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Techno-Legal Frontiers and Techno-Moral Futures of Sustainable Financial Transition

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Money and the Law - Classroom Talk | Guest Lecture
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Brussels, 16 November 2020

Risk Factors vs. Ethical Concerns

Environmental, Social, and Governance (ESG) Criteria

Sonnet 66

- ❖ *What if our normative, value judgements are bounded as our cognitive, risk calculation skills?
e.g. Evolutionary politics (social reality in the making) and evolutionary economics (due to bounded rationality)*
- ❖ *Can a person legally demand from her bank not to invest her money in her savings account?
e.g. As a freedom of choice among options, as a practice of financial democracy*
- ❖ *Why in a knowledge society would an individual's need state and market actors as intermediaries for personal financial matters?
e.g. Personal financial sovereignty, instead of the state and the market as only intermediaries for insurance, mortgage, pensions*
- ❖ *Is it only about how a company makes money or is it also about what a company does with it, including in where it invests regardless of its industry?
e.g. Compliance failures such as bribery and corruption, emissions cheating and money laundering...*
- ❖ *Is there a difference between personal (bits and bytes) digital data privacy and personal (cents, euros) financial privacy?
e.g. Is your data of Google, or Facebook once you give them your data to keep it for you?*



Starting definitions

Techno-legal:

The legal structures and processes relating to **emerging and/or (new/incumbent) technologies**, come with three tensions in i) *experts vs. citizens*; ii) *hierarchy, network vs. market governance of new standards and regulations*; iii) *self-organisation of innovation vs. politics of purpose* (Borras, 2012).

Frontiers:

The extreme limits of understanding or achievements in a particular area; it can be descriptive-analytical level, deconstructivist level, and a visionary level (Latour, 1987)

Techno-moral:

The techno-moral explores the interplay between technology, society and morality, focuses on new and emerging sciences and technologies, used to *inform and enhance public deliberation on the desirability of socio-technical trajectories* (Arnaldi, 2008).

Futures:

Futures is the systematic study of **possible, probable and preferable futures** including the worldviews and myths that underlie each future, both at inner individual levels and external collective levels (Masini, 1993).



Relevance to Financial Law

- Just like **technology**, **finance** raises many **ethical** concerns.
- Relatively straightforward cases relate to **risks to health, environment, ecology, safety, security, peace**.
- For these cases, values are non-controversial, the chance and the possible harm can both be expressed in **quantitative terms**, and **the causal link** between *finance and/or technology in use or in development*, and *consequence* is **fairly direct and unequivocal**.
- Just like **technologies**, various **financial practices** are also bound to have consequences that are **morally ambiguous, qualitative and mediated**.
- New **financial technologies** also affect established practices, identities, morals, conceptions of the good life and worldviews, thus giving rise to **controversies** about issues of a less tangible kind: 'soft impacts'.
- These **controversies** are sites where **(fin-)techno-legal** and **(fin-)techno-moral** learning can occur *among experts and citizens in a networked form via guided self-organisation*.
- **The outcomes of these deliberations inform policy and legal decisions regarding financial and digital designs and/or the societal embedding of a new finance and new technologies.**



Sonnet 66

Micro-level – Rehab. Guide: ***“High-end banking **“is a really unhealthy industry,”** due to the combination of unforgiving working conditions, and the custom of drug and alcohol consumption to put on a strong, macho face to impress clients and intimidate competitors. Overall, single male workers up to 29 years of age who work in a number of varying fields (e.g., hospitality, manufacturing, retail, financial services, mining, and construction) are the most likely to engage in consumption of drugs or alcohol as a result of the stress they experience because of the nature of their jobs and the resultant culture of their workspaces.”***

Source: <https://americanaddictioncenters.org/rehab-guide/workforce>

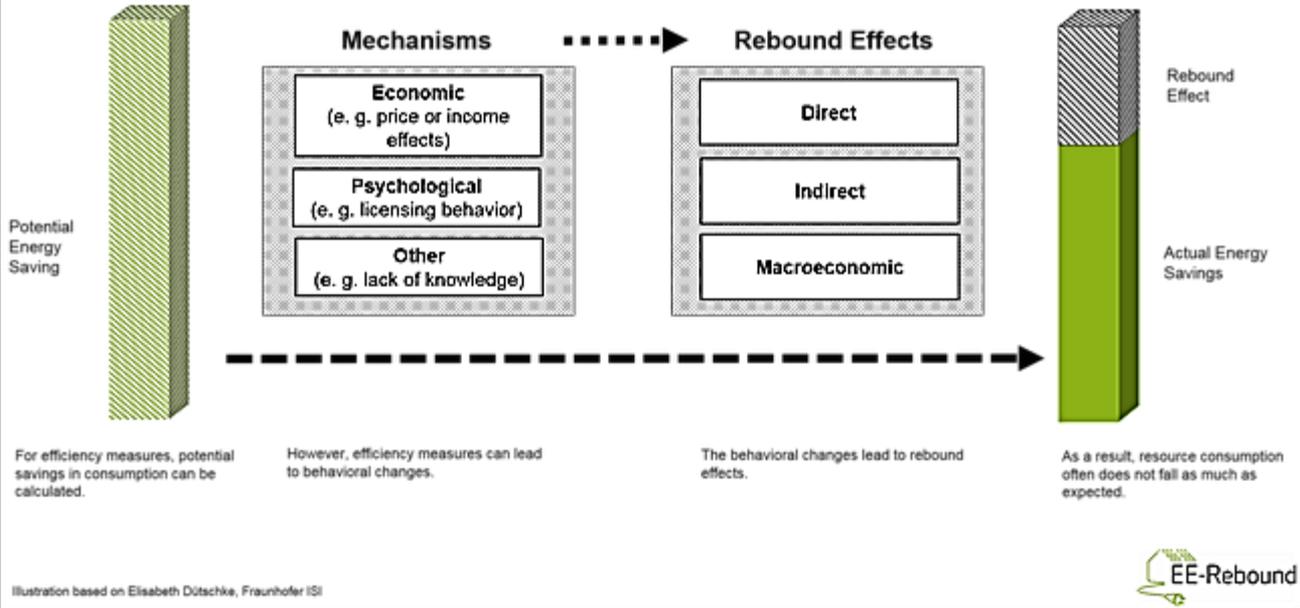
Macro-level: So where (do you think) ESG A | positive companies invest ?

Is it sufficient to improve technology without considering behaviour? The rebound effect is suggesting that it is not.



Rebound effect for the case of consumers

Mechanisms and Actual Rebound Effects



Monetary reasons are often suggested:

When consumers save electricity, their expenses are reduced and money is saved. **With this money they can consume more of the same or other products.** In the case of direct rebound effects, this is called *the price effect*: more energy can be consumed for the same money. *Indirect rebound effects can occur from income effects* - incomes rise, more goods can be demanded.



Possible Behavioral Changes and Effects of Efficiency Measures



A new, energy-efficient washing machine is purchased...

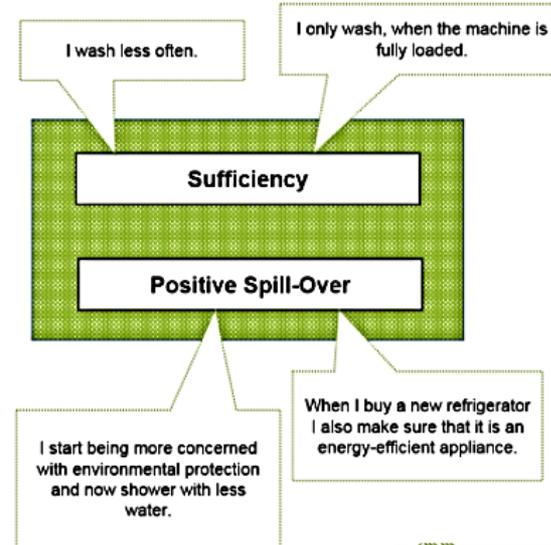
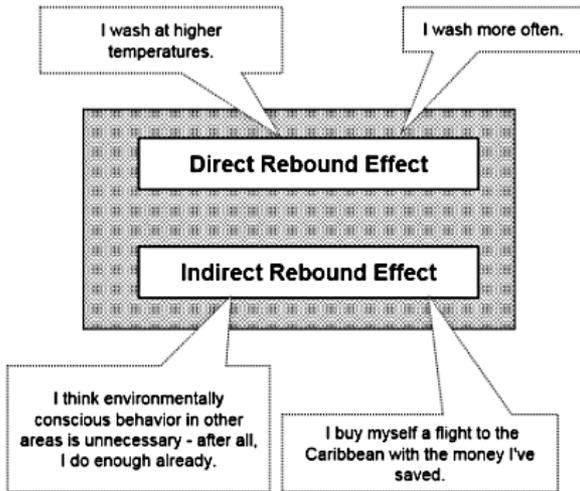


Illustration based on Elisabeth Dutschke, Fraunhofer ISI



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Turning the Table (Consumers vs. Producers): Personal e-mails vs. Company's digital bookkeeping & accounts /sheets

Although employees at Google are **not** personally **reading your emails**, your emails are **being scanned by automated systems by Google** in order to deliver more relevant ads and search results. It is possible to opt out of seeing these ads, but no matter what, **Gmail** will be scanning the content of **your emails** as a security measure. **Is automated system scanning an option for digital company books/accounts, sheets or statements?**

Source: <https://www.theguardian.com/technology/2014/apr/15/gmail-scans-all-emails-new-google-terms-clarify>

How to stop third party apps from reading your emails:

- Head over to your Google Account settings.
- Look at the apps listed under 'Third-party apps with account access'.
- Look for any with the words 'Has access to **Gmail**' next to them and click them.
- Click '**REMOVE ACCESS**', and confirm your decision by pressing 'OK'.

