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The New Economy:
A Financial Climate for Climate Finance

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Abstract

In these past two centuries, capitalism has driven substantial economic growth. However, this growth has not been responsible for the "thrivability" of our planet in terms of society and the environment. This economic model now threatens the continuation of the human species on planet Earth. In 2015, The United Nations created a paradigm shift. All the countries committed to reach 17 Sustainable Development Goals (SDGs) by 2030. Trillions of dollars are going to be invested annually in these goals. But a question remains as to how we can obtain the necessary funds. Long-term pension and insurance funds (including social security) are the perfect candidates: they need long-term investments to back up their commitments. A perfect match! Alas, each dollar invested in the SDGs will not bring high yields, because of "externalities" that are not taken into account. The prospective investor only receives economic profits, while others (government or the public) get the environmental and social benefits. The SDGs represent more than just economic goals, therefore, a dialogue with the capitalist model cannot happen. It will only work if there is an approximation, or new factors/metrics, incorporated into that model that can translate social and environmental benefits into monetary terms. If the SDGs become the business of governments, then they could facilitate an approximate solution. Governments must do this, as they manage the SDGs, and the regulation. If each country issues a special long-term bond which can cover SDG investments with a high yield, it may suffice to return a pension or a social security to the entire population. The cost of the plan is the difference between the rate of the bond yield and the return to the owner of said bond. National accountants know how to make this happen. This way, we finance the SDGs, and create a pension and jobs for millennials and future generations.

> *"There is no way to solve the environmental and social threats within the capitalist framework."*

1. The New Economy

We are not just living in an era of change, but rather through a change of an era!* Capitalism has been driving substantial economic growth during the last two centuries. But it has caused severe damage to social and environmental frameworks, to a level that now

* Some of the critical issues that distinguish the new economy from the old one are listed in Appendix A.

threatens the continuation of the human species on Planet Earth.* There is no way to solve the environmental and social threats within the capitalist framework.

> *"There is an urgent need to add non-economic dimensions to the dashboard. This is the way to move from an industrial world to a post-industrial world. We must replace the current focus on the "maximization of economic values" with a multidimensional framework that includes consideration of Economic, Societal, Environmental, and Consciousness factors (ESEC)."*

The outbreak of COVID-19 has forced countries to take critical economic steps like the stopping of most of the airlines, tourism, sports events, cultural events, restaurants, etc. This makes the current period the best time to start correcting past mistakes and start off on the right foot in the new economy. But the reason to do it had been there for quite some time, probably for the last 40-50 years, before COVID-19 was discovered.

The basic assumption of capitalism is that all players strive to maximize their wealth. This automatically generates, through what is known as 'the invisible hand', a set of equilibrium prices that lead to the automatic allocation (without the interference of a central planner) of all resources, products and services. The theoretical beauty of capitalism is that the process is not just automatic, but it is predicted to lead to the (Pareto) *optimal* allocation of all resources, products and services.

In practice, various prerequisites are not fulfilled:

- Natural and cultural resources (the "commons") are not represented properly by price-determining mechanisms,
- "Perfect competition" is not real. In the markets there are noticeable concentrations of powers.
- There are many cases where players encounter different prices due to the existence of "externalities."

Such violations of the principles of capitalism have led Joseph Stiglitz (2012), a Nobel Prize laureate, to argue that the invisible hand is invisible because it is not always there! These are especially true with regard to the environmental and social threats. All the above conditions are violated with regard to these areas. Especially, all the prices are unknown—the "commons" are not subject to supply or demand.

* There are other derogatory changes in the environmental and social parameters (that are developing at an exponential rate): The world population was close to 1 billion around 1800. Currently it is 7.8 billion, and the level of per capita consumption now is much higher. The Global Footprint Network shows an over-drawing of global resources. We are losing the limit of climate control (1.5^0 C), and are moving towards the 2^0 constraint. A whole different game! The land, air, and water pollution seem to be sky rocketing. The level of sea pollution, and the acidity and opaqueness of the sea are endangering the oxygen in the atmosphere. Storms are stronger, draughts are stronger, flora and fauna are disappearing at an alarming rate. The same case with the effect of dealing with healthcare, unemployment, education, and social security.

2. Multidimensional Metrics

One cannot solve a problem by following the same principles that created it. Changes are occurring in ways of thinking. People are beginning to believe that they should not serve the economy, but rather that the economy should support their basic values. In such an economy, "doing good" (socially, environmentally and ethically) should support, rather than stand in contradiction to, "doing well" (economically).

