How a

ecological ecological system could look like

(truly)

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Introduction

"System change not climate change": a cry for a radical transformation of the society that put us in this mess.

This document is not trying to convince anyone of the urgency of the climate crisis. Climatestrike and many other groups have been doing this work for some time now. However, even though without radical change the 1.5°C limit will be breached around 2028¹, Switzerland's main institutions are proposing very little that really measures up to the urgency of the situation.

As a result of this observation, in September 2020, the group "System Change" was formed inside Climatestrike. The goal was to find answers to the following questions: do we really need a system change? What could it look like? Through research and regular meetings, we tried to gather as much information as possible, and discover the common points between authors, economists and researchers who talked about this issue.

This document is, therefore, an attempt to share the results of this research and to provide what, in our opinion, constitutes a missing piece in the current discussion about climate change, namely an **alternative economic system**. In the document, we will explain in detail why we think a system change is necessary and why «regulating» the current one is not going to solve the climate crisis. More precisely, it will not be able to reduce greenhouse gas emissions and other environmental pressures to avoid breaching the 1.5°C goal set by the Paris Agreement.

However, in order to radically transform the economic system we are currently living in, we need to be able to imagine an alternative one. Therefore, this work should be understood not only as a critique of the system that led us into the crisis we are currently facing, but also as a contribution to the discussion about solutions to overcome this crisis. This document should serve as an inspiration for a realistic, ecological and desirable future.

The document structured following is in the wav: Chapter 1 will focus on understanding why the current economic system creates continuous economic growth and why this is environmentally unsustainable. First, we will explain one of the core mechanisms behind economic growth, namely the pressure to create more revenue exerted on businesses by shareholders and banks. Indeed, every year, this pressure pushes the whole system to grow and use more and more resources and/or energy. Then, we will consider whether we could continue with this growth mechanism while also reducing our emissions. Lastly, we will mention some current ideas about how to solve the climate crisis by regulating the market, or by relying on shareholders to be environmentally conscious, and explain why these solutions do not seem reliable. (Anyone who is already familiar with the critique of green growth can of course skip this part and go directly to the alternatives in chapter 2 and 3.)

Chapter 2 will focus on explaining different solutions that could allow us to replace private capital as the basis of investment. These solutions include ideas like creating an economy based solely on "cooperatives", or implementing something like a "centralized/decentralized plan" to organize capital allocation. We will mention some disadvantages of these propositions and discuss another solution that we call "democratic orientation of investment". The models in chapter 2 allow us to guide investment through democratic mechanisms and control

¹ https://www.climateforesight.eu/global-policy/carbon-budget/

economic growth, while leaving enough space for individual initiatives.

Chapter 3 then addresses another important point that we need to consider if we want a successful transition to a different economic system. Indeed, if one of the models in chapter 2 were to be implemented, there would be a drastic reallocation of our economy's resources and labor power. Therefore, to ensure that this transition happens without threatening people's financial security, most authors complete their alternative models with an **"economic guarantee"** that secures people's livelihood. We will describe several options that could be implemented in Switzerland for that purpose: a **guaranteed employment**, a **guaranteed income** and a **guaranteed fulfilment of basic needs and rights**.

We conclude by stating that the two main solutions in this document (a democratic orientation of investment and an economic guarantee) can only be implemented together if we want to transform our economy into an environmentally friendly one.

We should note that there are many other good proposals of how society, politics or the economy should be radically transformed, and we do not want to place ourselves in opposition to these proposals. Nevertheless, in our opinion, the economic models described in this document seemed to be the most realistic, democratic, and ecological so far. These criteria seemed important to us.

In addition, we want to mention that this work is not complete. It only focuses on two changes (democratic economy and economic guarantee) that need to happen if we want to avoid the worst consequences of climate change. In addition, there are many other changes and public policies, in a range of different sectors, that also must be either continued or implemented. We do not address these topics here at all. Indeed, we concentrate exclusively on the private investment decisions because they will continue to hinder other environmental efforts if they are not taken care of. However, many important things that relate directly to the alternatives we propose (for example the international effects of such a system change, how to rectify Switzerland's role from a "North-South" relation perspective, the role of the state in pushing for growth, etc.) are not yet addressed here.

Additionally, we also would like to mention that we are mostly white, French-speaking university students, and that this is surely reflected in the biases that frame the work we did and the authors we cite (though we tried, we found it sadly quite hard to find economists thinking about how to democratize a post-growth economy who are not white men). We hope to be able to grow and diversify our group, our approach, and the subjects we tackle in the future.

Chapter 1: How the economy is (not) working

What kind of economic system are we living in?

To propose an alternative to our current economic system, we need to understand the **inherent mechanisms causing the overuse and the destruction of our planet**. In short, we can say that the main problem is the current economic system pushing for more and more profit and growth. This idea will be developed in this chapter.

Our market economy is divided into the three different markets where three types of "goods" are bought and sold: the market of goods and services, the labor market, and the capital market. In this section, dedicated to understanding the growth imperative in our economy, we will concentrate only on the capital market, its function, and how it makes us dependent on growth. The three markets are of course interconnected. They are separated here to better show where we will put our focus.

The current economic system is based on the **private ownership of firms and enterprises**. Private enterprises and investment do not represent the entire economy (indeed, there is also state investment for research, infrastructure, etc.); however, private investments have a major influence on the economy because they provide a large portion of the investment sums. Enough investment is necessary for an economy to work well (to avoid shortages of production, unemployment, etc.). Therefore, if we disregard public sectors, our economy is mostly organized around private capital, which means that it is mainly private actors (not public or elected people) who decide where the capital they possess should be allocated. Thus, we can refer to our current economic system as "capitalism". Capital is essentially money (or equipment) used to accumulate more money. When capital is allocated, an investment is made, and this stimulates economic activity.

In our economy, enterprises are owned either, in the case of small enterprises, by the person who brought the initial capital (the equity), or, in the case of bigger enterprises, by shareholders who decided to invest in the company. If businesses need capital, they can get this on the capital market, where capital is exchanged for owner rights.

The aim of this section is to show that one of the core reasons behind economic growth lies in the private ownership of businesses. Private actors, with a lucrative goal, finance companies and have a say in their decision making. Therefore, this becomes the key issue driving every business (and accordingly the whole economy) towards more production, more profit, and more growth.

To explain this in more detail, in the next section, we will discuss the two main ways for companies to finance themselves in a capitalist system, namely by selling shares and by taking loans. We will also explain how both ways push for more growth.

Why does our current economic system need to grow?

There are many reasons behind economic growth. Indeed, the private sector is not solely responsible for our dependence on growth. States also play a major role in pushing for economic growth (Richters and Siemoneit, 2019). In this section, however, we will elaborate on the private investment mechanism as a core driver of growth. So, how does it work?

In our current system, there are two main ways for companies to finance themselves:

- 1. By selling shares (or owning rights) of their company. The people who buy these shares invest in the company and become shareholders to whom the company must pay dividends. Dividends are shares of the business's profits that are distributed to investors on a regular basis.
- 2. By taking medium or long-term loans from banks. The companies then have to pay interest for these loans over the return period. The interest is a set sum of money the debtor has to pay back the bank (the creditor) in addition to the sum they have borrowed.

In the first case, **the investor becomes an owner of the enterprise** with decision rights. This means that, depending on the size of their share in the company, investors have voting rights and elect the management team of the company. The shareholders own the profits of the company, and a part of these profits is directly paid to them as dividends. As an investor, **the goal is to make more money with the money invested**. Consequently, shareholders invest in enterprises that bring them the most return in the short term. At the moment, many profitable activities are often directly or indirectly linked to fossil fuels. Moreover, most investors will want to continue the race for growth because growth means revenues, and this means that they **get more dividends**. They will use their decision right to push for growth, and will otherwise sell their shares again if they are not satisfied with the future dividends. Often, this process is very anonymous, and mostly done through institutions like wealth managers, private investment funds, etc. Dividends are generally warranted by the argument that investors take a risk when investing in a business that could fail anytime. Indeed, contrary to banks, investors do not have insurance in case of bankruptcy, which explains why they get a dividend when the business is doing well.