From Form 10-Q

We require our suppliers and business partners to comply with laws and, where applicable, our company policies, such as the Google Supplier Code of Conduct, regarding workplace and employment practices, data security, environmental compliance and intellectual property licensing, but we do not control them or their practices.

Within Google, we continue to invest heavily in hardware, including our smartphones and home devices, which is a highly competitive market with frequent introduction of new products and services, rapid adoption of technological advancements by competitors, short product life cycles, evolving industry standards, continual improvement in product price and performance characteristics, and price and feature sensitivity on the part of consumers and businesses. There can be no assurance we will be able to provide hardware that competes effectively.

Source: https://abc.xyz/investor/static/pdf/20200429_alphabet_10Q.pdf?cache=1a4ecd7



What to screen: Types of Eco-Innovation

A **business model eco-innovation** is a new business model that reshapes the way users receive value based on lower environmental impacts of products (goods and services) and the way these products are produced and delivered.

A business model eco-innovation is often an **organisational eco-innovation**, combined with process eco-technology and marketing eco-innovations, to produce and provide one or more product eco-innovations to consumers.

Business model eco-innovations usually put the superior environmental performance of a product eco-innovation at the centre of the customer value proposition.

Source: Kemp, René, Anthony Arundel, Christian Rammer, Michal Miedzinski, Carlos Tapia, Nicolò Barbieri, Serdar Turkeli, Andrea M. Bassi, Massimiliano Mazzanti, Donald Chapman, Fernando J. Díaz López & Will McDowall, 2019, Measuring Eco-Innovation for a Green Economy, *Wirtschaftspolitische Blätter, Special Issue on Nachhaltigkeit / Sustainability*, 66(4): 391-404,



What to screen: Types of Eco-Innovation

- A **product eco-innovation** is a new or improved good or service that generates lower environmental impacts compared to the products previously produced or used by the unit (see Section 2.2).
- A **process eco-innovation** is a new or improved process that generates lower environmental impacts compared to the process technology previously used by the unit (see Section 2.3).
- An **organisational eco-innovation** is a new or improved organisational method that contributes to lower environmental impacts compared to organisational methods previously used by the unit. (see Section 2.4). For practical purposes, it is useful to distinguish four additional types of eco-innovations:
- A **marketing eco-innovation** is a new or improved marketing method for commercialising new or improved products with lower environmental impacts, hence facilitating the adoption of these product eco-innovations by potential users (see Section 2.5).
- A **social eco-innovation** is a new social arrangement that is environmentally advantageous. Environmental advantages may result from a group of people using fewer natural resources, or from establishing principles of a circular economy among a group of people (see Section 2.8).



Source: Kemp, René, Anthony Arundel, Christian Rammer, Michal Miedzinski, Carlos Tapia, Nicolò Barbieri, Serdar Turkeli, Andrea M. Bassi, Massimiliano Mazzanti, Donald Chapman, Fernando J. Díaz López & Will McDowall, 2019, Measuring Eco-Innovation for a Green Economy, *Wirtschaftspolitische Blätter*, Special Issue on Nachhaltigkeit / Sustainability, 66(4): 391-404.

DUTCH AWEARNESS: IMPLEMENTING A COOPERATIVE ECONOMY THROUGH CHAIN INVESTMENT / A Digital **Circular** economy ?

In collaboration with Dutch aWEARness and PGGM, business models highlighting a cooperative economy and their financial effects on the value chain were explored.



Technology: Circular Track and Trace

CCMS is a cloud data based platform software program, where chain partners in the extended supply chain can share selected information related to the products they make. It includes a portal to the customers who buy the products and portals to supply chain partners and the government. Tracking and tracing of each step in the supply chain.

All I Need

MSCI ESG RESEARCH CONTROVERSIES AND GLOBAL NORMS | JULY 2020

Global Compact Compliance	<ul style="list-style-type: none"> • Human Rights • Environment 	<ul style="list-style-type: none"> • Labor Rights (Core) • Bribery & Corruption
Human Rights Compliance	<ul style="list-style-type: none"> • Human Rights 	<ul style="list-style-type: none"> • Labor Rights (Broad)
Labor Compliance – Broad	<ul style="list-style-type: none"> • Child Labor • Discrimination • Health & Safety 	<ul style="list-style-type: none"> • Forced Labor • Collective Bargaining • Working Hours
Labor Compliance – Core	<ul style="list-style-type: none"> • Child Labor • Discrimination 	<ul style="list-style-type: none"> • Forced Labor • Collective Bargaining

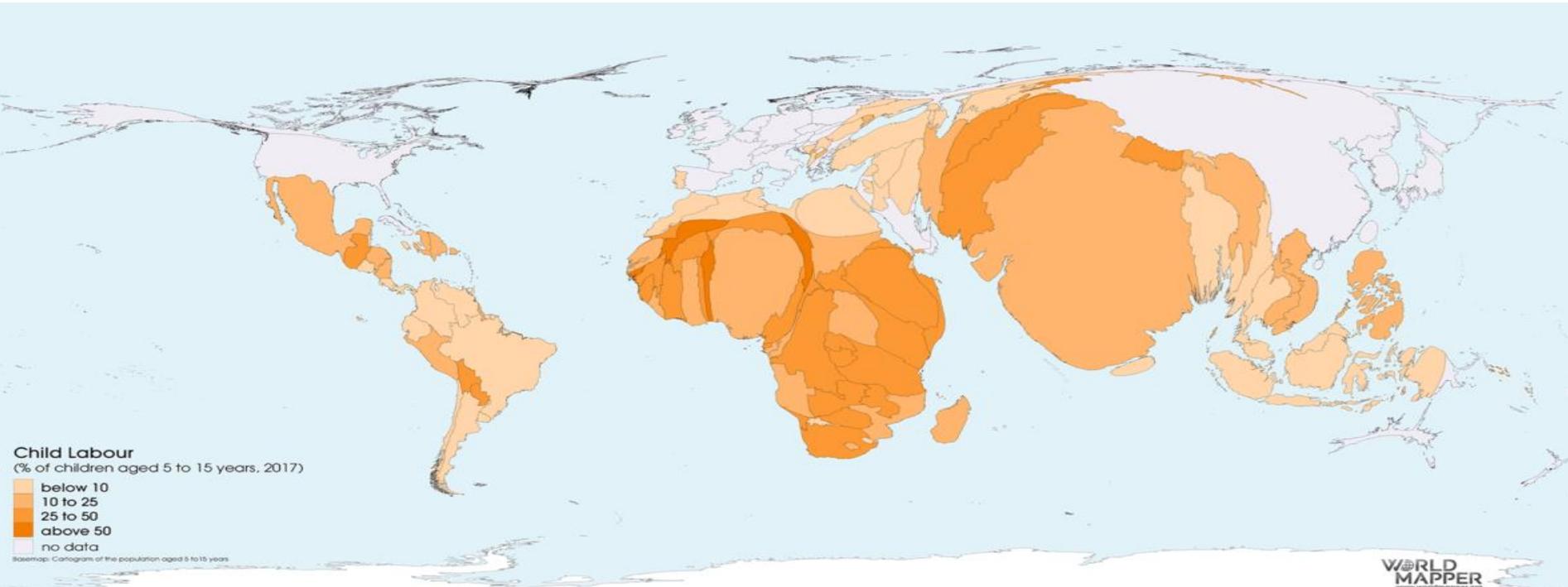
SCORE	SEVERITY	TYPE	STATUS
0	Very Severe	Non-Structural	Concluded
	Very Severe	Non-Structural	Ongoing
	Very Severe	Structural	Concluded
	Very Severe	Structural	Ongoing
1	Severe	Structural	Ongoing
2	Severe	Structural	Concluded
	Severe	Non-Structural	Ongoing
3	Severe	Non-Structural	Concluded
4	Moderate	Structural	Ongoing
5	Moderate	Structural	Concluded
	Moderate	Non-Structural	Ongoing
6	Moderate	Non-Structural	Concluded
7	Minor	Structural	Ongoing
	Minor	Structural	Concluded
8	Minor	Non-Structural	Ongoing
	Minor	Non-Structural	Concluded
9	Minor	Non-Structural	Concluded
10	None	NA	NA



All I Need

This map is resized according to number of children aged 5 to 14 years living in that territory. The colour shading shows the percentage of children aged 5-14 years engaged in child labour

Data sources : This map uses data by [UNICEF Data](#)



So, whose money and whose data?