Metrics do not merely serve as tools for measuring results. They actually act collectively as compasses or a dashboard, leading us on our way. Using inappropriate metrics leads us in the wrong direction. There is an urgent need to add non-economic dimensions to the dashboard. This is the way to move from an industrial world to a post-industrial world.* We must replace the current focus on the "maximization of economic values" with a multidimensional framework that includes consideration of **Economic, Societal, Environmental, and Consciousness factors (ESEC)**.†

3. Sustainable Development Goals (SDGs) –Total Change in the Economic Model!

In December 2015, The United Nations achieved a remarkable agreement whereby all its members committed to reaching the 17 Sustainable Development Goals (SDGs) by 2030.‡ These SDGs include the aforementioned **ESEC** parameters. And since all the countries in the world adopt the SDGs, this should become the rule.

Alignment on targets is difficult in a world where each individual, company, organization, and state use their own private compass. To truly measure and report their non-economic impacts, there needs to be an authority to build guidelines, preferably multinational guidelines. It seems that the social, environmental and the consciousness factors should enter the model at first by approximation (rather than assuming zero price). And later with economic metrics, according to classical capitalist models. This will create a new model. The addition of the social, environmental and consciousness factors would drastically change the economic factors, and the overall result could be quite different!

In a paradigm shift there is a need for a large shift, a transformation, a game changer. So the story of a change, a gradual shift, is irreverent. To create a paradigm shift there needs to be an educational challenge: at this stage we must train leaders, managers, accountants, engineers, designers, planners and strategic departments. To make a rapid global impact we must train the leading consulting firms and large accounting firms and create a "top-down" approach in preparing leaders and executives.§

* The OECD countries, for example, have developed what they call "Well-being Indicators," while others such as the Kingdom of Bhutan have suggested a "Gross National Happiness" index. In addition, many corporations around the world have developed and used the GRI rules (Global Reporting Initiative) to try to measure and report their non-economic impacts, in addition to issuing regular financial statements based on traditional accounting.

† I believe that adding the component of Consciousness (ethical values, civil consciousness, consumer consciousness, etc.) to the earlier "triple bottom line" approach is essential.

‡ One obstacle to reaching a practical international consensus about environmental and social issues has been the conflict between developed and developing countries. In moving from poor to rich, a country does not have to go through the "dirty" stage (Von Weizsacker et al., 2005). They can be "rich and clean" by using circular models like the well-known "Cradle-to-Cradle" (Braungart and McDonough 2008) or K.H. Robert's "The Natural Step".

§ At The YK Center, we have gathered international teams of senior business mentors and experts and developed tools for what we call "Trans-Form-Nation". This is a method of preparing governments and large organizations to deal with these challenges effectively and with urgency.

4. "$B to $T by 2020" Target

Before the signing of the Paris Agreement and a couple of months prior to the announcement of the SDGs, at the Sustainable Brands Conference on Metrics (Boston), we introduced the concept "From $B to $T by 2020". This message of financing the ecosystem towards the SDGs received much traction and we saw that the first part of the slogan had already been absorbed by institutions like the World Bank, UNDP, UNGC and the OECD. But if we do not accomplish interim goals by the end of 2020, there is no chance of reaching the required outcomes by 2030, as they involve big infrastructure projects that typically require long periods of planning, preparing and building. Reaching the defined goals by 2030 is quite ambitious, and any delay will mean having less time to reach them, implying the need for greater effort.

The relevant planning horizon for most leaders and executives is quite short due to regulation that drives short-termism and egocentric forms of motivation (limited terms for positions, elections, etc.). Moreover, the former typically think in terms of hundreds, millions or billions, but seldom in terms of trillions of dollars.

Leaders and executives should learn to operate with the new metrics on a completely unrecognized scale (multiplied by thousands), in order to achieve the SDGs. However, there is a need to meet some interim goals in the near future, to change the scale of thinking from billions of dollars to trillions, and to create the needed managerial skills and tools for stimulating reform.

5. How can we get the Capital that is needed?*

The insurance industry could be a world leader by focusing on sustainable wealth in the long run. However, they can do more than that: Insurers and pension funds are the only ones that still have the money to invest and they are interested in the long run. All the environmental projects need long-term investments.