In the second case, **the banks that give out loans are not allowed to take decisions within the enterprise**. Generally, they only demand to have the money and some additional interest back. However, to pay back the loan plus the interest, the company needs to increase its revenue to have more money than before getting the loan. Therefore, in the current system, a loan of 100 CHF always needs to generate more value, for example 105 CHF, so that 5 CHF can be paid back as positive interest. Banks only give credits if they think a person or business is **able to pay them back more than they received**. We will explain later that this interest-mechanism can be used to favor some types of companies over others, for example by giving them loans with negative interest rates. (To understand how monetary creation works and how it might be linked to the economic growth imperative, read footnote²)

² To understand the role of loans in economic growth, we have to come back to some "monetary basics" : by giving out a loan, a private bank is making new money out of nothing (Losmann, 2020; Les économistes atterrés, 2018). This money did not exist in any form before. This additional money that is created is always someone's debt to the bank that lent the money. When the debt is repaid to the bank, the money that was lent is "destroyed" (Here we are talking about electronic money, not paper money which only represents about 10% of all the money in our economy). Therefore, we can affirm that economic growth is only made possible through businesses, people or the state taking on more debts (because more debts mean more money in the economy). It is nevertheless important to note that, while loans must continuously be given out for economic growth to be possible, the opposite is not necessarily true; several models have shown that there can be a steady-state (no-growth) economy where loans with positive interests are still possible (Jackson, Victor, 2012; Richters, Siemoneit, 2016; Schrunz, Bratkrowski, Schindler, 2015). Current research about the growth imperative paints a very complex picture of the interplay of different factors pushing for growth (Richters, Siemoneit, 2019). Shareholders' major role in the growth imperative is however still undisputed.

Besides economic growth, another possible consequence of the increase of money in the economy is inflation (the general increase in prices). Loans contribute to this phenomenon by increasing the amount of money in the economy. Through inflation, the amount of money people currently possess is devalued, and therefore, they lose purchasing power because prices are higher. This motivates rich people with big fortunes to invest their

In addition to the pressure from shareholders/owners who want a return on their money, **competition** between countries or economic zones is another crucial aspect that pushes businesses to grow. Because we are living in an international capitalism, businesses face a tremendous amount of competition and are always in danger of being bought up by an international monopolistic enterprise.

These different variables push companies to expand, consume more energy and resources, and **generate externalities**. Externalities are consequences or effects of a commercial activity that are not accounted for in the price. Pollution is a prime example since companies usually make sure that they do not have to pay to compensate for the pollution caused by their economic activities. The pressure that companies face pushes them to produce goods using non-durable materials, thereby sustaining waste-culture, fast trends, and programmed obsolescence.

In short, the current financial structure leads to a very profit-oriented money allocation. Indeed, investment in companies is mostly a way to make more money out of the money that was invested at the beginning. There are some other criteria of investment; however, they will always come after profitability, because profitability is the very essence of private investment.

Therefore, we must realize that the management of companies and the way we invest in enterprises are key issues for the preservation of our planet.

The next section will try to summarize the link between growth and environmental destruction.

Why is growth unsustainable?

In recent years, a certain discourse has become more and more dominant, the promise of a *green* capitalism. In the previous section, we have tried to show that growth is necessary for our current economic system. Therefore, if we continue to apply a capitalist logic, the solution to the climate crisis would be *green* growth.

Green growth is the idea that we can have a growing GDP, and therefore, a growing economy, that is decoupled from environmental impact. This would mean that even while our economy continues to grow, economic activities would emit less and less greenhouse gases and exert less and less environmental pressures. This would then allow us to achieve important ecological goals such as the 1.5°C target. This decoupling would mainly be possible thanks to technological innovation and substitution (replacing the purchase of one product with a less polluting one), which could be accelerated by government mechanisms such as taxes, subsidies, and regulations.

But is such a decoupling really possible?

Some people argue that, with growing wealth, GDP can be decoupled from environmental impacts. In fact, there is data (European environment agency, 2009) showing cases of reduced emissions despite growing GDP in some places. However, this is contested by many authors, by supporters of the post-growth movement, and especially also by the European Environmental Bureau (2019). Here, we will explain seven factors that make decoupling very unlikely (Parrique, 2019; William F. Lamb et al., 2022):

savings instead of leaving them untouched on an account where the money loses real value over time. This is the reason why the central bank tries to aim for about 2% inflation every year to stimulate investment.

- *Relocations:* Some reductions in ecological impact are achieved through the relocation of polluting industries. This is often reflected in the data cited to prove that decoupling is possible. For instance, one location (e.g., Switzerland) can reduce its impact on paper; however, this entails a higher environmental impact in another location (e.g., China). On a global level, emissions have not diminished. They have only been translated from one place to another, while the consumption of the polluting items continues to take place in the same country as before the relocation. However, the environmentally harming goods are now no longer produced in this country, but simply imported.
- Recycling does not have unlimited potential: Recycling, and with it a potential circular economy, is often cited as the grand solution. However, recycling needs significant energy input. Additionally, all materials degrade in the recycling process and are therefore not eternally recyclable. Furthermore, some materials have a dispersive use (a good example is paint) and cannot be recycled by essence.
- The problem with technology: The idea that technological change can solve all our problems is widespread. Sometimes it is explicitly stated, but often it is implicit. However, technological innovation in means of production and products is currently focused on (short term) profits. Big efforts go into new markets, new products, and new features, or into labor or capital saving innovations, but nothing really changes in our resource and energy consumption. Minimizing the impact of existing products is almost never the focus of technological innovation. Often, "greener" products are not replacing other products but are just added to the pile of existing products. The same applies to green energy. Indeed, more renewable energy currently does not entail a reduction of fossil energy consumption. Therefore, the environmental impact still rises with those "green" products and "green" energy.
- The illusion that the service economy could replace the resource- and energy-based economy: Another common idea is that the economy could continue to grow, but only in the service sector. Therefore, growth would be possible without an increase in material input. However, not everything material can and/or will be replaced (food, shelter, furniture, mobility etc.). Additionally, even if we do manage to replace a lot of material things with services, these services will still have a non-negligible, environmental impact (necessary infrastructure, travelling/tourism, education etc.) and will always be built on and intertwined with the material economy (Jancovici, 2014).
- *Problem shifting:* We face many different environmental problems (planetary boundaries, air pollution, plastic pollution, etc.). Improvements in one area often have negative impacts in other areas. Green alternatives often have externalities and perverse effects (e.g., biofuels reinforce food shortages, other materials used for wind turbines are more energy efficient but less recyclable than standard materials). For example, renewable energies reduce CO2-emissions, but require a lot of space and rare metals. Indeed, some of the materials needed for the construction of "renewable" energies (e.g., raw materials like silicium, indium, selenium, etc.) are rare and finite resources. This should in fact be an argument against relying too much on these technologies and these materials. If the economy keeps using more and more "green" energy, we might someday run out of these rare materials (Pitron, 2018).
- Political and personal rebound effects of "green" technology: Rebound effects are unwanted consequences that come along with "energy efficient" innovations. The use of electric cars, for example, reinforces car-based geographical systems (road-infrastructure, city-planning etc.), instead of strengthening public transport.

Additionally, a more efficient car reduces personal moral concerns about using it, and therefore, people who own such an "efficient" car are likely to drive more. Consequently, no energy or resources are saved because the "ecological" item is simply used more often.

- Diminishing returns of energy: The more of a resource we extract, the more energy we
 need to extract one more unit of that resource. The best accessible resources are
 taken out first, and therefore, if we keep on extracting, energy use will keep increasing
 over time. Fracking is a good example of this phenomenon; indeed, it takes more and
 more oil to extract one more liter of new petroleum. However, it is still economically
 viable because energy prices have gone up (Bourg and Salerno, 2015).
- Energy Transition: It is important to realize that the energy transition itself requires a lot of energy. To build renewable alternatives (e.g., solar panels), we are using the current energy mix that still depends about 84% on fossil fuels (BP, 2019). The energy transition entails that we would have to produce a new "renewable" energy infrastructure to cover our current, constantly growing energy consumption. Therefore, this energy transition would already use up a lot of the global CO2-budget that we should avoid exceeding if we want to have a chance of meeting the 1.5°C target (Tanuro, 2020).

These points show that **green growth is most likely impossible**. Thus, it is irresponsible to rely on the promise of green growth when making decisions about public policies. Nonetheless, states are currently doing exactly that: pretending these obstacles to green growth do not exist and continuing to rely on an eternally growing economy. In politics, technical innovation and small governmental market regulations are still considered to be the main solutions to our current problems.