An argumentative policy analysis of the partial passages

1. from ideologically mainstreaming yet ideationally barren street protests and strikes
 2. towards solutionist and action-oriented social and sustainable entrepreneurship training, and Schumpeterian workfare of the youth,
- both of which significantly fall short
- at the simplification and sophistication dimension of financial and legal innovative solutions



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Argumentative Policy Analysis as Methodology

- **Argumentative policy analysis (APA)** entails a looser coupling, sometimes even a decoupling, of policy analysis from its traditional context of decision support for government-initiated public policy programmes.
- **In APA, it is no longer government decisions, but public argument and debate that claim centre stage.**
- These two mechanisms are either **an established context gratefully used**, or, in cases of as **yet under-developed public fora**, a context to be created by good forensic and participatory analysis (Hoppe and Peterse, 1993; 1998).
- Like market inspectors who judge the fairness of market conditions and issue measures to restore them, argumentative policy analysts would sometimes claim the role of ‘inspector’ of **the fairness of the market-place for ideas**, and assume democratic–pedagogical functions (Fischer and Forester, 1993, pages 6–7) — they would, literally, **make (small-d) democratic (capital-D) Deliberation happen**.



Argumentative Policy Analysis

- After bringing public debate closure, the argumentative analyst would, of course, draw conclusions for issues where a genuine consensus for further policy design and implementation has been created.
- When **consensus is still lacking**, and even **when dissent has sharpened**, the argumentative policy analyst does not stand empty-handed.
- In **Consensus**, she/he may advise governments and other stakeholders on how to elaborate jointly a strategy for partisan and serial adjustments that increases the likelihood of greater consensus at a later stage.
- In **Conflict**, he/she may detect, in the chaos of discord and confusion, those **rare opportunities which may still exist for joint inquiry and continued dialogue** (Roe, 1994; van Eeten, 1999), in the hope that opportunities for consensus formation are kept open, and in the certainty that continuation of dialogue in spite of discord is rational for sustaining the delicate fabric of the body politic (Diesing, 1962).



Argumentative Policy Analysis

In sum, APA is,

- First, epistemologically grounded in a fallibilist–dialogical concept of scientific rationality, and a social–constructivist perspective on social reality.
- Second, it is based on a selection in context (Bobrow and Dryzek, 1987) of the most usable parts of the critical–rationalist, critical, forensic and participatory traditions.
- Third, it does not advocate a sudden and complete paradigm shift, but a patient and persistent process of revamping and testing a new tool kit for professional policy analysis.

In this way, ‘speaking truth to power’ may be transformed into an argumentative policy analysis which re-invigorates political prudence as ‘making sense together’ (Source: Hoppe, 1999)



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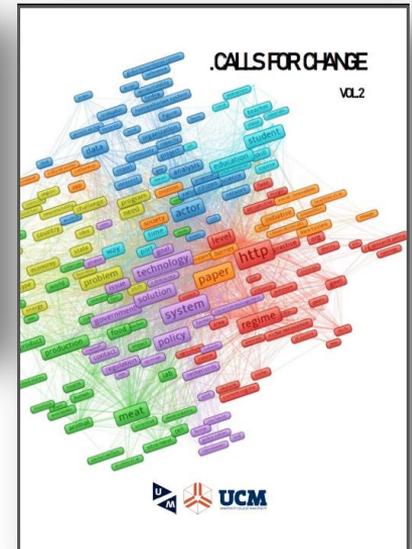
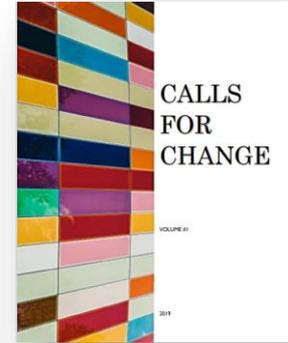
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Now it is actually 9 years left!

The partial passages from ideologically mainstreaming yet ideationally barren street protests and strikes to...



Link: <http://lab.merit.unu.edu/sparks/>



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Eco-Social Policies? (mismatch between the condition of citizen and non-citizen engaged policy)



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Targets for 2030 and then 2050...



Political Economy of Promises:

Long term plans exceeds the lifespan of its designers like a substitute for post-life positives to be left behind here on the Earth.



Selves in Self

Does current financial **elements and factors, as they are, restrain people from being the best version of themselves?**

Yet, does that version still put forward several self-questionings in an attempt to challenge its owner to break free from external and internal forces that try to impede progress in their lives?

This doesn't have to be confined to only careers, it's about *"breaking free from things that confine you"*



Keynesian Welfare - Schumpeterian Workfare

→ Neo-Schumpeterian Corridor

- Sustainable production
- Sustainable distribution
- Sustainable consumption



- Sustainable finance?

Sustainable finance is actually a statement clearly admitting or acknowledging a core fact that is necessary for essentially confessing that finance as it is, and as it was, finance as it is, if kept, would/could/will not be sustainable.

- Sustainable regulation?
- Sustainable law?
- Sustainable exchange?



Then, some questions?

- *Is finance itself as a complex set of activities sustainable?*
- *Is sustainable finance a way to actually save finance itself other than environment, ecological from collapse per se?*
- *Are we induced into making financial choices which in any case remain within the systemic frame?*
- *Is it built on a social order (hierarchy) and market prices (market) as communication instruments which are both basically authoritarian?*
- *Is it democracy or dictatorship of finance?*
 - *the subjective (terrorism, crime, the subject is held accountable); the symbolic (violence embedded in language, hate speech, sexism, racism); and the systemic (the catastrophic effects of economic and political systems, the violence perpetuated by political and economic arrangements, accountability loss) Slavoj Žižek, Violence (New York: Picador, 2008).*
- *Can sustainable finance ground any claims to systemic trust (state-network-market) for everyday citizen?*



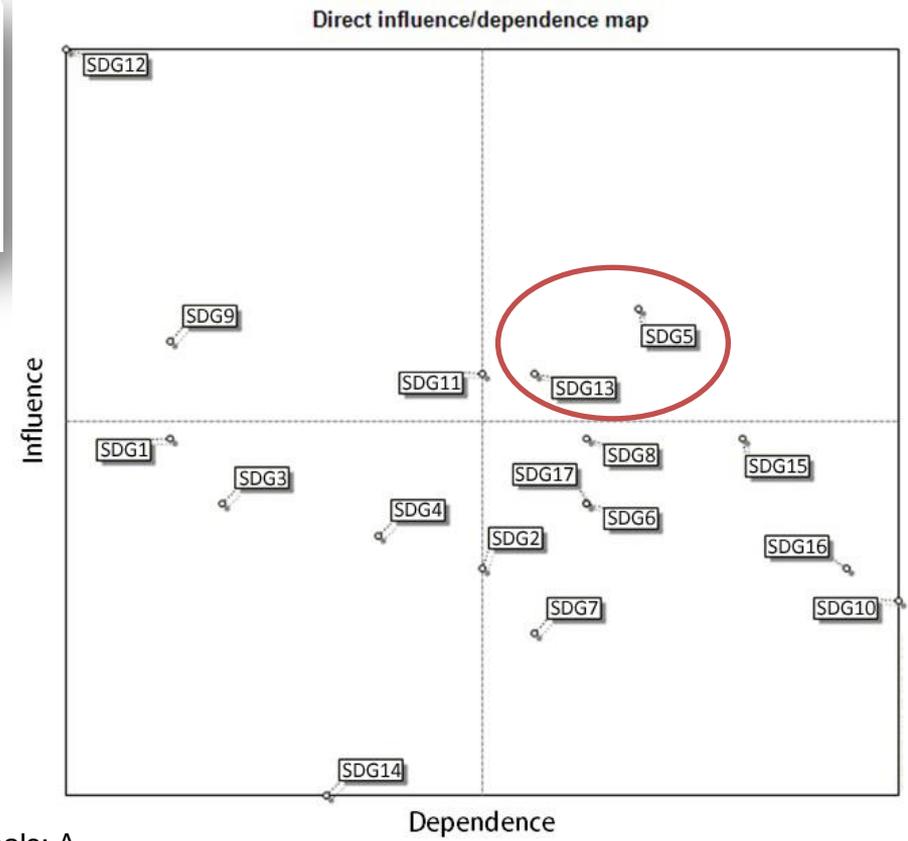
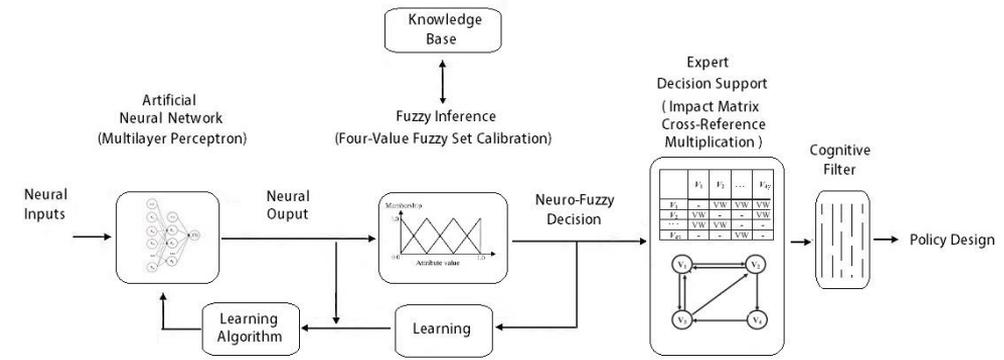


European Commission

1,034,764 followers
11h • 🌐



The EU is making progress towards the UN Sustainable Development Goals. 🌍
Significant progress has been made towards peace and justice, but more efforts are needed to reach the climate action and gender equality goals. ...see more



Source: Türkeli S (2020). Complexity and the Sustainable Development Goals: A Computational Intelligence Approach to Support Policy Mix Designs. J Sustain Res. 020;2(1):e200006. <https://doi.org/10.20900/jsr20200006>

Steve Glaveski , The Case for the [6-Hour](https://hbr.org/2018/12/the-case-for-the-6-hour-workday) Workday, December 11, **2018**
<https://hbr.org/2018/12/the-case-for-the-6-hour-workday>

Daniel Bernmar, Ignore the headlines: [a six-hour working](https://www.theguardian.com/commentisfree/2017/jan/06/ignore-headlines-six-hour-working-day-swedish) day is the way forward, **2017**
<https://www.theguardian.com/commentisfree/2017/jan/06/ignore-headlines-six-hour-working-day-swedish>

2020 Finland's new PM, Sanna Marin, is considering a four-day working week and six-hour-long shifts



The Commission's actions on social innovation stem from the [Innovation Union initiative \(2010\)](#) and of the [Social Investment Package \(2013\)](#).

