The Inevitable Degrowth!

Definition of growth

Economic **growth** indicates the positive variation of the production of goods and services in an economy over a given period. Practically, the indicator most often used to measure it is the Gross Domestic Product (GDP).

Open economy: GDP = C + G + GFCF + (X – M)

Closed economy: GDP = C + G + GFCF

	CH – Year 2018
C	367 250
G	81 452
C + G	448 702
GFCF	156 540
X	455 992
M	371 688
GDP	689 546

- GDP = Total value of final goods and services produced within a country during a given year
- C = Household consumption of goods and services
- G = Government spending
- GFCF: Gross Fixed Capital Formation, including
  - Replacement of used production goods (depreciation)
  - Expansion of production equipment (net capital expansion)
  - Variation of production goods inventory (produced but not purchased back by investors)
- X: Exports of goods and services
- M: Imports of goods and services

Increasingly voices confront us with the alternative: change or disappear. To disappear, which implies an expansion that leads us straight to collapse, or to change, which implies, above all, to halt growth. But it must not be forgotten that the smallest slowdown can trigger sever crises. However, an illimited growth cannot be sustained with limited resources (fossil, raw resources, etc.).

Must a zero-growth or even a degrowth strategy be considered? Let us see the consequences of these two strategies with the help of an example.

Growth economy

*Let us start with an **equilibrium situation** where saving equals investment [I = S] in a closed economy (to simplify):*

Economic data for Switzerland in million Swiss francs in 2018:		
GDP=(C+G+GFCF)	Value of production = Supply	689’546
C + G	Value of goods consumed, and services created	448’702
GDP – C– G = S	Value of production goods created (S)	240’844
GFCF	Value of production goods repurchased by investors (I)	240’844
C + G + GFCF	Aggregate demand for goods and services = 448'702 + 240’844	689’546

If demand by investors amounts to 240’844, this means that the entire production of goods and services has been repurchased by them. Under this assumption, the economic consequences will be as follows:

Demand for goods and services by consumers and the government (C+G)	448’702
Demand by investors (voluntary investment), GFCF: • Capital replacement: 166’721 • Capital expansion: 74’123	240’844
Aggregate demand of goods and services (C+G+GFCF)	689’546
Aggregate supply of goods and services (GDP)	689’546
Demand (D) = Supply (S), hence the general price level remains stable and (I = S)	D = S

The investment amounting to 166'721 is used for the replacement of the production facilities worn out and the investment of 74’123 allows the expansion of the production facilities.

The consequence of this investment of de 74’123 is that the production of goods and services will increase during the **following period** and consequently an increase of GDP, income levels, consumption, saving, and employment. And investment will need to increase necessarily to ensure the equilibrium between saving and investment.

Indeed, consumption does not increase proportionately with income. The more GDP increases, the less we consume proportionately to GDP and the more we save. The more we save, the more we must invest to maintain the equilibrium (I = S). This clearly demonstrates that a market economy **must always grow** to avoid recession.

If during each period, investment is allocated not only to capital replacement but also to its expansion, we are facing a growing economy.

Zero-growth economy

if demand from investors amounts to 166’721 (capital replacement of worn-out capital only), the economic consequences will be as follows:

GDP = value of production	689’546
C + G = Value of consumption goods and services	448’702
S = GDP - (C + G)	240’844
GFCF = Value of production goods created	240’844
Demand by investors (voluntary investment): • Capital replacement: 166’721 • Capital expansion: 0	166’721
Increase of inventory of production goods produced but not repurchased by investors (involuntary investment) 240'844 – 166'721	74’123
Aggregate demand = 448'702 + 166'721	615’423
Aggregate supply = GDP	689’546
Consequence: Demand < Supply, hence prices decrease (I < S)	

The zero-growth situation means that the productive capital does not increase but is simply replaced. Seeing their inventory of production goods increase for the **following production period**, entrepreneurs will decide to produce less to be able to dispose of their inventory (involuntary investment).

We now enter a recession and return to a GDP level lower than the one reached at the preceding period. This means a drop of production, of GDP, income levels, demand, and prices, as well as a rise of unemployment.

Degrowth Economy

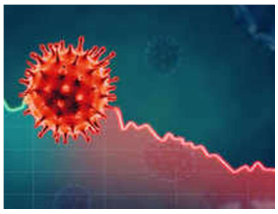
If during each period investments are lower than what is necessary to simply ensure the replacement of the worn-out capital, we face a situation of degrowth of the production facilities as long as (I < S), which will generate a recession with devastating consequences for the current economic model : a drop in GDP, in the GDP per capita, income levels, consumption, saving, investment, and the build-up of massive unemployment.