However, considering the core problems and contradictions around green growth, we have no other option but to think about reducing the output generated by the economy.

Why the market will not regulate itself

The need to stop economic growth and to move towards an ecological and just society has now been explained. If this is to be taken seriously, we need to examine whether there can be a solution to this problem in our current economy. Let us look at a few of the arguments often used in favor of the market's ability to self-regulate and to "automatically" change according to what people want.

It is often argued that shareholders could/will be benevolent and should/will account for more ecological and ethical criteria when choosing an investment plan, and consequently, also accept lower or no dividends/growth. However, this seems very unlikely since accepting no dividends would mean to partly abolish the main criteria of today's investments - profits. Indeed, it seems very unlikely investors would really be willing to give up on profits. Furthermore, even if a significant number of investors started to invest in a more ecological and less profit-oriented way, the ones who do not, who still only look for the biggest profits, would gain more relative money and market power. This would counteract the effect of the "sustainable" investors because sustainable companies would then have to compete with unsustainable ones and would therefore probably have higher costs and be less competitive.

Indeed, shareholders cannot really make a fundamental change in the economy. However, could we as **consumers** do that? The key problem is that our power as consumers is limited

because we live in a very **unequal economy.** Indeed, some institutions and people have very large amounts of money, and therefore, they have disproportionate power over the important decisions in the economy. For example, some billionaires consider the race to Mars to be a priority, and therefore, loads of investments are flowing into that sector. Most people cannot do anything to influence this and find themselves in a position where they can only "hope" that wealthy financial institutions and people will decide to invest in ecological projects. However, this is quite unlikely since those institutions and people invest mainly according to the criteria of profitability.

Why "regulating the market" is not enough

Solutions to the environmental crisis involving state intervention are mainly based on either pushing for technological innovations or "adjusting" the market either to create incentives for "sustainable" decisions or to internalize environmental costs. Let us imagine a hypothetical scenario where a party proposes a bold green new deal, with high taxes on emissions, subsidies for environmentally friendly businesses and a program to slow down growth. Why would such a proposal be incoherent? We think that such policies are contradictory, and would, if implemented, not have the desired effect. Let us briefly look at some of the reasons why:

- Negative externalities: Negative externalities are consequences of the economic activities of a company that are paid by someone other than the company itself, namely by the public. The obvious example is pollution. Without special political measures, a company never has to pay for the pollution it causes during its production process. Since shareholders are mostly concerned about their profits, they tend to externalize as many costs as possible. They will not reduce pollution as long as it is cheaper to pollute than not to. State interventions can set a price for pollution or try to regulate pollution in other ways. However, companies will try to look for loopholes, or alternatives to externalize their costs, since these regulations reduce a business's competitiveness if not implemented globally. It takes a lot of work and time to detect loopholes and penalize business, and in the meantime, environmental damage is still worsening. (Oström, 2010; Locher 2018). Additionally, pollution is often very hard to measure and express in financial terms.
- Power dynamics and capital flight: Big companies and private investors have a lot of influence on politics at every level. For this reason, economic interests are always weighed heavily in political decisions. However, only in very few cases do investors really have an interest in ecological measures, since these often mean less short-term profits. Consequently, because of lobbies, and primarily because of the fossil fuel industry, environmental laws get watered down and are made (rather) ineffective. The story of climate (in)action is a story of sabotage by the fossil fuel industry. This dynamic will probably continue to hold ecological reforms back, since a lot of investors (like most of our Swiss banks) have stocks in the fossil industry. Often, these investments represent quite a lot of money, and it takes time for some of these projects to be profitable. Therefore, investors expect to have a return on investment after a few years. Shutting down projects in the fossil industry means big losses for these investors. They will therefore fight to keep these projects going. (Malm, 2016; Tanuro 2020).

Furthermore, if a country were to enforce strong environmental regulations, **investors** can threaten to leave the country and settle somewhere where legislation pleases them better. This phenomenon is called capital flight and every social reform has had to deal with it since the 1980s (before the 1980s there were heavy restrictions on

international capital movements). As an example of this, we can cite the carbon tax law: if implemented, investors and enterprises with high emissions will threaten to leave the country with carbon taxes and settle in a country without carbon taxes.

Additionally, investors could also simply go on "**investment strike**" (Young, Schwartz, Banerjee, 2017). As stated before, private ownership plays a major role in how enterprises and economic activity are organized. Therefore, if new laws restricted shareholders' power, or made them worry about it, they would probably reduce their investment. This could have terrible consequences on production, employment, wages and maybe even cause a recession.³ Therefore, states and public entities are constantly trying to attract investors to keep their economies alive. However, when **investment depends on shareholders' "moods"**, it becomes very hard to implement environmentally friendly policies, since these policies often include state interventions such as taxing profitable portions of the economy.

In conclusion, in this chapter, we tried to explain the reasons behind the growth imperative in our current economic system. We talked in detail about the pressure exerted by shareholders who always expect dividends and the competition between businesses. Something we did not mention is that governments also play a role in pushing for economic growth. In this chapter, we also discussed why this growth imperative is unsustainable and the problems and obstacles we face if we want to keep our current capital market but regulate its effects on the environment.⁴

Chapters 2 and 3 are therefore attempts to modify two markets, namely the capital market and the labor market. Firstly, we propose to replace the current capital market by a more democratic mechanism that would allow more environmentally friendly decisions. Secondly, we propose some necessary changes in our current labor market to ensure that an ecological transition would not have negative social consequences. Modifying the capital market and the labor market would allow us to keep the goods and services market, and still have the system change that we need.

³ This is an argument raised against practically every social reform that tries to distribute wealth or take a bigger share from shareholders (to be able to raise salaries for example). Nevertheless, it is still debatable whether shareholders would actually reduce their investment if these social reforms were accepted. The point we are trying to make here is that, if private investment as a whole is reduced in the economy without compensating in any way for it, this would probably have negative consequences.

⁴ For this document, we focused mostly on the growth imperative inherent to capitalism. But there are also a lot of texts that discuss other important ecological criticism of capitalism. See for example: Jason Hickel, Less is More; Naomi Klein, This Changes Everything: Capitalism Vs. the Climate; James O'Connor, The Second Contradiction of Capitalism; Andreas Malm, Fossil Capital, The Rise of Steam Power and the Roots of Global Warming; Daniel Tanuro, Trop Tard Pour Être Pessimiste, Ecosocialisme ou Effondrement; Jean-Marie Harribey, Le Trou Noir du Capitalisme.

Chapter 2: Investment and economic democracy

The last chapter attempted to give an overview of the most important reasons why our economy needs to stop growing if we want to avoid an ecological collapse. We have tried to explain the fact that private investment is guided essentially by profitability and leads to a growth imperative in our economy. This next chapter will try to tackle the question of how to replace the private investment mechanism. Many alternatives to the current investment system exist, and we will here present some authors advocating for a **social control of investment decisions**.

We evaluate these models according to several criteria. The alternatives should be environmentally friendly; they should guarantee freedom of individual life and consumption choices and the freedom to initiate a project; and they should be democratic, meaning that everyone should have equal power to participate in the choices the society makes.

Two sets of questions will guide us through the analysis and comparison of these different models. Firstly, if shareholders were abolished, who would have the power to take decisions about production in a firm? Should these decisions be in the hands of workers, the state, or the society as a whole? Additionally, an alternative model also has to include a mechanism to continue to fund entrepreneurship and allow enterprises to find money to launch their projects. Private investment seems to fail us in ecological terms, and therefore, we should also ask ourselves: who should decide how de-privatized capital is allocated in the profits be distributed more broadly? What mechanism takes over private investment? What would a "common property" look like?

First, we will explain the "self-management / cooperative" model which offers some important (but not sufficient) solutions. Then we will touch upon the advantages of a "state-economy" model, where investment is coordinated by a central power, but we will again mention some important criticism of this model. Finally, we will show that several authors combine the positive aspects of these different models to construct an economy based on common ownership and democratic investment that we think is a very interesting and realistic alternative to our current economic system.

Cooperatives as a solution?