Source: EC
https://ec.europa.eu/growth/industry/policy/innovation/social_en

Celbis, Mehmet Guney & Serdar Turkeli, **2015**, Does Too Much Work Hamper Innovation? Evidence for Diminishing Returns of Work Hours for Patent Grants, *Journal Global Policy and Governance*, 4(1):

*This study suggests that individual time is an important factor that needs to be considered in innovation research. We define two types of time: work time and free time. We find that work time has a positive but diminishing effect on innovative output such that after a certain point the innovation-enhancing role of work time is taken over by individual free time. Using a sample of OECD countries and Russia, we estimate a quadratic relationship between work time and per capita innovative output. **For a hypothetical economy that has no other holidays but weekends, we estimate that individuals should not work more than about 6.6 hours a day for maximizing innovative output.** We also present a categorization of countries based on their innovative output and work hours that may kindle interest for certain case-specific future research.*

Key words: Innovation, Patents, Working Hours, Time, Neo-Capital Theories, Network Failures
JEL Classification: O30, O31, J08, J22, M5

Wintjes, René, Serdar Turkeli & Florian Henning, **2013**, *Innovation Policy in Metropolitan Areas: Addressing Societal Challenges in Functional Regions*, Regional Innovation Monitor, Thematic Paper 6, European Commission.

Turkeli, Serdar & René Wintjes, **2014**, Towards the societal system of innovation: The case of metropolitan areas in Europe, UNU-MERIT Working Paper [2014-040](#)

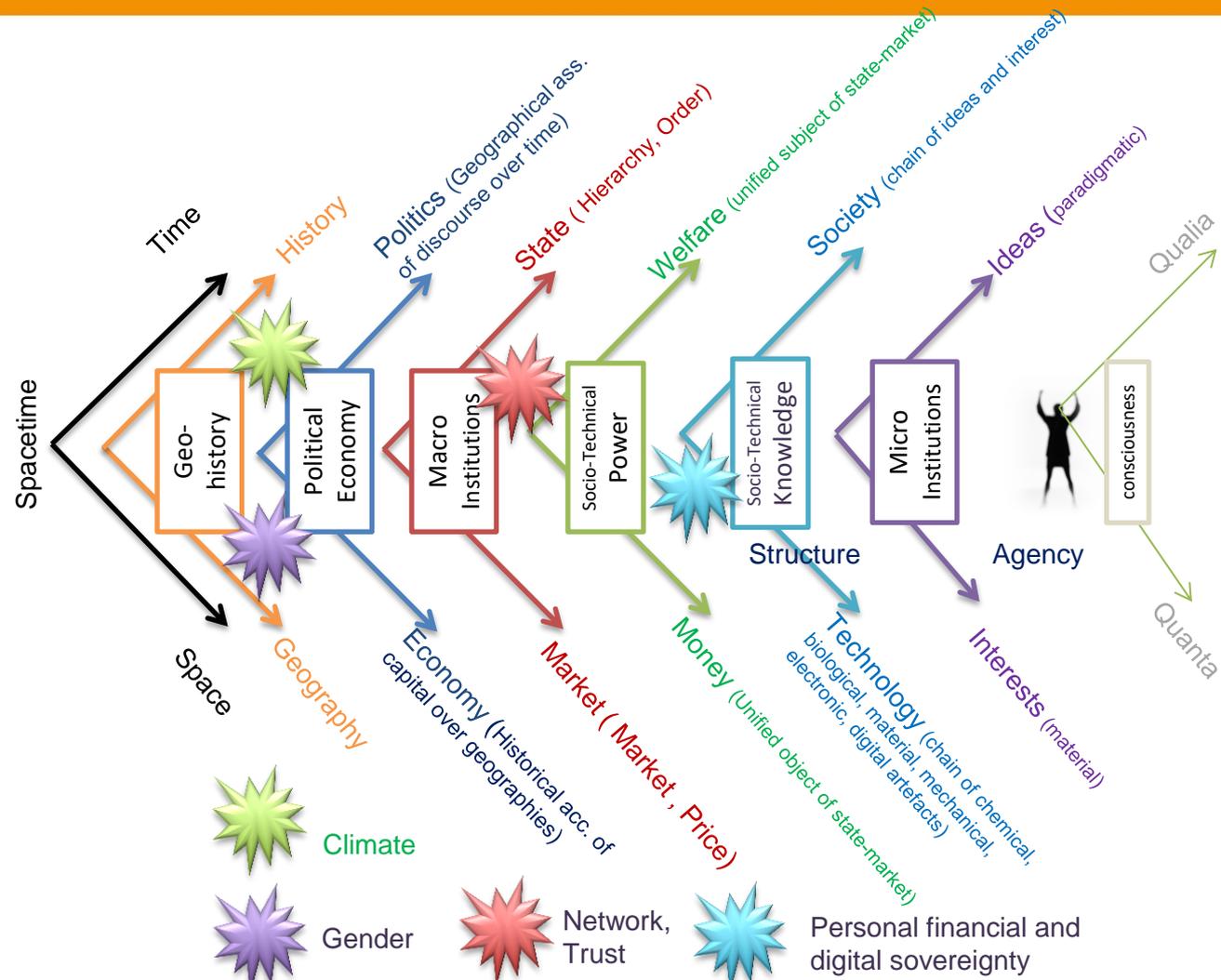


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A Decent Theory of Many Things

The metaphorical (wave-particle duality) is a duality (institution-individual or structure-agency) of sustainable finance also proposes options for legal and financial opportunities for personal, local and global disapproval of the dominant political economic socio-technical regime of finance.

Its contradictions and crises with non-human constituted laws of the nature, and historically accumulative, geographically indifferent consequences of the climate and gender relations.



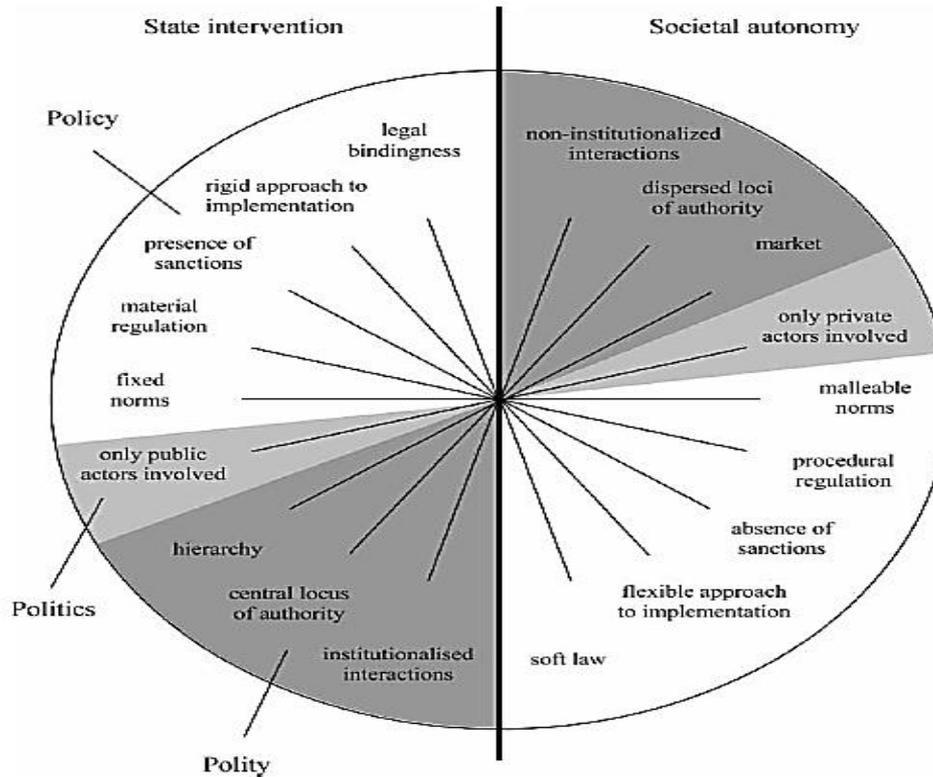
A partial list of *Refused to be learned*:

Layering and Transformation of Multiple Crises into COVID-19 v|c and more...

