living in a virtual economy, with money being slushed around in the system, without anywhere labor being done. The GWP is simply that what they tell us it is.

Finally, the Enerdata site also mentions that $CO_2$ emissions have dropped in 2020 by 8.6%. We can make an analysis how much effect this had on the planet. For that we use the $CO_2$ concentration data measured at Mauna Loa, as supplied by NOAA (Global Monitoring Laboratory, 2021). Figure 1 shows the result. First we must note that the diffusion of $CO_2$ in the atmosphere is rather fast. As Jacob writes (Jacob, 1999):

> Longitudinal wind speeds are of the order of 10 m/s, and observations show that it takes only a few weeks for air to circumnavigate the globe in a given latitudinal band. Meridonal transport is slower; wind speeds are of the order of 1 m/s, and it typically takes 1-2 months for air at midlatitudes to exchange with the tropics or with polar regions. Interhemispheric transport is even slower because of the lack of thermal forcing across the Equator. It thus takes about a year for air to exchange between the northern and southern hemispheres.
>
> [..] vertical wind speeds are only in the range of 1 mm/s to 1 cm/s. The resulting time scale for vertical transport from the surface to the tropopause is about 3 months. Faster vertical transport can take place by locally driven buoyancy.

Mauna Loa is in the Northern Hemisphere, where also most economic activity and $CO_2$ emissions take place. We can thus expect that the anthropogenic $CO_2$ produced has already efficiently arrived at the Keeling measuring station in Hawaii. Delay effects, although present, do not distort much the analysis we can do on basis of Figure 1.

At first look, it seems that the $CO_2$ concentration in the atmosphere was increasing business as usual. See the green curve in Figure 1. However, a better way to present the data is to see the yearly increase, the relative year-on-year (YoY) increase. This is presented by the red dots that shows for every month the percentage increase relative to the same month of the previous year. These data points were then used in a linear regression (see dashed black line). As we can see, the points of 2020, with reduced $CO_2$ emissions are right on top of this line, as if nothing has happened. In the zoom-in (lower panel) we can see this better. If the increase in $CO_2$ in the atmosphere was fully due to human emissions, we would have expected the dots to be spread around the gray box, instead they are spread around a blue box that represents the statistical analysis (mean and standard error) of the 2020 data points. This box is very close to the line of extrapolation of previous year, hinting at a model where the increase of $CO_2$ is not caused by human $CO_2$ at all.

It has to be noted that the fluctuations in the year-on-year data are caused by the variations in sea-surface temperatures. As shown by Stallinga and Khmelinskii, in warm water years (so-called El Niño) oceans liberate an extra amount of $CO_2$ to the atmosphere and in cold years (so-called La Niña) $CO_2$ is captured by the oceans, or less is liberated (Stallinga & Khmelinskii, 2018). Currently we are on a path coming from an El Niño to one of rather cooling down, and we can thus not attribute the lack of

dropping of the YoY $CO_2$ increment rate to the warming of oceans, since that is not taking place. The conclusion we have to draw is that the effect of human activity is not visible in the atmospheric carbon-dioxide transient.