This paradigm shift requires an immense investment: trillions of dollars per annum in impact investments (mainly in infrastructure). The only source of long-term financing is retirement-related money. In the public sector (social security programs) and in the private pension plans (retirement and savings programs and long-term life insurance). All these bodies require the backing of their long-term liabilities towards their savers. The ideal investment for them is the long-term bond of 25-40 years plus a hefty interest rate. High yields are a necessary condition for attracting more savings, and for raising the large amounts of money that are required for impact investment. Interest rates play a key role in creating attractive retirement plans.

The financial institutions of the private sector currently manage for their customers an immense portfolio of approximately 80 trillion dollars (prior to COVID-19)! That seems like enough to achieve a major part of the SDGs, but the entire sum is invested elsewhere. There is little chance to start negotiations between so many countries and so many institutions. Only regulation can do it.

* See Appendix B.

There are, however, two other things to consider:

First, for quite some time, we have lived in a world of very low (near-zero) interest rates. There is little incentive to save money, and little appetite for financing impact investments. Financial experts turn to short-term profit (by the use of trenches and finance combinations), and it is enabling them to give a positive yield. In a system like this, every few years there must be a crash (that takes the system below zero) and then a climb up again, with a positive yield, during the following years.* One can think back to the .com crisis, the mortgage crisis in 2008, and now the COVID-19 crisis of 2020, to see the process. This is essentially the reason for the instability of world financial markets.

Second, social and environmental benefits (such as a reduction in carbon emissions, a positive impact on population health, job creation, etc.) are regarded as “externalities” i.e., others such as the government or the public, but not the investors, get the benefits.

There are ways of revealing the implicit yields on impact investment, or in economic terms, ways of “internalizing” (endogenizing) these externalities so that they can be added to the yield of the investor. Public investors such as governments, and especially funded social security plans, could easily consider these externalities as contributions to the yield on their investments, but they have to adjust their accounting methods to measure and reflect these benefits. Most of the SDGs can be considered as “externalities”. Unfortunately, the government lets volunteers and non-profit organizations do their job for them. The SDGs and the endogenizing of externalities must become the job of government.

More sophisticated tools are needed to transmit the benefits of these externalities to private investors. It is possible, for example, to use certain market mechanisms (such as emissions trading), and to include these in investment yields. Other mechanisms (such as tax incentives or other subsidies, public guarantees on minimum yields, etc.) can also be used depending on local circumstances and on ideological differences.

The Israeli example of public financing is especially relevant in this case.† Soon after the state of Israel was established, government coffers were empty due to the cost of the War of Independence, and the unusual challenges that stemmed from the need to absorb a large number of Jewish refugees from Europe and Arab countries. The population was very young and there were no jobs. There was an urgent need to invest in infrastructure, factories, housing and job creation, and to deal with “melting pot” educational challenges. The government encouraged the creation of insurance and pension arrangements and also established a social security system to take care of the population that was due to retire several decades later.

The government issued to retirement institutions long-term bonds bearing high yields, and created tax arrangements that enabled these institutions to offer very attractive retirement plans with high yields to savers. This created a very high rate of savings in the country.‡ In

* One of the things that brought up these phenomena happened some 30-40 years ago. The insurance and the pension industries were worrying about the deficits of their funds (which was basically a defined benefit—DB - program). The risk of the fund had been distributed between the employee, employer, government and the fund. It changed to be a defined contribution – DC. This turns the risk to the shoulders of the employee himself, and the self-employed people with no savings (as is being seen during the current COVID-19 phase).

† The system had been used under a different version in Marshall Plan, and as a more recent plan in Estonia, Poland and Sweden.

‡ In this accumulation of savings, the government saves a lot of money in investment fees.

addition, the government introduced a funded social security plan that invested its funds in quite similar government bonds. The funds raised through these special long-term bonds fed a "development budget" (but it later took the form of the general budget). It was used to activate a number of specialized sectoral-level development banks that undertook impact investments. This was a major tool for financing the country's growth during its first four decades.

6. Importance of Governments in the Process

I do not know who came up with the idea of financing the SDGs with private capital. The SDGs have been adopted by all the 193 Governments. The 17 goals have to focus on social and environmental tasks and lots of externalities. That is the business of the governments! In addition, governments have to do a lot of regulations. Governments must help pay for the achievement of the SDGs.