Several alternatives exist to put an end to the private ownership of enterprises. One of the most well-known is the cooperative model, which is a form of selfmanaged enterprise. **Self-management means that only the workers decide on matters concerning the enterprise in which they work**. Thus, it is not investors or shareholders from outside the company who control production, output, or the internal management of the company. Instead, these decisions are taken by the people working within the company. Self-management therefore allows workers to regain their power and political weight in the company (for example through voting rights). It is up to them to decide on the organizational structure of their

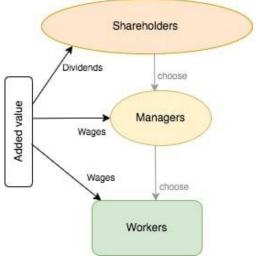


Figure 1: Structure of a typical big business in the present-day economy

company. Thus, they could decide either to have a horizontal organization structure or to elect a committee or a manager.

In a system based on cooperatives or self-managed enterprises, the status of owner is thus transferred from the shareholders to the workers⁵, since they are the ones who bring the capital into the enterprise. This means that the workers alone have the power of decision in the business, and therefore, necessarily exclude the rest of society from sharing the profits, and also from the possibility of intervening in production decisions. The financing of enterprises is dependent on individual workers who bring capital and buy themselves a "property right" by joining a cooperative. In a system of competitive cooperatives, it is impossible to steer an ecological transition, because it is impossible to simultaneously make important sectors grow and harmful sectors decline.

To illustrate this, let us imagine that Holcim (an enterprise producing concrete) no longer had shareholders directing its choices, but was instead organized democratically. Indeed. Holcim workers could decide how to organize concrete production and how to distribute profits. However, there is nothing to prevent them from deciding to continue to produce the same amount of concrete as today, or even to increase the company's activity to pay themselves higher wages. The adoption of such a self-management model does not allow the rest of the population to force the workers in the concrete sector to stop the production of the concrete. even though ecological consequences of concrete production affect us "cooperative" model all. The thus illustrates the need for coordination of the

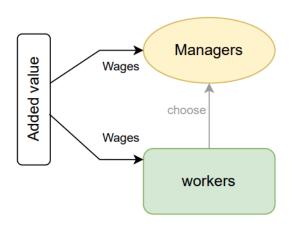


Figure 2 : Structure of a cooperative, where workers elect the management and all the revenues generated by the business are distributed to the people working in the business

economy on a larger scale than the company. Indeed, more people than just the workers who profit from the (sometimes harmful) activities of their company, need to be able to have a say in these activities. In fact, even if all enterprises in Switzerland became cooperatives, this would not allow a broader deliberation on the major economic choices within a society, in which all citizens should be able to participate. With every cooperative being completely independent, it would also not be possible to regulate the overall amount of production and consumption in society. This is however necessary for an environmentally friendly economic model.

Another issue with cooperatives is the difficulty of raising sufficient funds (Andréani, 2001; Borrits, 2018). Indeed, the capital contribution of workers or consumers is often limited.

Nationalization and planning as a solution?

Nationalizing companies could be one solution to the problem of the lack of coordination of major economic choices. The democratic state would then be the provider of capital and the decision-maker in the production units of these nationalized companies. This would allow for real coherence in investment choices and in the general economic orientation, since the state

⁵ Or to the consumers in the case of consumer cooperatives.

would own the large companies that have a major impact on the economy. There are different ways how a **planned economy** could be structured.

The most famous example is probably the hierarchic central planning of the USSR (Seurot, 1989). In a fully nationalized economy like that one, the risk of power being concentrated in the hands of a few people is high. Indeed, at this point, it is necessary to distinguish between two possible models and the place they give to the market. Some models keep markets to help with allocating resources (especially for goods and services, and partially for labor). We will develop this model later in the section "Investment orientation as a solution". Other models abolish all markets completely and move towards a fully planned economy, like it was the case in the USSR.

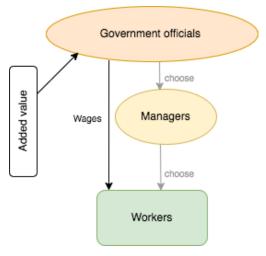


Figure 3 : Simplified macro-economic model of a planned economy

In the Soviet economy, all decisions concerning the allocation of resources were taken by a very small elite (Andréani, 2001). They decided what would be produced, at what price, etc. In addition to being authoritarian, this mode of operation was highly inefficient. If investment does not depend at all on economic performance, how can we make sure people are still motivated to give their best to produce something of good quality? In an environment where everything that happens in a business is decided in advance by politicians, the system ends up relying on workers being motivated either by ideological conviction, or by the fear of socio-economic consequences if they do not work hard enough.

Moreover, it was almost impossible to make decisions that really took into account all the information (much of it implicit) about the needs and consumption desires of citizens. As a result, citizens had little choice over their individual consumption. It was also impossible for anyone to launch their own initiative. Today's economy is so complex that it would be very difficult to plan how much materials, goods and services are needed, as it was done in the USSR. Moreover, it is difficult for a planned economy to continuously adapt to social and environmental developments.

Nevertheless, with the technological advances we have made, we now have a completely different perspective to talk about planning for the needs of people. Today, gathering and processing information is done at a speed and scale that was inconceivable 50 years ago. This undermines some of the arguments previously made against the feasibility of a planned economy. Several authors have already developed different models of how a **planned economy could work on the basis of computer-technology** (i.e. Paul Cockshot, Allin Cottrell, Jan Philipp Dapprich, Cédric Durand, etc.). The authors Phillips and Rozworski (2019) point out that companies like Walmart are already working like planned economies on a scale that is larger than many countries.

Indeed, this type of proposition could seem convincing in terms of effectiveness and/or feasibility. However, when talking about cybernetic alternatives, there are still a few points worth considering. We have mentioned before that technology comes at a high cost for our planet. Therefore, it would not really be an ecological solution if our whole economic system depended on algorithms that need a lot of energy. Furthermore, it is reasonable to have doubts about the desirability of gathering such a colossal amount of information for what could become a very technocratic system (Khalfa, 2020).

Besides, in addition to these concerns about the use of technology as a tool for planification, the concerns that power will be concentrated in the hands of a few people and/or that individuals might lack motivation in such a system remain valid.

Let us therefore analyze the possibility of a decentralized planned economy.

Decentralized nationalization as a solution?

To avoid the situation where all economic decisions are taken by a minority - whether elected or not - some authors have proposed a decentralized management of the state economy without markets (Albert and Hahnel, 2006; Mandel, 1986). In these models, decentralized committees of both workers and consumers replace the centralized decision-making that most planned economies have known. Therefore, while capital is still provided by the state, investment, production, and distribution choices are made after collective deliberation. This institutional arrangement would greatly limit power relations and the possibility of minority takeovers. However, it would also involve a heavy debate process for each production decision. This would be a disproportionate burden for these committees, since it would be impossible to have such a long decision process for every object produced or service provided. Some economists argue that we would fall into an "economy of repetition" because it seems unrealistic to hold a "referendum on the color of shoes" (Samary, 1999). Citizens and producers would quickly become discouraged at having to participate in countless meetings and decisions. However, other economists also argue that an efficient delegation system could help the decision processes.

In short, an economy based on cooperatives or self-managed enterprises does not allow for a global coordination of the economy, because the market is still the dominant mode of allocation. However, such a coordination is necessary for an ecological transition. The state could take up this role and organize the planning of the economy. However, in a planned economy, there are a lot of difficulties with information gathering and the risk of undemocratic decisions is quite high. A decentralization of decision-making processes could rapidly mean overloaded institutions, although some authors argue that technologies could counter this problem. For many economists, it is still necessary to formulate an economic project that can simultaneously allow for global guidance of the economy but also leave room for individuals and companies to take initiatives.

Investment orientation as a solution?

In this section, the proposals presented all seek to **abolish private ownership of enterprises, while maintaining a part of the market that is 'socialized', or 'domesticated'** (Elson, 1988). In other words, they abolish the mechanism of shareholders who push for bigger returns. Indeed, these models try to give people as much freedom as possible. However, for that to be possible, they restrict one particular type of freedom: the personal choice of shareholders about what to do with their capital. This individual choice is replaced by a citizen vote, which would give people more freedom and choice then they would ever have in the current system. The market for goods and services continues to exist, but the labor market is reduced (see the next chapter on economic security). The capital market would be largely limited by citizens' choices: one can therefore speak of a system of "economic democracy" (Schweickhart, 2002). Others prefer to speak of "negotiated planning" (Devine, 1988, 2002), and some use the terms "market socialism", "self-managing socialism" (Andréani, 2001) or "economy of the commons" (Borrits, 2018; Federici, 2019). The work of all these economists and researchers tries to show that there are ways of organizing

investment that do not rely either on the pursuit of personal enrichment, or on state planning. Let us return to the key questions that will guide our understanding of how these models work: who would have the power to take decisions about production in a firm and who should decide how capital is allocated in the economy?