- ...
11. **A US-based structural healthcare crisis** (e.g. high healthcare system costs (insurance, medicine, operations) plus high debt for education costs, leading to lack/low levels of personal savings and personal investments or if high, in general, feeds greed) <->
 12. **A US-based contemporary housing crisis** (e.g. low levels of personal savings leading to being increasingly dependent on lending for housing (mortgage), if not for housing, for other needs, not wants, due to lack/low levels of investment savings) <->
 13. **A Global and local financial crisis** (e.g. Greenspan's team derivatives modelling flaw, and due to key performance criteria of financial providers private predatory lending practices, trade of non-real future options, swapping toxic credits overseas for needs and wants in developing countries) <->
 14. **A Global and local environmental crisis** (e.g. carbon leakage, due to financial crisis, further exploitation of natural resources and outsourcing of production in order to close the gap of former financial loss, need) <->
 15. **A Global and local data privacy crisis** (e.g. meanwhile manufacturing moving to/moved to overseas due to increases in digital services, servitization, and unregulated cybersecurity, legal gaps, alternative currencies, systemic hacks: Wikileaks, ransomware) <->
 16. **A Global and local trade crisis** (e.g. anti-competitive state aid backed products and services leading to trade wars)
 17. **A Global and local humanitarian crisis** (e.g. due to further exploitation of natural resources overseas and low level of livelihood quality of workers' overseas, refugee crisis etc.) <->
 18. **A Global and local political crisis** (e.g. due to populism manipulating to a degree all of the ongoing crises and increasing nano and bio technological capacity of technonationalist implementation of big data and AI, flexible robotics, social scoring systems) <->
 19. **A Global and local Health crisis (COVID-19)** (e.g. a zoonotic virus due to low level of nutritional capacity and states' intervention capacity in the livelihoods) <->
 20. **A Global and local crisis at individual and group level** (e.g. racism, discrimination, social unrest)
- ...



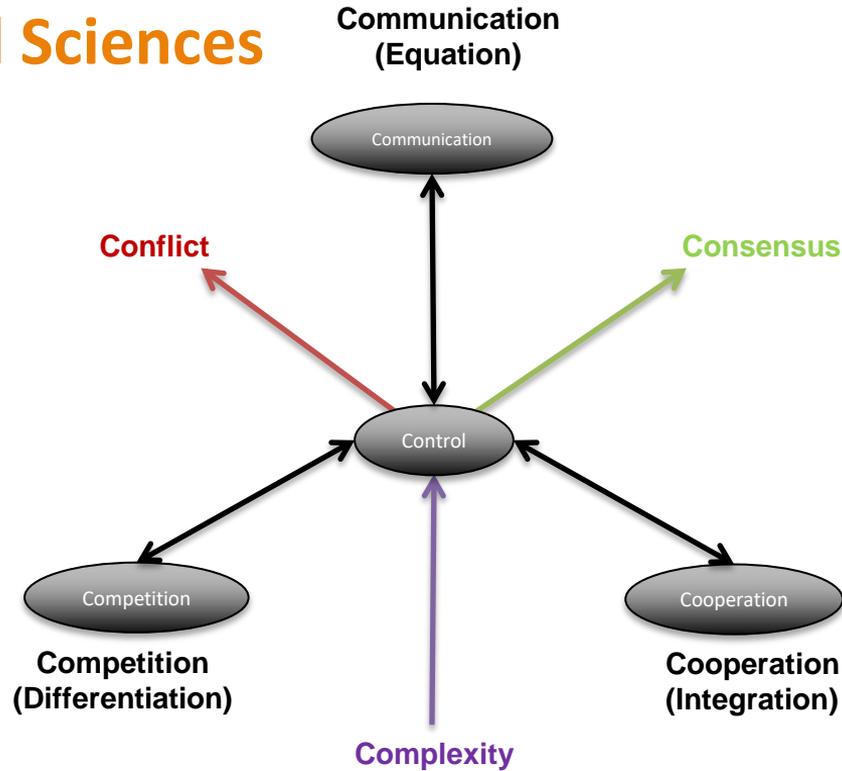
Existing conceptions of modes of governance in politics, polity and policy dimensions



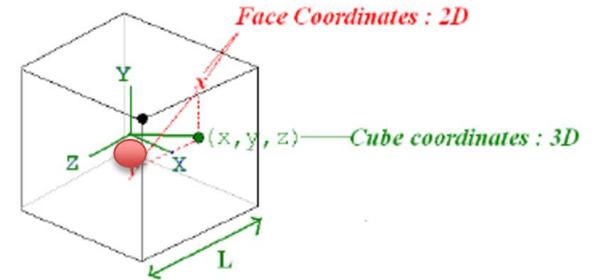
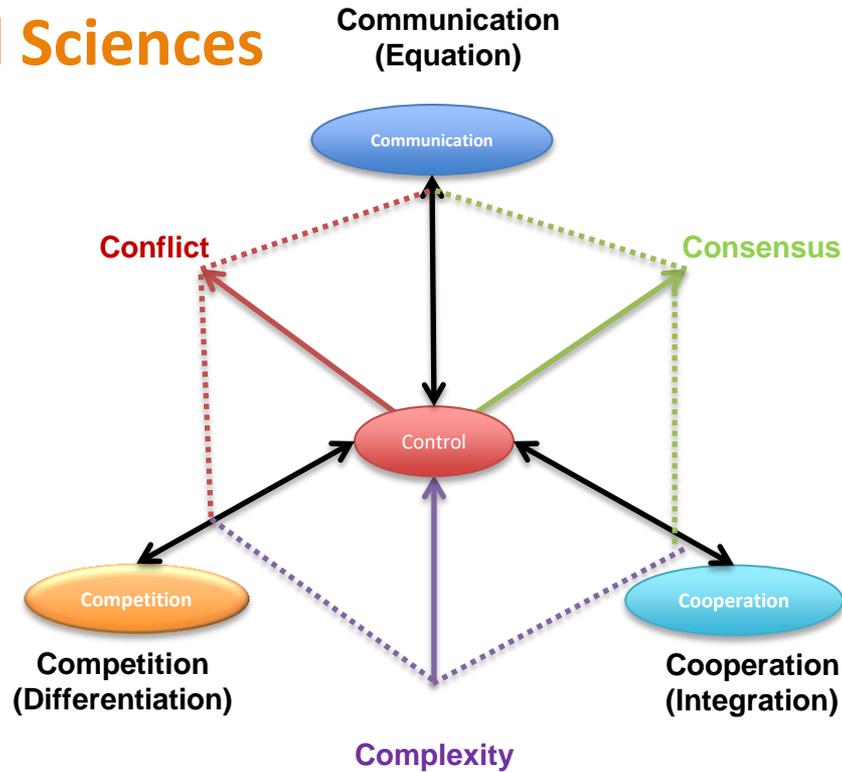
policy is "aiming at planned formation of social domains through collectively binding decisions" (Vowe, 2008), which is embedded into **polity** -communities, forms of politically organised societies- and **politics** -the power struggle between the players inside the polity- consisting of several plans, programmes and projects (Vowe, 2008).

Source: Treib et al. (2007)

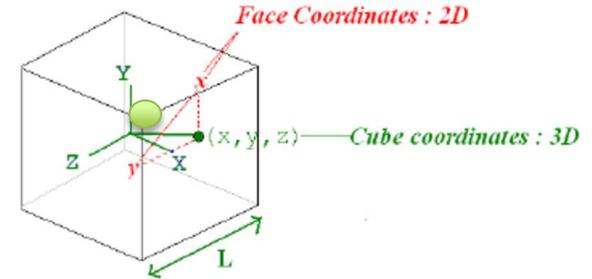
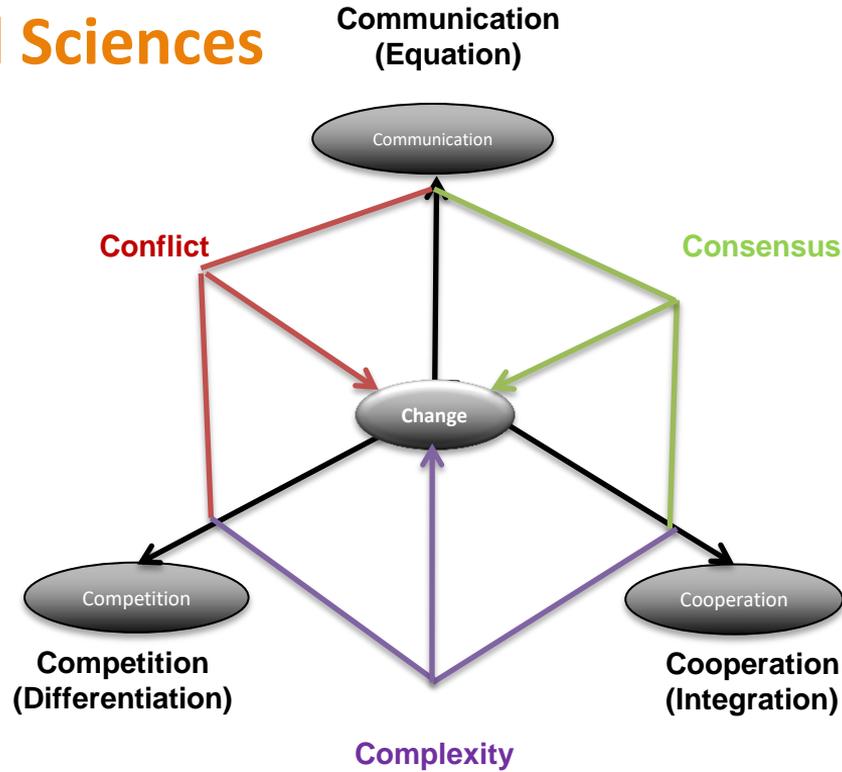
4F in Social Sciences