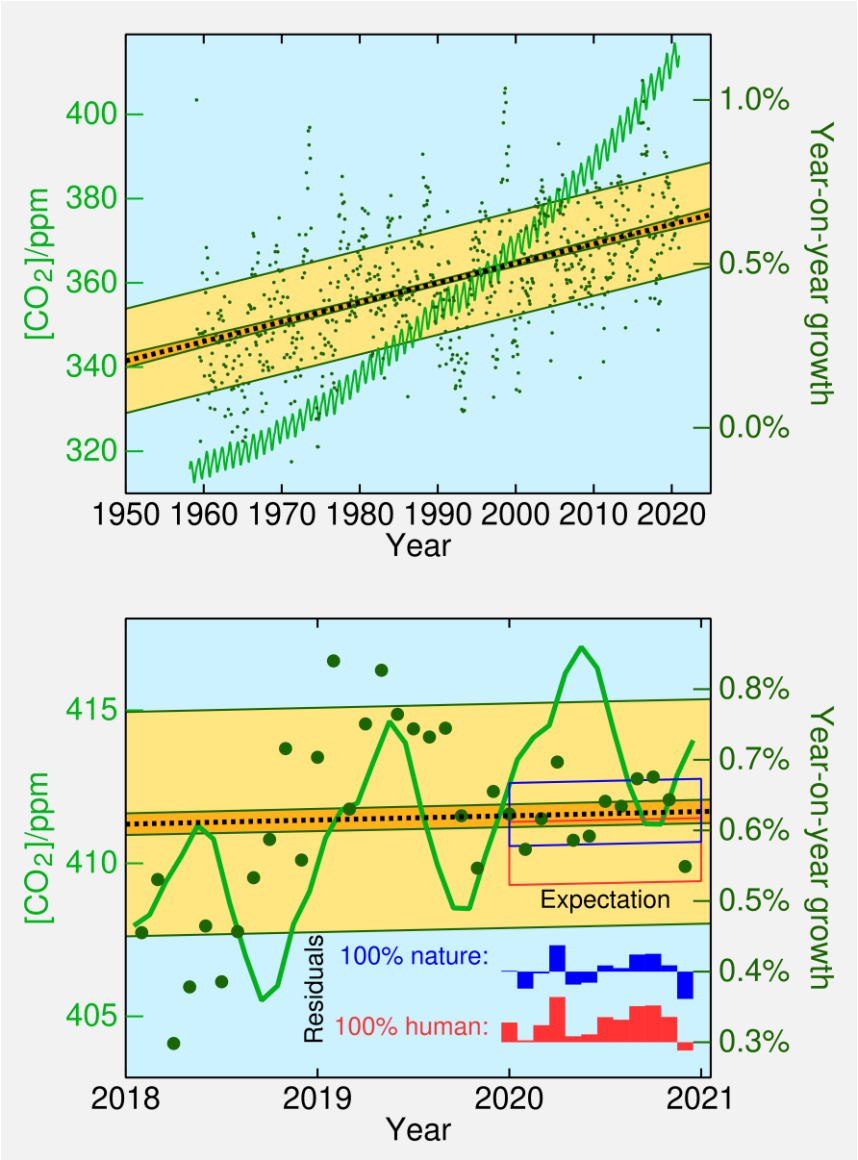


**Figure 1. $CO_2$ Concentration in the Atmosphere as Measured at Mauna Loa (Green Curve) and Yearly Increase (Brown Dots)**

Source: NOAA (Global Monitoring Laboratory, 2021). The dashed line is a linear regression. The orange and yellow areas are 95% confidence interval and 90% prediction interval of the linear regression, respectively. If increase in CO2 concentration in the atmosphere had 100% human origin, we would have expected the data of 2020 to lie within the red box labeled 'Expectation'. They, however, are spread around the business-as-usual line of linear regression and extrapolation of data into 2020, as if CO2 is 100% determined by nature, the blue box. The blue and red histograms below show the residuals of these two models.

## 4. Discussion

In this work we have shown what the impacts of the covid-19 virus on the economy and the climate are. First, the virus itself was doing relatively little, about the same order as any other flu epidemic that hits the world regularly. Nearly 2 million people died of it during this pandemic worldwide, which is rather within normality. This is outside the scope of this paper and we just present it here at face value. The effect of governmental measures was enormous. World economy collapsed and many people saw their livelihood destroyed. As we know, many people started living on the dole. In The United States checks were handed out. In Europe there comes Bazooka money from Brussels. Since in Europa access to the freshly printed money comes with the condition of reforms (business has to be organized along the ideas of central government), we recognize in this the pluriannual planned economy of the former Soviet Union. If government is doing this to reduce energy consumption, we have to be forewarned that it will cause widespread poverty, since energy consumption is directly related to wealth (Stallinga, 2020a). Moreover, if this reduction in energy consumption is planned in order to reduce carbon emissions in order to save the planet from a climate catastrophe, we have to be vigilant, since it does not seem that anthropogenic carbon dioxide has any effect on the atmosphere. This was shown in this work here: with the economy stalled, and carbon emissions falling off a cliff, the atmosphere went on, business as usual, thus hinting at a reduced impact of humans on the atmosphere and thus the climate. (This if we were inclined to believe that $CO_2$ in the atmosphere does indeed affect the climate and affect it adversely).

This will put the plan of addressing the climate problem in a completely new perspective. An induced crisis to enable a restructuring of our economy to cause an energy transition in order to save the planet from climate doom is fruitless, since humans have no effect on the climate. We had already shown that $CO_2$ is not a climate forcing agent (Stallinga & Khmelinskii, 2018; Stallinga, 2020b). Here we get information that humans might also not be $CO_2$-forcing agents. A Covid-19-induced crisis will then have only one remaining effect: pan-global pandemic misery.

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