Common points

We will first discuss two features that of all the models of the above-mentioned authors have in common: the will to **democratize enterprises** and to **involve citizens in the choices concerning investment**. Then we will discuss the most important differences between the different models and authors.

The first question to guide our understanding of these model was: who would have the power to take decisions about production in a firm? The answer to this question is quite similar in all the models: choices in each firm are made by the people who are affected in some way by the firm's activities. There are several ways to set up such a system of common or social ownership (or non-ownership) which we will be detailed below.

The second question to guide our understanding of these model was: who should decide how capital is allocated in the economy? Here also the different models agree that the major investment choices will be determined democratically by popular votes and then applied in a decentralized way by autonomous financial institutions. In most proposals, the money used for investments comes from businesses revenues

The investments qo through two decisionmaking levels. Firstly, a popular vote is held to define which economic sectors should he favored, and which ones should be reduced or abolished. even Secondly. these collective decisions are communicated to local institutions. that can decide which projects they wish to support, while, of course, respecting the results of the federal vote.

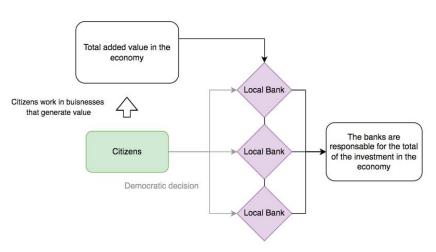


Figure 4 : Simplified macro-economic model of a democratic economy where investment is oriented by a popular vote that allows citizens to set the guidelines for what types of businesses decentralized banks or funds should invest into

These points provide a common framework for the following proposals.

Differences (democracy inside and outside the enterprise)

The models also differ in several aspects. Firstly, there is the question of **who would have decision rights inside the enterprise.** As stated above, economists agree that people affected by the choices of the enterprise should have a say in what the enterprise does. However, who counts as affected and how these people could intervene in the business is still a subject of debate.

A first proposition argues that there should be decision-making committees in each company, representing workers, consumers, local communities that might be affected by production (Coutrot, 2010), and even suppliers in some cases (Devine, 2002). In a second proposition, only the workers should be able to decide within their company, since the other people affected by the company's activity have already had their say in the democratic decision that ranks the priority of different sectors (Schwickart, 1992; Borrits, 2020; Andréani, 2001; Friot, 2012, 2021). A third proposition also argues that workers should decide, but adds that consumer information committees should be set up (Elson, 1988). These would collect and share information about companies that could be useful to help consumers make informed purchasing decisions. This is different from the current system characterized by information asymmetry and lack of information about the real costs and conditions of production.⁶

The authors' opinions differ on a second point, namely on how exactly to **replace shareholders** and **make sure that capital is allocated to the businesses providing valuable and environmentally friendly goods or services.** We will now go through different proposals that could answer this second question.

As mentioned, these models all propose a democratic management of investment. However, they differ in the tools they use to realize "the peoples" verdict. The first model we will look at mostly relies on loans and varying interest rates to favor the businesses we need, while decreasing harmful sectors at the same time. (Borrits, 2018; Andréani, 2001; Devine, 2002). The next model proposes to subsidize businesses instead (Lordon, 2021; Friot, 2012, Schweickart, 1992). Both options allow for control of economic growth, either through loans, or subsidies.⁷ We will end by mentioning two debates between these different authors. These debates address other methods for providing enough investment for the economy: the ability to self-finance as a business, as well as the use of personal savings, which, according to certain economists, can be important options to consider.

Using one democratic vote to guide investment: Some authors argue either for a people's vote (Borrits, 2018) or a parliamentary vote (Andréani, 2001) as a tool to set up guidelines for the economy (also Schweickart, 1992). This means that people (citizens or politicians) could have a say in which sectors should get more investment and which ones should get less. For example, citizens could decide that private transportation is less important than public transportation, and that, in general, we should invest less in transportation than in local agriculture. These decisions would then be applied by our institutions, that would consequently boost local agriculture and public transportation, and penalize private transportation.

The authors do not talk about how these "categories" that would be compared and ranked by voters, can be defined in an "objective" manner. However, there are several participatory budget experiences that can provide answers to this question (Inter-American Development Bank, 2005). In the case of Porto Alegre for example, citizens' assemblies played a major role, together with local NGOs and public officials, in determining thematic categories for which people chose to allocate a part of the region's government budget. Even though there were several challenges for this model to run in the long term, the studies conducted on this experience are still helpful (Abers, 2018).

⁶ Indeed, information about businesses' production processes, working conditions etc. are often not openly available, and consumers are deliberately being deceived with advertising that, for example, often makes it hard to distinguish between "greenwashing" and real environmentally friendly businesses.

⁷ Subsidies are basically a donation. They differ from loans, since they do not have to be paid back to the donator.

Loans as a tool to implement the vote: According to the authors supporting this
proposition, the above described "guiding vote" should be respected and applied by
local banks. These banks are the institutions that replace shareholders and decide
where capital should be invested. Of course, these banks would differ greatly from
today's banks like Crédit Suisse, UBS etc.: they should not have any shareholders
anymore (they would be some sort of cooperative), they would not own the businesses
in any way, and they would have to respect the guidelines set by the citizens' vote
about the priority of sectors to invest in.

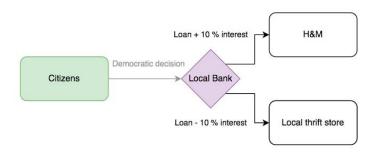


Figure 5 : Model of a local bank or fund giving out a credit with different interest rates to favour one business over the other

The local banks would "translate" this vote into more or less attractive interest rates for different sectors (Borrits, 2018). Businesses belong necessarily to one of these sectors and are thus either penalized or favored when asking for a loan. For example, in such a system, an ecological project of low-tech solar panel production in a cooperative would very easily get a loan, while it would be very

expensive to get a loan to start producing luxury cars. Depending on the democratic vote, interest rates in certain sectors could become so high that they become prohibitive, while negative interest rates in other sectors could really give those sectors a boost.⁸

Since every investment will have to pass though this loan mechanism, this model allows for a democratic shaping of the economy, while leaving enough space for personal initiatives. Banks can encourage or hinder economic activity, but everyone can still go to a bank and ask them to fund their new business idea. As long as an idea corresponds to what citizens have decided to support, it will be easy for the people who have this project to find a bank granting them a loan, maybe even with a negative interest rate.⁹

Subsidies as a tool to implement the vote: Other authors (Lordon, 2021; Friot. 2021: Schweickart, 2002) prefer а system with subsidies instead of loans. In this model. authors generally prefer to talk about "funds".

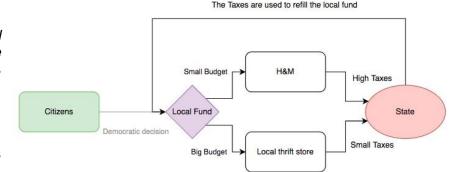


Figure 6 : Model of a local bank or fund giving out a bigger or smaller subsidy depending on the business. The money is afterwards collected by the tax system and comes back to the bank/fund.

⁸ Negative interest means that the debtor has to pay back the creditor less money than what she got as a loan in the first place. For example, if the loan is 100 CHF and the negative interest rate is 10% then the debtor has to pay back 90 CHF. In a way, the creditor then subsidizes a part of the loan. If the interest rate was positive, the debtor would have to pay back 110 CHF.

⁹ In order to start with this system, we would, for example, have to impose a singular tax on businesses' revenues that would provide the money that the banks need to make loans. Since banks get their money back when businesses pay back their loans, the credit system is self-sustaining from that point on.

instead of "banks", as the institutions that distribute investment (according to the priorities set by the democratic citizens' vote). Public banks or economic funds would allocate money in the form of grants to each sector, according to previously determined budgets. The money would then be recovered by the bank or fund system through a tax or levy on the added value of companies. This model is very similar to the one using loans, with the difference that the money flows from the "fund" to the business, then to the national fund which again moves the money back to the local funds (as depicted in the schema).