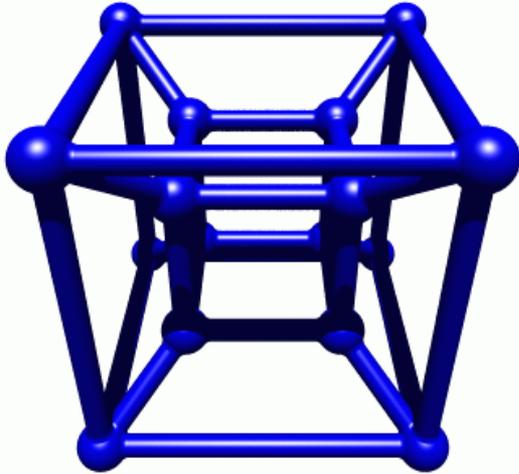
4F in Social Sciences



4F in Social Sciences



Adding time dimension



The tesseract is a four dimensional cube.
It has 16 edge points $v=(a,b,c,d)$

Given a projection $P(x,y,z,w)$ from four dimensional space to three dimensional space, we can visualize the cube as an object in familiar space.

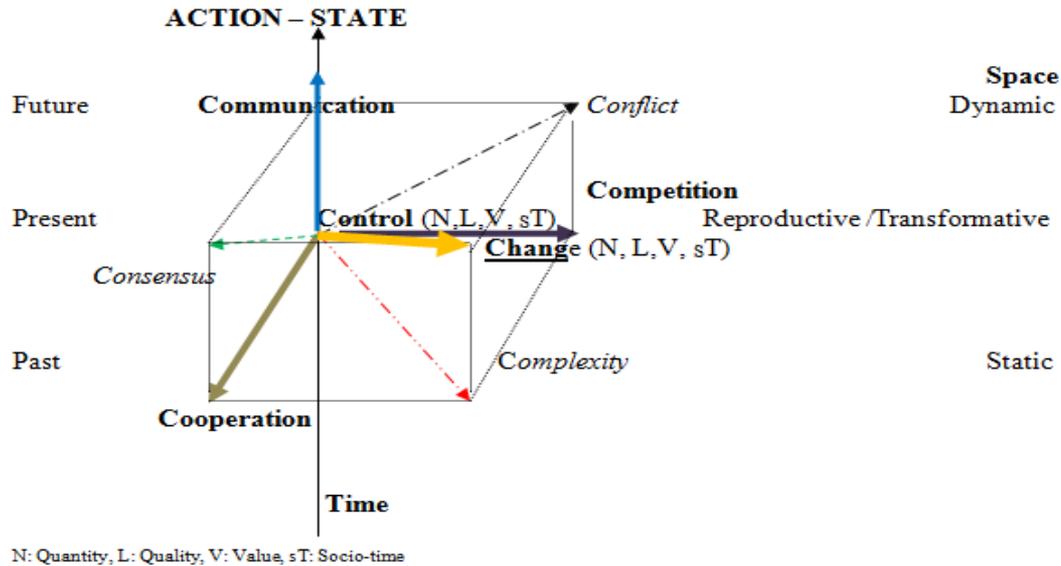
It helps as to talk about 4 fundamental aspects:

1. Quantity
2. Quality
3. Value

And time

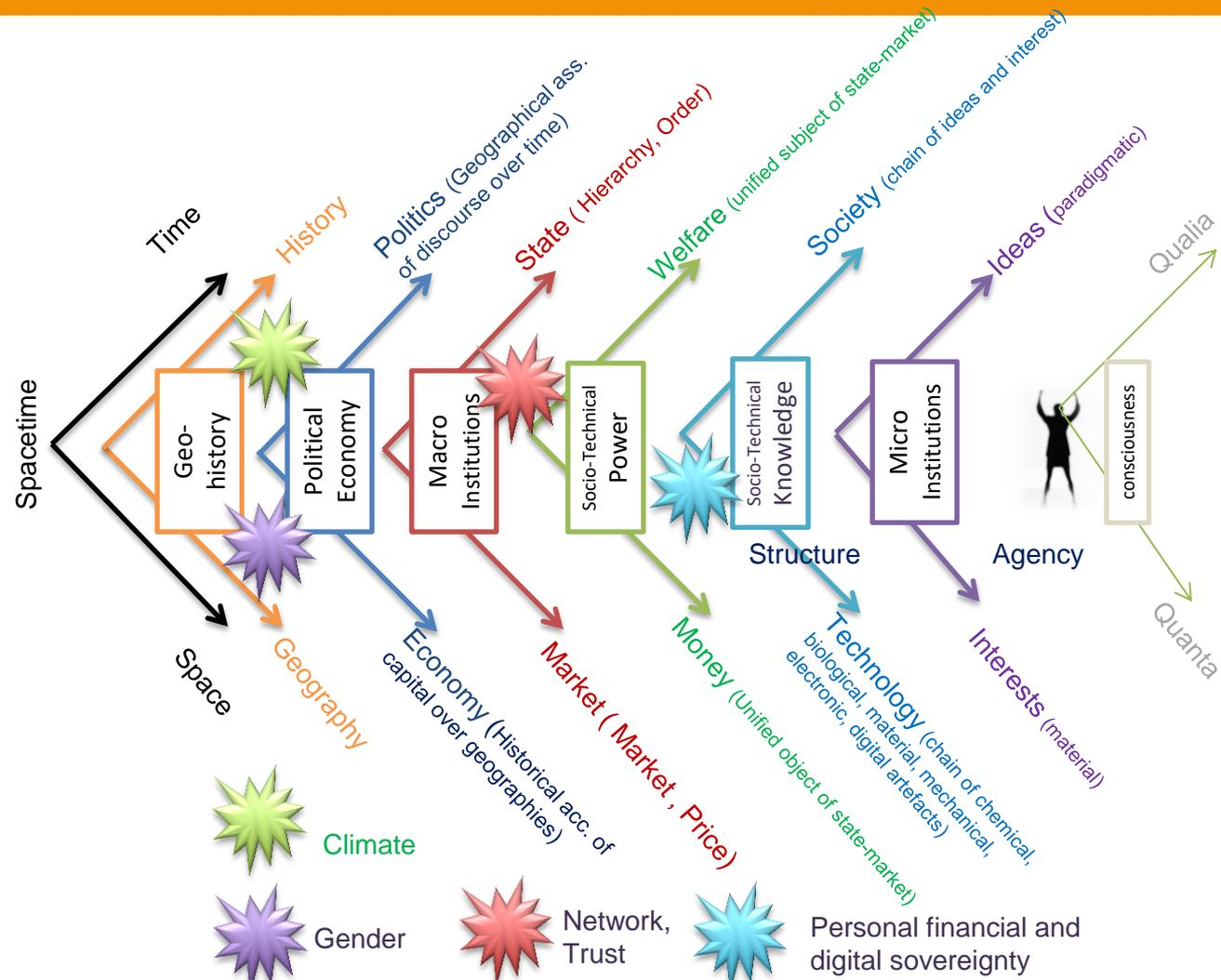
1. Socio-time (see Braudel F.)





1. Quantity
2. Quality
3. Value
4. Socio-time (see Braudel F.)

- Complexity – Uncertainty – Chaos (*Readings: DeSanctis, Orlikowski*)
- Control – Regulation - Coordination – Governance (*Readings: Jessop, Hoppe, Rhodes*)
- Conflict - Coercion (*Readings: DeSanctis*)
- Consensus - Cohesion – Order (*Readings: Giddens, Stones*)
- Integration - Cooperation – Coalition - Integration – Unity (*Readings: Axelrod*)
- Differentiation - Competition – (Co) opposition – Diversity (*Readings: Marx, Schumpeter*)
- Equation – Equalization - Communication (*Readings: Habermas, Foucault*)
- Change– Reproduction – Transformation (*Readings: Alvesson, Hardy, Phillips*)