This can be done through long-term investments in the pension and social security funds. Many countries, especially developing countries, can learn from this example of public-private collaboration and can adapt it to their needs. A government can help achieve the goals through its social security funds. This is also an opportunity for countries with no social security to create such infrastructure. In countries where there are existing pension and social security systems, they may expand their funds for the whole of the labor market, including, the self-employed.

Such ideas may face ideological criticism from people that resist governmental intervention in the economy and prefer privatization at any cost, as well as those that mistrust the willingness and ability of government to honor long-term goals. On top of this, there are whole industries such as oil and gas that may lose their subsidization due to these shifting of funds. Opponents of any government intervention typically emphasize the potential inefficiency and even the corruption of government systems.

Such initiatives were often discovered to be a means of transferring important and valuable public properties at low prices into a few private hands. In the case of Israel, there have also been complaints about problems with capital allocation, inefficiency, and even corruption, despite efforts to run a very "clean" system. A certain degree of disorder seems to exist in both government and private-led systems around the world and can be reduced and mitigated through education, regulation, and efficient controls.

The ability to offer a high yield on impact investment will create a self-perpetuating cycle: higher returns on retirement plan portfolios will increase the attractiveness of retirement schemes. This, in turn, will motivate larger long-term savings and thereby enable financial institutions to finance impact investments more. As long as these investments continue to yield high returns, this cycle of positive feedback will continue.

7. Conclusion

All the countries in the world have agreed towards achieving the SDGs, thereby agreeing to add social, environmental, and consciousness factors to economic considerations. That means a paradigm shift, which belongs to a special education process.

A country can do what an individual cannot: Shift itself off the ground by pulling its own bootstraps! These mechanisms can be established and activated within a short period. We can simultaneously deal with three major and pressing global challenges: The mitigation of major social and environmental threats through appropriate impact investments, the creation of jobs and reduction of job insecurity for millennials, and the re-establishment of retirement security for millennials and future generations.

"A capitalistic economy does not know how to deal with things with no price!"

In this paper we show that there is a relatively simple way to reach the solution for these pressing problems:

1. The inclusion of Social, Environmental and Conscious metrics alongside economic metrics (such as the SDGs).
2. The acceleration of the SDGs by investing in infrastructural change to basic economic activity ("B to T by 2020").
3. Governmental investments should be made through long-term bonds (with a minimum 5% indexed yield) as in the Israeli example.
4. Helping the customer to get reasonable constant yield at retirement (and on through the pension period), and saving a major commission.
5. Investment in social aspects may stop fluctuations in capital markets (Social security, private pensions and insurance).

In short, we have the chance to hit several ambitious and extremely urgent targets with a single arrow!

Appendix A: The "Old" and the "New" Economy

Some of the key differences between the old model and the new economy:

- Traditionally, we have assumed that three major resources are involved in production: land, labor, and capital, each of which is limited. Accordingly, the economy was based on the principle of scarcity. In the modern economy, we have new "unlimited" and fast-growing resources: data, information and knowledge, and sophisticated computers and robots that can do many things more efficiently than human beings.
- Rapid urbanization and significant demographic changes are affecting birth, mortality, longevity, and populations' age structure. The ease of transferring disease.
- The rapid increase in population triggers an "exponential storm": the depletion of minerals, oil, wood, water, animals… and the horrifying degree of polluting air, land, water.
- Climate change. The loss of a variety of animals and flora.

- Many services can be supplied electronically, and this process is rapidly replacing traditional transaction methods (e.g., digital currencies and digital banking, artificial intelligence and blockchain-based contracts and legal services, and intermediation activities, autonomous cars, personalized medicine, etc.).
- There have been rapid and significant scientific and technological discoveries in a variety of areas: space, medicine, biology, agriculture, materials, etc.
- For the first time in human history, people today can live simultaneously in both physical reality and virtual reality.
- The global disparity between ecological means and the demand for food.
- We have sophisticated communication and transportation systems that enable us to move large quantities of products, as well as people and ideas, rapidly and at relatively low cost (rapid trains, ships and aircraft, delivery by drones, autonomous cars, etc.).
- We do not need huge factories to manufacture things in mass quantities. The internet of things already enables us to manufacture many things at practically near-zero marginal cost, in small amounts.
- The ability to obtain the rights to services (rather than ownership of assets) has paved the way to rapid growth in the "sharing economy" (Airbnb rooms, shared bicycles and cars, etc.).