Using multiple votes: Some authors (Elson, 1988; Andréani, 2001; Varoufakis, 2021) even extend the use of democracy and deliberation to determine the allocation of capital. For example, there could be more precise discussions on each major investment to complement the general citizens' vote described above. Some (Pat Devine, 2002) think that it would be necessary to set up **negotiated coordination bodies** that represent all those affected by a new investment. These coordination bodies could decide on how to distribute the new credits or funds. This concept sounds interesting; it could however be complicated to implement given the number of investments that need to be made in a modern economy. Nevertheless, it might be possible to set up such a system for major investments that impact a whole sector.

We have also already mentioned the idea of establishing **information commissions** that would ensure that companies become more transparent, and that customers, politicians and citizens (who would have a say about investment through the democratic vote) can make better choices when it comes to spending or allocating money. These information commissions would provide information about every company, about the costs of production, about wages, about the conditions of employment, about ecological impact, etc. These commissions would be funded by the state to ensure that they remain independent and could carry out ad hoc checks to verify companies' information. Based on this data, it would be possible to create a "rating" of businesses that could help citizens decide on specific investments or taxes.

Guiding investment to abandon the growth imperative

An economic model, incorporating at least one democratic vote to guide investment would be a "game changer" because it offers the tools to collectively decide to stop economic growth and collectively decide what to produce. Indeed, citizens could not only decide where to invest, but also how much to invest. Therefore, they could set the rate of degrowth/growth that banks, or funds, should target. Concretely, this means that we could for example choose to aim for a 3% decrease in Switzerland's GDP every year. This GDP goal could then be broken down into sums of investment per sector, to which banks give out loans or subventions.

From a macro-economic point of view, this system would allow us to detach the economy from one of its major growth drivers: private investment. Firstly, there would no longer be shareholders who mainly pursue the goal of obtaining positive returns on investment. Secondly, a scenario where autonomous banks give out loans would allow us to stimulate growth for certain sectors of the economy while decreasing it in others. Let us take the example of one bank with 200 CHF that gives loans of 100 CHF each to two enterprises. We want to favor one of these enterprises, and disadvantage the other. The bank could give a loan with an interest rate of -5% to the first enterprise and a loan with an interest rate of +5% to the second one. This means that the first business would need to pay back 95 CHF while the other one would need to pay back 105 CHF. Negative interest rates change a lot in the loan dynamics of the current system and enable a controlled growth/degrowth of GDP. While selectively hindering and reducing the sectors that are considered harmful, other sectors can

grow and create the goods, services and jobs that are needed. If our national economy produces and consumes less and less goods and (fossil) energy, we still need certain sectors that continue to grow, innovate, and provide everything necessary.

In the case of an alternative finance system working with subsidies, the growth imperative also disappears. The funds could control growth/degrowth by giving out bigger or smaller subsidies to enterprises. Taxes on businesses could also be adapted to hinder some businesses more than others. It would, therefore, also be possible to encourage sustainable projects in sectors that need to grow.

The system based on financing businesses through loans may seem to put quite a lot of pressure on businesses to perform well economically and make enough revenue to pay back the money. However, we believe that it is important to ensure that the money lent (which is a collective resource) is not wasted, so a reasonable amount of pressure seems rather fair.

The "subsidies scenario" (and also the negative interest loans) represent a different kind of challenge. To ensure that businesses actually produce and sell something, and employ people with the money they get from the local bank or from the "investment fund", these institutions would probably have to do checks on business activities, after granting them the loan. Otherwise, we run the risk that investment flows into the pockets of people claiming that they want to start a business, but actually never do.

Another aspect to keep in mind is that some sectors that need to shrink are still very essential right now (gas, oil, some types of food) and sell goods that are quite inelastic. Therefore, it will be important to ensure that every person can still cover his/her basic needs. Some companies in sectors that have to decrease might use aggressive strategies to keep their businesses going (trying to push down salaries, etc.). It will be important to have a strict control over the actions of such companies.

Other differences (self-financing and savings)

We have now broadly described our main alternative model. However, there are still some more concrete points about investment in a post-capitalist system on which different authors disagree. The first point is whether businesses **should be able to self-finance** or not. In some proposals, companies are not allowed to use their surplus money to reinvest in the company (Borrits, 2018). They are financed only by money from outside institutions that have no say in the company and are themselves self-managed. Only these banks can decide, according to the choices made collectively, to whom they want to lend money. The surplus of the enterprise (the money still available after all the necessary payments) can be used by the workers to increase their salaries.

Other proposals allow companies to partly reinvest their surplus money in their own structures (Friot, 2021). However, this would mean that large, powerful companies (GAFAM & co) that are currently polluting a lot, but that generate a lot of revenue, would likely remain in business much longer. If they were not allowed to use their profits to expand, they would be more closely tied to democratic institutions. However, since businesses would also be evaluated according to their ecological and social impact (like the guarantee of human rights), it would be complicated for these companies to continue with their destructive activities for long. On the other hand, self-financing gives companies more room to maneuver and be autonomous. It would be ideal to have a system that could differentiate between large, harmful corporations and small local businesses. In such a system, it would be impossible for companies with a bad environmental and social impact to use their revenues to reinvest in their company, while smaller and less problematic businesses would not be so restricted.

Another point where some authors disagree is whether people should mobilize their **savings** to finance the economy. Most authors imagine financing the economy through systems that do not rely on household savings (the money that people are not using and that is usually on a bank account). This would be a great change compared to now, where people's savings are invested either by the account-owners themselves or by their bank. In contrast, in the alternative model, the household savings would just be stored, and not gain or lose value. This means that it would be impossible for people to accumulate more money with the savings they have. This removes a major factor of inequality; indeed, many people nowadays earn money through the return of their savings investment, but the people who do not earn enough money to save some of it cannot do that.

Concrete example

To summarize and put all this in a Swiss context, let us imagine what the implementation of a system without private capital and based on the collective orientation of the major economic choices could look like.

There would be a national vote held on a regular basis, once a year for example, where citizens could decide on the allocation of financial resources in the economy. Should more money be allocated to the health sector than the industry sector? Should the fossil fuel sector get more, or less money than the renewable energy sector? Based on Benoît Borrits' proposal, for example, this result should then be converted by the Swiss National Bank (SNB) into differential interest rates (for each sector and mainly for long-term credits). These differential rates would be a form of policy rate.¹⁰ The SNB would not have exactly the same tasks as today. The SNB would essentially make sure that commercial banks respect the result of the vote. In addition, the SNB would act as a fund that lends money to commercial banks. These commercial banks would then lend the money they got from the National Bank to customers and businesses.

This means that businesses (which would be self-managed by the workers) would have to ask a commercial bank (which would have no shareholders) to finance their activities. Businesses could no longer use their own funds, nor accept private capital. The banks could be the current Swiss banks, and they would have to respect the differential interest rates (set by the popular votes) when making loans. Every bank that is currently operating (UBS, Raiffeisen, etc.) could take this role. However, in a transition phase, it might be simpler to start with banks like La Poste/Die Post, or the cantonal banks, since they are not completely private.

Companies would have to negotiate a loan with a more, or less favorable interest rate depending on the sector in which they are active, or the type of activity they carry out. This means that, if Switzerland decides to favor for example the sector of "small and medium-sized local merchants" over that of "industrial food production", a company like Nestlé would get a much higher interest rate on a loan than a local grocery store (which would even be partially subsidized by negative interest loans). If this were applied, it would greatly reduce the price of products and services that are considered important and ecological (such as bicycles, or local and organic food). This mechanism would create new opportunities, innovations, and jobs in ecological sectors, while polluting activities would become less profitable and would be forced to decrease (or even disappear) if they do not radically transform themselves.

¹⁰ The policy rate is the interest rate that banks have to respect when they finance themselves from the national bank. It exists already in the current system.

The adjustment of interest rates would have to be calculated by the bankers of the SNB to aim for a stop in growth, or even a controlled and stable degrowth (of a few percentage points per year).

We are aware that a transition to such a system is not simple. Indeed, owners of capital can threaten to remove their capital from the country if they feel like the situation is unsafe for them. This could destabilize the economy. We have to figure out a way to transition to a system without private investment. Once such a system is in place, the problem of attracting private capital and the issue of capital flight would be removed since investment would no longer depend on shareholders.