The observation is irrevocable: the world population continues to grow and is expected to reach 11 billion in 2100, non-renewable natural resources are depleting, atmosphere carbonization continues. It will not be necessary to decree a degrowth, as it will inevitably take place.

We have the choice between two attitudes:

- To do nothing. This means undergo a collapse.
- Or to act to attempt to **accompany and control the collapse** and to mitigate its most dramatic effects.

A real example of abrupt and unexpected degrowth



We currently encounter with full force an abrupt degrowth caused by the health crisis. It is no longer necessary to explain it to the ayatollahs of the blind and unexplained degrowth since it is in full view and everyone can assess its dramatic consequences throughout the world: drop of GDP between 5 and 10% depending on countries, millions of additional unemployed workers, business failures, three billion people confined, broken dreams, human dramas. Public funding, varying from country to country, will probably not to save everyone.

Carbon neutrality

The current absolute emergency is to reach **carbon neutrality**.

Carbon neutrality is a situation of equilibrium between greenhouse gas emissions of human origin and their withdrawal from the atmosphere by mankind. The difference between gas emission and withdrawal being then equal to zero (NZE = Net Zero Emission)

According to the Paris Agreement, the EU Member States decided to contain the rise in temperature to 1,5°C and reach carbon neutrality by 2050.The Swiss Confederation also pursues this objective. Unfortunately, this deadline is far too remote. One must act without delay, not tomorrow nor after tomorrow.

Increasingly leading voices claim that the 1,5°C target will not be reached. David Attenborough, scientist and writer, pronounced this shocking statement at the opening of the COP24 in Poland at the end of 2018: "*If we don't take action, the collapse of our civilizations and the extinction of much of the natural world is on the horizon*."

According to UN, if at the end of the century temperatures will have increased by 3°C, such an increase should produce natural catastrophes of an unheard-of magnitude already in 2040.

Climate system inertia

According to the Intergovernmental Panel on Climate Change (IPCC), climate system inertia lies between 10 et 20 years. It represents the time elapsing between the cause and its effect. Others assess it around 40 years or later.

It means that if we do not take abrupt actions, as for instance those listed below, some will not take their effect before 10, 20, 40 or more years.

Proposed abrupt actions (non-exhaustive list):

- Prohibit without delay diesel engine cars
- Prohibit without delay engines emitting more than 100 mg CO^2
- Prohibit cruise and merchant ships using bad quality and polluting fuels
- Prohibit the use of coal for energy production
- End trade agreements

  Switzerland has concluded tens of international free-trade agreements. Others are being negotiated. This policy is contrary to a real policy for climate change, which consists in a drastic reduction of international flows of goods towards a decrease of greenhouse gas emissions

- Produce as much as possible locally

  International division of labor has allocated production around the world where production costs are the lowest. The serious health crisis we currently live reveals our vulnerability and foreign dependence in a globalized world.

- Prohibit flights shorter than 800 km
- Limit the number of aircrafts in airports

  According to a study commissioned by the Federal Office of Civil Aviation (FOCA) and carried out by Intraplan Consult GmbH, the number of passengers in transit in Geneva airport was 14,45 million in 2013. In 2030 it is forecasted 24,98 million passengers, an annual increase of 3,27 %.

  Is this forecast reasonable? Will the population pool bringing customers to Geneva airport increase by 3,27% per year? Will the number of jobs increase at the same rate with the arrival of new businesses?

  We cannot at the same time count on such an increase and pretend fighting against climate change.

If candidates had proposed such actions during the last federal elections, they would not have been elected. However, such brutal actions must be implemented instead of "*greenish trivial measures*" in the form of taxes (on airline tickets, electricity, etc.), which will hardly influence greenhouse gas emissions.

Will it be possible to apply democratically such measures? Policies are slow to implement and time is short. A certain number of climate activists wish to end the current system. But with which alternative?

We must change course in any case. If we do not, a situation that we created by our own stubbornness will be imposed on us, whether we like it or not, in an abrupt manner.

To finish with a less pessimistic note, these major climate issues – in addition to the current health crisis – will perhaps have the merit to bring human beings closer to each other and appease their ideological fights, since at the end we all live on the same planet, we breath the same air, we drink the same water and we do not have a spare planet.

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