Appendix B: How to Finance the SDGs

All the countries of the world have committed to support the SDGs. Therefore, all training, financing, and administration of achieving the SDGs rely on countries.

The SDGs bring to light some factors that are not incorporated in our capitalist economy: environmental, social, and general budget, consciousness issues, that have no prices on them. A capitalistic economy does not know how to deal with things with no price! If there were price tags, they would be distorted by the very system.

The SDGs, that are fully agreed upon by all countries, give us no possibility to go back to the old capitalist model. We must calculate the price for things such as combatting unemployment, education, clean and safe water, waste management, ocean and air pollution, land use lost to desertification, land degradation and loss due to sea-level rise, forest and agricultural depletion, growing urbanism, etc. Doing it, it will take too much time, something that we are not getting in the time of crises. So it is time to get an approximated approach.

The major idea is like this: the government is going to establish a retirement plan to the entire population. The retirement is going to be financed by a premium, which is going to be invested in the governmental bond. The entire sum is going to be invested in the SDGs. The deficit between the real profit from the SDGs and the real investment yield that has been promised to the bond holders, has to come from the implicit gains from the social, environmental and consciousness approach (that may take a while to be seen in the national account)*. In principle the deal could be taken by the pension and insurance companies.

Having such approximated metrics will surely be better than doing nothing. This should be done by Governments. Private money will join after the new rules are set and made mandatory. Due to the urgency of the problems, instead of solving them one by one, let us talk about "Saving the World" with all the SDGs. By doing that, I suggest that governments make long-term bond issuings to the public. The yield on these bonds should be high enough in terms of current yield, which is around zero, when we take away purchasing power risk (Say, 5% plus linking to purchasing power or foreign exchange rates). The plan can allow governments to use public retirement programs, according to a set of rules. The terms can be determined by each country.

I think that this is a relatively small price to pay in the long run for the SDGs to save the world. I suggest investing only in projects that are aligned with the SDGs. This can be extended to the current needs such as COVID-19, scientific development, and moving industries to sustainable models such as Cradle-to-Cradle and The Natural Step. We must stop investments in projects that are literally destroying the planet (such as fossil fuels, unsustainable urban planning, etc). This must be a global effort of combined forces.

Some key considerations:

- The plan must not be amended or harmed retroactively.
- The loan can be collected by some governmental agencies: social security, the central bank, the national development bank, general budget, development budget, etc. On the other hand, it is possible to manage it through private funds that will be based on slightly different rules.
- In terms of regulation, there are states that a whole parliament can make a decision, and there are states where a single ministry may make the decision. The regulator must be held responsible for cashing the savings in and out (the accumulation, the pension). The regulator is responsible for a lot of money, and hence a lot of backing in the long term. The regulator must be supervised by professionals (and not by politicians).
- The citizen can deposit money in government bonds with 5% interest rates, index-linked bonds or exchange-rate-linked bonds. This rate has been selected because it allows for a good pension plan, given that there is a good saving period. These must be long-term bonds (highly recommended until death, or alternatively, until the retirement age of 67). I suggest no more than 25% of the average monthly wage. It should be impossible to get the savings out before maturity.
- The fund must be managed locally. That means that there will be no exchange risk, and all the money will be spent locally.
- If a person reaches retirement age, there is a summary of the savings and the yield. At that time the conversion factor comes into the picture. The total amount of the

* We must take into consideration the ability to stop investments in projects that are literally destroying the planet.

savings divided into the conversion factor should determine the monthly pension. This coefficient can change as actuarial circumstances change. It should be simple to manage, and with no management fees. That is better than all kinds of pension plans today where the interest rate is above what is known currently, and there is no interest risk.

- The terms of the program would be determined by a committee. There should be rules in place: If a person becomes sick, or has an accident (permanently or temporarily), or if a person becomes unemployed (permanently or temporarily), or if a person leaves the state (permanently or temporarily), etc.
- The details of the retirement program may change according to the specific country. The plan must be able to change by nationality or residency. People's moving patterns (from country to country) must be taken into account.

A country can do what an individual cannot: Lift itself off the ground by pulling its own bootstraps! These mechanisms can be established and activated within a short period. We can simultaneously deal with three major and pressing global challenges: The mitigation of major social and environmental threats through appropriate impact investments, the creation of jobs and reduction of job insecurity for millennials, and the re-establishment of retirement security for millennials and future generations.

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