In practice, such a transition will also necessarily involve large companies closing down and the displacement of workers from one sector to another. All this can be quite abrupt. The fear of unemployment and economic precarity would influence the opinion of the workers currently employed in a non-ecological sector and would understandably prevent them from supporting a program like the one we propose in this work. For this reason, rebuilding the investment system is not enough. Most of the authors we have quoted think about implementing a "guarantee of economic security" for all citizens. This would complement the changes in the investment system discussed above. The next chapter will describe how this economic guarantee could look like, as well as the advantages and disadvantages of each proposal.

Chapter 3: Jobs and economic guarantee

What is an economic guarantee?

We define an economic guarantee as a set of measures that ensure that everyone's basic needs are covered. These measures should also give everyone the possibility to live a good life.

Why we absolutely need an economic guarantee

Firstly, we need an economic guarantee to **ensure everyone's well-being** while the necessary, radical economic changes that we have explained in the previous chapter are happening. Indeed, we need to rethink property rights and major economic choices to make an ecological economy possible. In the transition phase, a system change as disruptive as the abolishment of the growth paradigm will cause major disturbances. A redirection of the economy implies that many jobs must be eliminated or redefined, and that some sectors of our economy will be shut down, while some others might expand. Therefore, if we want people to support this transition and want it to be successful, we need to find a way to secure the wellbeing of the population. If everyone is still completely dependent on the labor market for their income and social inclusion, they will not be able to support any fundamental system change.

Secondly, we need an economic guarantee to **abandon the growth paradigm**. Currently, unemployment is (officially) the main reason why politicians push for economic growth. Neoclassical economic theory states that the economy needs to grow to keep unemployment low (Okun's Law). Therefore, if we want degrowth, we need to somehow decouple employment from economic growth. Possible ways to do this could for example be a job guarantee, worktime reduction or a basic income. Some of these solutions will be explained below.

Thirdly, we need an economic guarantee to **allow real democracy**. A decision in the interest of everyone can only be taken if individuals do not have to fear for their subsistence¹¹ and that of their family. This is very important considering that a main point of chapter 2 is that the economy should be directed by democratic decisions. The success of such a proposition in leading our society towards a just and ecological future will depend on how much people are willing to make ecological choices; they will however not be able to do that if their money and their life depends on the unecological job they are performing. An economic guarantee would guarantee a decent life for each person and therefore, allow everyone to vote and take decisions independently of "survival" pressure.

Lastly, we need an economic guarantee **to decrease inequalities**. The rise of capitalism also implied a dramatic rise of inequalities around the world. Providing a guaranteed economic security to everyone is a first step to keep people out of poverty, and reduce inequalities. Fighting against inequality means fighting for a just society where everyone has the right and the possibility to live decently.

There are several proposals about how to ensure a decent life for all. All of them try to provide institutions and mechanisms to make people less dependent on the current labor market. The

¹¹ Subsistence levels differ because they depend on specific social contexts.

first set of measures aims to provide economic guarantee by **securing employment for everyone**. The second set of measures aims to provide economic guarantee by **securing everyone a monthly allowance of money**. The third and last set of measures aims to provide economic guarantee by **ensuring everyone's basic needs and rights are covered**.

Providing Economic Guarantee...

... Through Guaranteed Employment

The "right to employment for all" is a proposal defended by several authors.

Tcherneva's model

For some authors (Tcherneva, 2020), this proposition implies that the **state becomes a "last instance employer"**. The state would create jobs in social and ecological sectors. People who worked in ecologically harmful enterprises before and had to stop could find a new job in these sectors. It is very likely that many people will have to acquire new skills for their new job. The job guarantee would therefore also include a right to training and retraining. In most propositions, the implementation should be locally organized.

ATTAC, Fondation Copernic, Economistes atterrés' model

For others, the right to employment should take the form of a free and guaranteed training. During this training time and until people found a new job, they should receive the same income as when they were employed (Les économistes atterrés, 2017; Collective, 2011). This money would come from a **contribution of all enterprises**. This should be coupled with the possibility of a reduction of working hours with the same salary. Indeed, the best way to ensure that everyone can find a job is to better share the total workload in the society. It makes no sense that some people are pushed into unemployment while others overwork.

Swaton's model

Some economists underline the importance of effective support, in the form of transition cooperatives for example (Swaton, 2018). Swaton proposes an **ecological transition income** (RTE in French). This would mean that everyone who decides to have a job that has been listed as ecologically or socially important is given an income. These jobs would be provided to make sure that there are always enough. A second condition to receive this income would be to be a member of a "democratic structure" like a cooperative. Swaton criticizes the projects that aim at simply giving an income to everyone without reflecting on the ecological impact of such a policy. She therefore emphasizes the importance of support and training about ecological issues and challenges.

Borrits' Economic Guarantee model

Another variant of a job guarantee is the "minimum socialized salary" (Borrits, 2018). In this proposal, the income of an employed person is made of a fixed, guaranteed part (the minimum socialized salary) and a part that varies depending on the economic performance (the job) of the person. This minimum income would be financed by a contribution of all the enterprises in the economy; they would redirect a share of their revenue into a common pot. From there, this money would then flow to each active worker in the economy. Therefore, it would not be a big

cost for the businesses, since they would themselves benefit from the fact that a part of the salary of their employees is already paid. Businesses which employ mainly people (instead of using a lot of machines) would be especially relieved by this proposal, whereas firms that generate a lot of revenue with relatively few employees would proportionally receive less money (mostly firms based on technology like Apple, Airbnb, Spotify, etc.). This would hopefully **dissuade businesses from firing workers and replacing them with machines**. In addition, it could even encourage the creation of new enterprises because they could pay a minimum salary to every employee right from the start. Unemployment would go down and this could also be complemented with a reduction of working hours. By implementing this, we could achieve something close to full employment.

Borrits' proposition also states that unemployed people should continue to receive social benefits. In general, many proposals of job guarantee are in favor of facilitating the access to social benefits, for example through an automatic payment to unemployed people. Currently, people who need and deserve benefits face many hurdles, like complex forms, applications, checkups, etc. Therefore, often, people who deserve benefits do not get them because they either do not understand the process or are tired of it.

Finally, the proposal simultaneously seeks to free workers from the need to work as much as possible, but also to maintain some monetary incentive to work. The proposal deliberately leaves room for a democratic decision about the ratio of the socialized income to the standard wage. Of course, the minimum salary should be high enough to ensure a decent life for every worker. Benoit Borrits argues that, in the context of an economy without private investment, this would buffer the risks and uncertainties of the economy. Nowadays, the owners of an enterprise have a revenue that completely depends on the performance of the enterprise. They first need to pay back the loans, pay the salaries of their workers, etc., and the money that is left after they have paid all they needed to pay will be their remuneration. If shareholders are removed, then the workers have to endure the consequences of economic fluctuations on their own. The minimum socialized salary ensures that every worker has a fixed part of their income covered by the revenues coming from *all* the businesses in the whole economy. This guarantees a great income stability for workers and is therefore a good solution.

... Through a Guaranteed Income

Universal Basic Income

Another famous proposal that could provide economic guarantee is the Universal Basic Income (UBI). A UBI is a **fixed income paid to everybody on a regular basis with no conditions attached**. According to its proponents, the implementation of such an income would have many positive effects on society. A UBI does not just ensure subsistence for everyone, it also gives people the freedom to look for a meaningful job where they can find accomplishment and recognition (van Parijs, 2000). Giving people the power to refuse jobs they do not want will also contribute to restructure the economy. Unpleasant jobs are likely to face worker-shortages. This will result in two possible outcomes, either the job is important enough to justify a sufficient pay raise to attract workers, or the job is not important enough and it will disappear (Mylondo, 2018; Schachtschneider, 2014). Some add that a mandatory civil service (that could last a few years) could be implemented to make sure that everyone participates equally in the tasks that are important in society, but that no one wants to do voluntarily (Gorz, 1997; Lordon, 2021). Moreover, the UBI makes the welfare state less bureaucratic (Friedman, 1964), therefore less money flows into the state apparatus and more

money goes directly to people in need of benefits. The many difficulties people face to get benefits were already mentioned above.

Different propositions exist on how to **finance** the UBI, for example a carbon tax, a tax on financial transactions, or a tax on higher incomes. However, all these proposals have the same problem: they only work in a system where too much carbon is emitted, where private capital still exists, and where inequalities remain. They only make sense in the short-term and in the present system. Therefore, we need to find another way to finance the UBI. It could be done through a general contribution from every enterprise, in the form of a progressive tax on their revenues (Friot, 2012; Borrits, 2018, 2020). Some authors tackle the problem of income inequalities by simply implementing an upper limit for incomes to ensure that no one earns more than four times the salary of other people¹² (Liegey, Madeleine, Ondet and Vieillot, 2013; Mylondo).