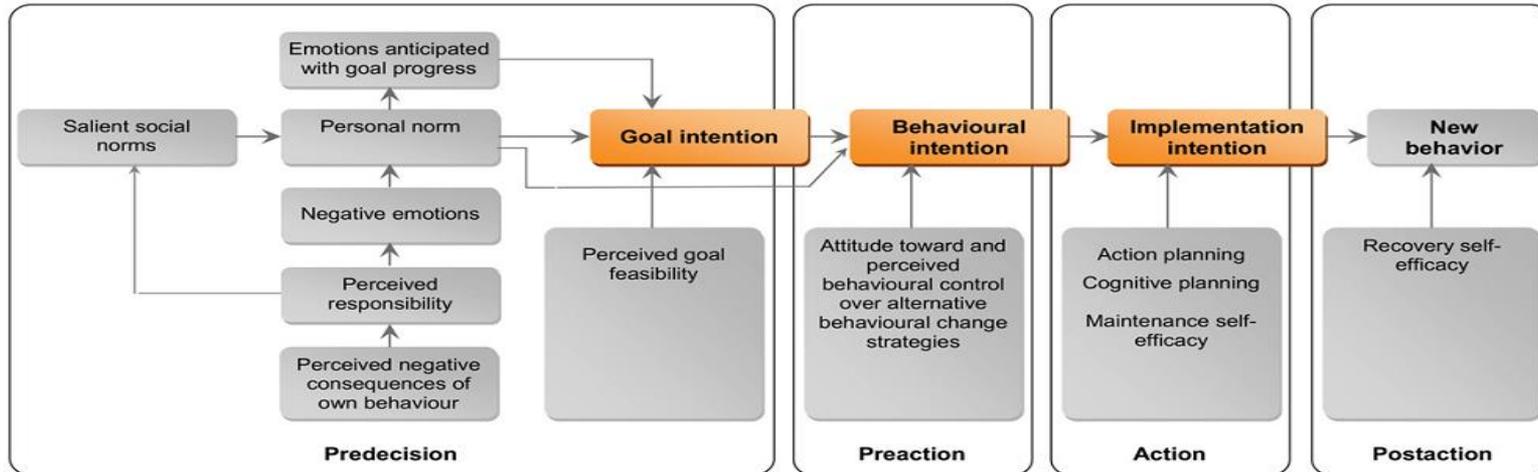


The duality (institution-individual or structure- agency) of sustainable finance also proposes legal and financial opportunities for personal, local and global disapproval of the dominant political economic socio-technical regime of finance.

Its contradictions and crises with non-human constituted laws of the nature, and historically accumulative, geographically indifferent consequences of the climate.



A social psychology model of behavioural change



e.g. Afzaal H. Seyal, Exploring Factors in Determining E-Banking Adoption Among Bruneian Corporate Customers, Recent Developments in Individual and Organizational Adoption of ICTs, 10.4018/978-1-7998-3045-0.ch009, (150-168), (2021).

Source http://lab.merit.unu.edu/wp-content/uploads/2017/11/PhD_Opening_lecture_course_Uncovering_causality_by_Rene_Kemp2.pptx



Questions and a Logical Conjunction

- Do we solve the issues that the system creates?, and/or
- Do we approach the system itself as an issue, as well?

System(s): political economic, state-network-market structure(s), with certain data, information, knowledge and technologies, as well as certain ideas, interests, and institutions are embedded in over a certain geography with a particular history alongside a society. Society is a superset of a system since not all societal activities are systematic or can be subject to systemization, while all systems are actually driven by human agency and human consent to operate dependently or independently/autonomously or a mix mode of governance (see Polanyi (market and society), Habermas (colonization of lifeworld))

The former point is fine only if the latter point is fine, too.

Both points are fine, only the former or only the latter is not fine.

Then, this is a logical conjunction (AND gate):

ISC SAI

0 AND 0 = 0,

0 AND 1 = 0, (if OR 1, but farsighted)

1 AND 0 = 0, (if OR 1, but myopic)

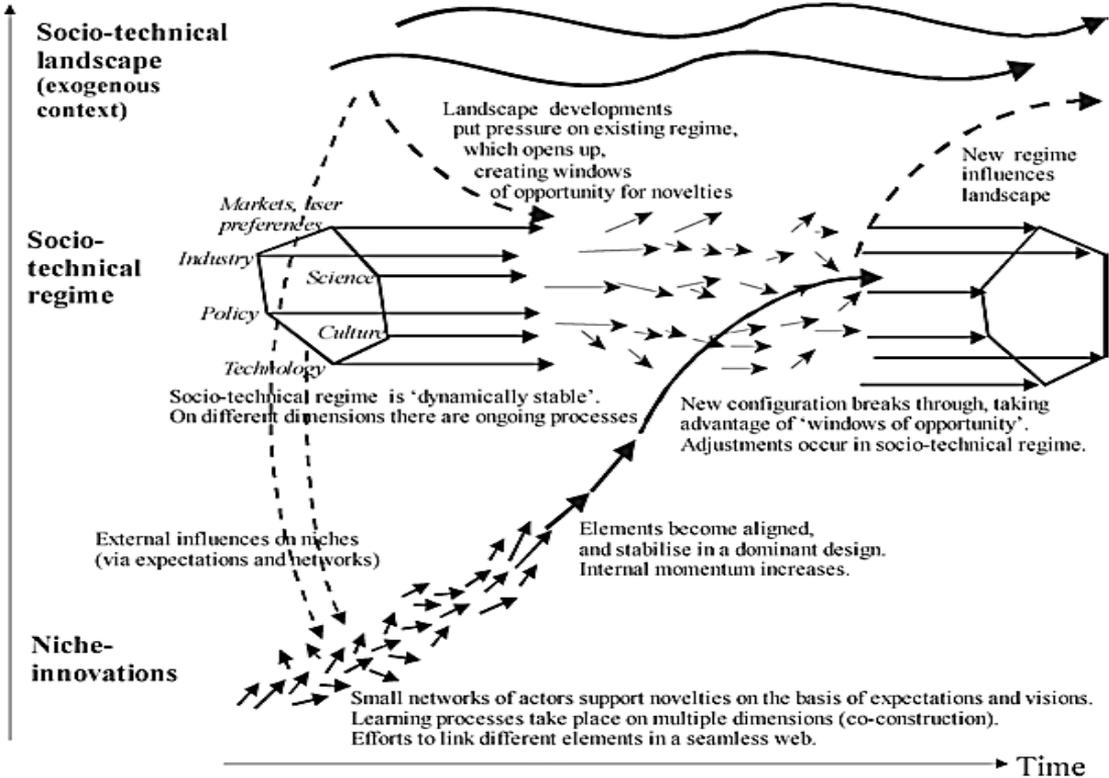
1 AND 1 = 1 (way to go)

ISC: Solving Issues that System Creates (short-medium); **SAI:** Analysing System As an Issue (medium-long term)



System Transition and Change

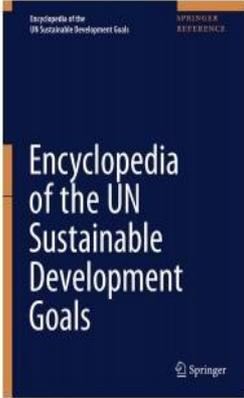
Increasing structuration of activities in local practices



Türkeli and Kemp (2020) System Transition, Encyclopedia of UN SDGs, Innovation, Industry, Infrastructure, Springer (in Press)

Based on literature: Technological transitions, socio-technical transitions, sustainability transitions literature,

Sources: e.g. Kemp et al. , 2019; Geels 2004; Geels and Schot 2007, 2010; Loorbach 2007; Markard, 2012; Konnola, 2018, Türkeli 2020



Source: Geels 2004



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Encyclopedia of the UN Sustainable Development Goals, Walter Leal Filho et al. (Eds): Industry, Innovation and Infrastructure, , 457071_0_En, (Chapter 95-1)

Monday, November 16, 2020 06:08 CET



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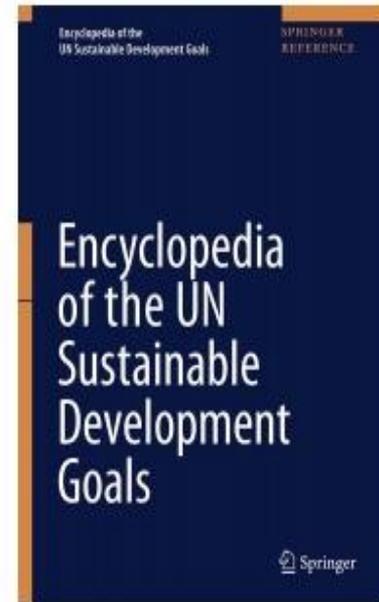
Aldeena.Raju@springernature.com

Learn. Discover. Achieve

SPRINGER NATURE

Dear Dr. Serdar Türkeli,

I am happy to inform you on behalf of Springer Nature that the proofs of your book chapter "System Transitions for Sustainable Development Goal 9" are now available.