There are several **debates between advocates of UBI and advocates of job guarantee**. Proponents of the job guarantee underline the **importance of work** for social integration and quality of life. For them, it is crucial to guarantee access to a job for everyone and reach a full employment economy. Proponents of the UBI argue that many unpaid activities are also important, like taking care of children, helping neighbors, etc. A UBI would allow people to invest more time in such cooperative activities. However, critics of the UBI argue that a UBI represents a form of "**cold solidarity**" because people without jobs or social ties are only given an income but no real possibility to be integrated in the society (Swaton, 2018).

Some critics of the UBI warn that such a policy would simply allow employers to **increase workloads and reduce wages**, but this criticism is not valid in a society where workers can take decisions in their enterprises, as we proposed in chapter 2.

On the issue of how to **finance** the UBI, some economists doubt the very possibility of ensuring an income to everyone independently of their economic activity: to be able to share products of the economy (in the form of money), we need to make sure that they were actually produced (Les économistes atterrés). Enough surplus value must be created in order to distribute it monetarily. However, the assumption behind this criticism is that not enough goods and services would be produced anymore to ensure a decent life for everyone.

We should note here that a UBI and job guarantees are not mutually exclusive. It could be thinkable to implement both.

...Through a Guaranteed Fulfilment of Basic Needs and Rights

Universal Basic Services

The idea of Universal Basic Services (UBS) (Coote and Percy, 2020) was put forward as a counterproposal to the idea of a Universal Basic Income. UBS supporters argue that, to ensure a good life for everyone, we need to stop putting a price on everything and stop trying to solve all possible problems (including social and environmental ones) with money. Therefore, instead of giving everyone a stable monthly income, **UBS proponents want to provide**

¹² Writers have shown that rich people have a very high impact on the environment (Kempf Hervé, Comment les riches détruisent la planète, et autre). Inequalities also reinforce environmentally harmful lifestyles and create wishes that cannot be generalized to the whole society.

economic security by strengthening and extending public services. Typically, UBS proposals include services such as Health Care, Education, Access to Law and Legal Services, Democracy, Shelter, Food, Transportation, and Information.

However, these services would not be decided once and for all and implemented in the same way in every country/region. A key aspect of the UBS concept is the **democratic debate about what these needs and rights should be**, and how they should be provided. There could, for example, be a national or regional vote on what services should be provided to everyone free of charge. Then, at the local level, existing cooperatives or social enterprises could work on how to organize and implement ways to cover these needs. The role of the state would be to provide the necessary funds so that each local context can implement these services, but the state would not be the actual provider of these services. For example, a country could vote that Shelter and Legal Services should be free of charge. The decision about how these services should be organized would be made at a local level. This decision could for example entail the support and creation of more local housing cooperatives. These would ensure that everyone in need of a shelter can receive one. Concerning Legal Services, the decision at the local level could entail that lawyers receive direct funds from the UBS budget, when they provide legal services that fit the "free UBS legal services" criteria (established through the national decision).

The idea of Universal Basic Services is simply a broader version of the existing concept of public services that workers unions and other citizen groups have spent a long time fighting for. The core differences lie in the democratic discussion about what these needs and rights are, and in the scope these services aim to cover.

...Through a Combination

The ideas presented above do not all exclude each other. It could be possible to provide economic guarantee for everyone through a combination of these different propositions. Indeed, proponents of UBS clearly state that their proposition serves to create a strong and stable safety net for everyone. However, if we want to guarantee more individual freedom in life choices, UBS could be combined with a Job Guarantee, for example. Then, people would be free to spend their income on what they value.

Another proposal, the **autonomy allowance** (Liegey and al., 2013), also imagines how a combination of various propositions could look like. Similarly to UBS, people would first define a list of rights that should be guaranteed for everyone (list that could be decided through a national vote). Then, they consider which measures are the most appropriate to guarantee each right. For example, a right to housing might be best implemented through Public Services, while access to food could be better guaranteed by a monthly allowance of local currencies, so that people can make individual choices of food consumption.

In conclusion, there are three types of propositions for an economic guarantee: a job guarantee, an income guarantee and a guarantee of rights and needs. There are different ways to implement these three propositions. These different propositions have different focuses, but the same goal, namely, to allow people to live a decent life. If these propositions were implemented, it would mean that people would no **longer be so dependent on their current jobs**. Indeed, people would no longer have to fear that they would be social outcasts or that they would have to rely on unemployment insurance if they were fired.

Concrete example

Let us imagine that Switzerland has voted on establishing an economic guarantee through a combination of Universal Basic Services and a Job Guarantee.

Firstly, a national vote would be organized to decide as a country which basic needs should be covered as part of the UBS. Let us imagine that, among other things, people voted that the UBS should entail housing and transportation. At the city/region level, democratic deliberations are then organized to decide how these services will be coordinated. For example, to guarantee housing for everyone, the people could decide to support the development of more housing cooperatives in the town/region, and to guarantee that any person in need of an apartment could get a share in these cooperatives. The decision could also entail that all unused buildings are transformed into these housing cooperatives. In addition, the national vote about the right for transportation would directly entail that public transportation is free for everyone in Switzerland. However, local deliberations could still decide which local public transport they want to invest in.

Secondly, the job guarantee means that everyone in the country can get a job if they want one. Let us imagine a citizen from Bern, who just lost her previous job as a technician for Holcim (the cement company) because the enterprise shut down. Her basic needs are still covered by the UBS (free transportation, healthcare, housing etc.), but she still wants to be able to buy specific foods and continue to go on leisure or sport activities. Therefore, she wants to keep having a job and a salary. She spent quite some time looking for a job in the private sector, but was rejected from most offers that fit her qualifications and proposed a decent salary. She then decides to go to the local Job Guarantee organization (implemented through the Tcherneva's model described above), where she and the Job Guarantee Program employees decide together on a job useful to society that is adapted to her skills. Since she was previously a technician for Holcim, she is hired as a bus maintainer by a local, public enterprise, where she is employed part-time, and paid directly by the Swiss Government as part of the Job Guarantee program.

Conclusion

In this paper, we have tried to show why, from an ecological point of view, we need a system change and how this new system could look like. Since unlimited economic growth is very destructive for our environment, and green growth is highly unlikely, we need to transition to an economy capable of breaking with this capitalist logic. Indeed, this is not possible in our current economic system. Chapter one focused on explaining which mechanisms continuously push our current economy towards growth and environmental destruction. Many of those mechanisms are created by the financial sector and linked to power relations in political and economic spheres. We think that it is irresponsible to continue to let a few rich people¹³ and enterprises mainly driven by profit decide about the future of humanity.

To attempt to solve the problems of our economy, we focused first on the **democratization** of the economy and particularly on the democratization of the investment decisions. We also introduced different forms of economic guarantee to make sure that the democratic process is not dominated by the struggle for individual survival. Together, these two pillars ensure that the democratic decisions orienting the economy can also include factors like ecology, immaterial wellbeing and solidarity.

However, we are aware that we have only scratched the surface. To move our current economy towards degrowth and create an ecological society, the models we have presented are not enough. Our society is full of values and norms connected to material wellbeing, status symbols and "hustle culture". Education is often oriented towards economic productivity and a high division of labor. Several of our institutions are directly dependent on growth (i.e., the pension system).

There are many other reasons (besides decoupling our institutions from growth) why we need to work towards an ecological economy. We need to have a **change of mindsets** and value more non-material things, like free time, community, nature, and happiness. We need to build parallel structures that satisfy our needs without relying on growth and unecological structures. These can for example be community farms/gardens, food-cooperatives, social housing cooperatives, local care-networks, sharing-initiatives, repair-cafés, and much more. The achievement of a truly ecological society is a much broader struggle than "just" changing the economic system. It also requires political, cultural, and societal change. Only by implementing these many changes can we shift towards a more environmentally friendly, more social, healthier, and happier society.

This document shows a glimpse of possible futures and their basic economic mechanisms. It argues that we need to fight for measures that really solve the core problems we have described. It is a pledge not to be satisfied with the neoliberal solutions that are offered to us currently, but to demand true alternatives.

¹³ Actually, most of them are men.

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