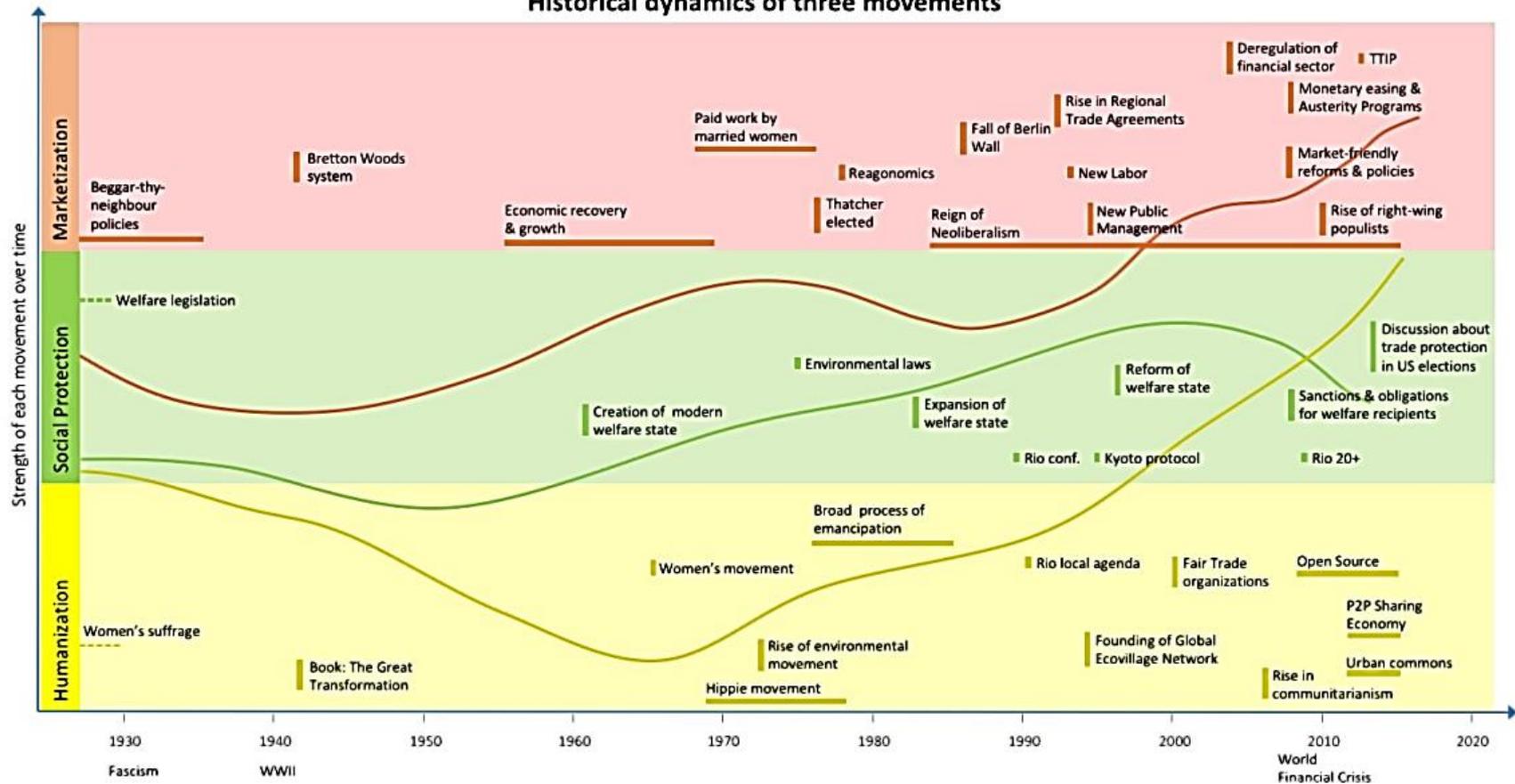
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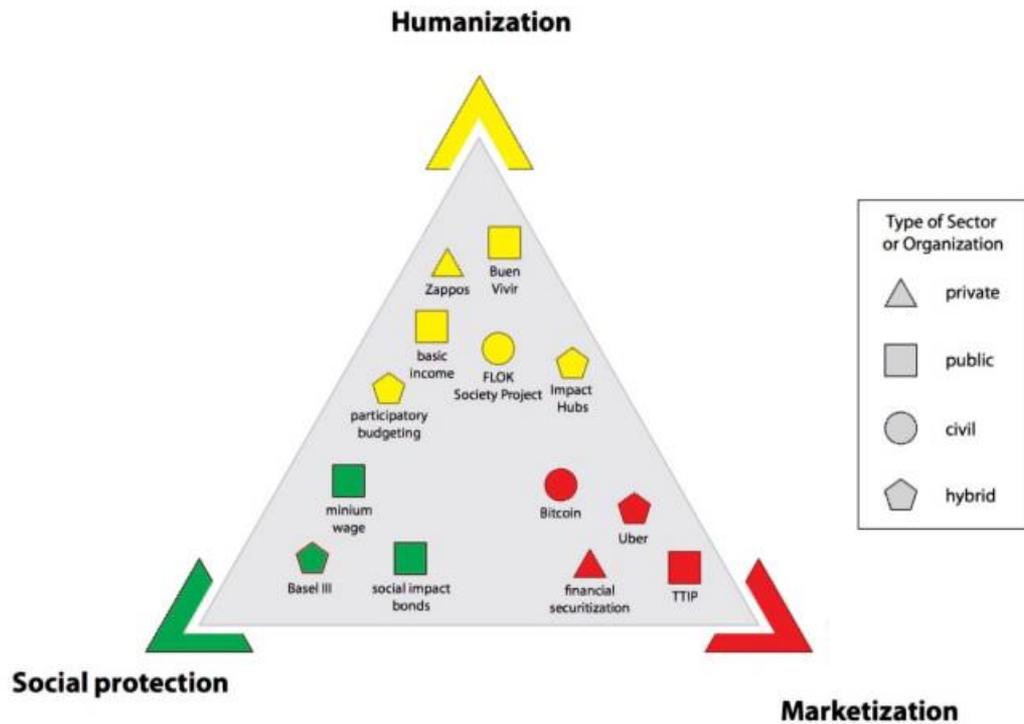
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Historical dynamics of three movements



Kemp et al. , 2019 Kemp, R., Strasser, T., Davidson, M., Avelino, F., Pel, B., Dumitru, A., ... & Weaver, P. (2016, September). The humanization of the economy through social innovation. In *SPRU 50th anniversary conference*.





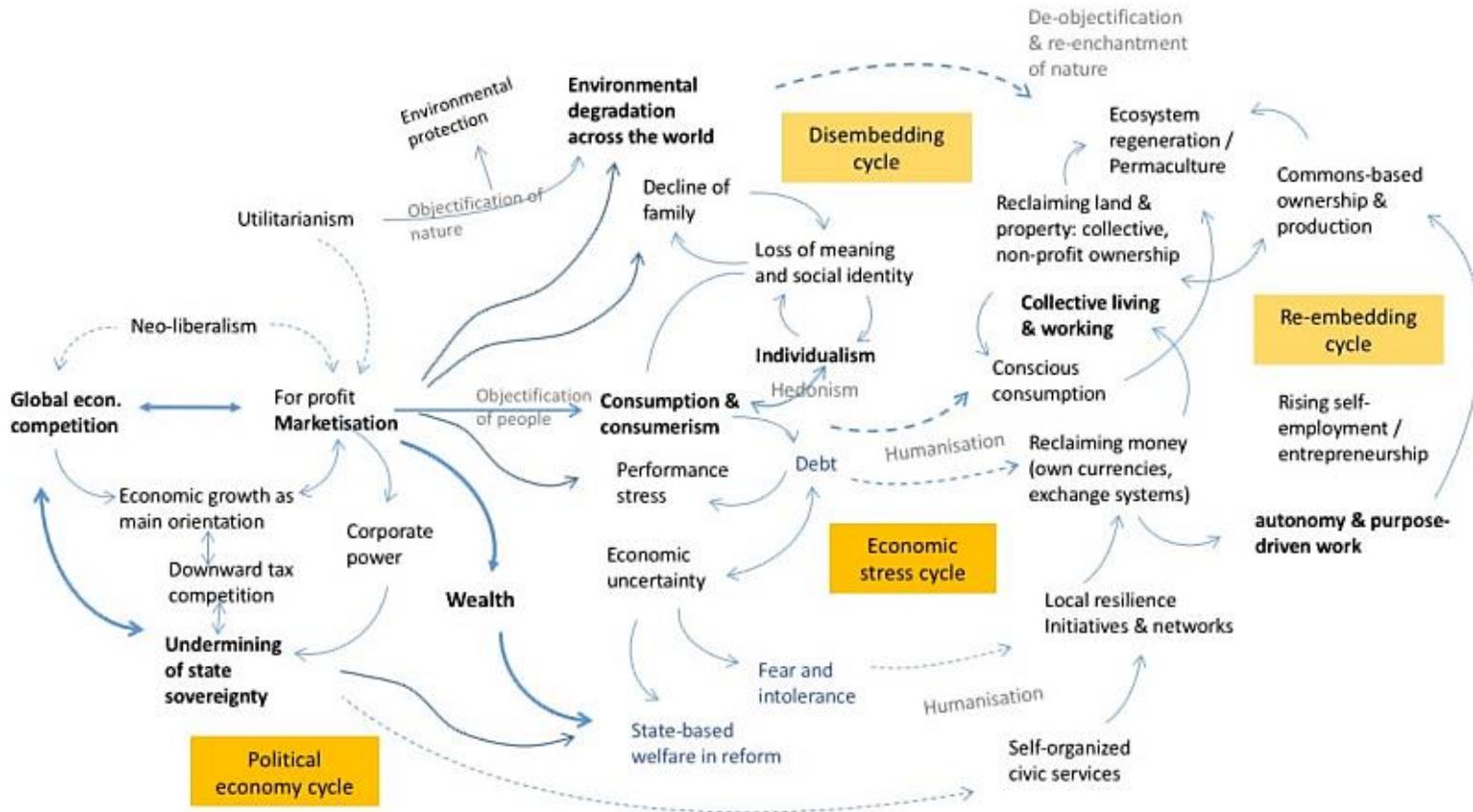
Ibid. Kemp et al. , 2019



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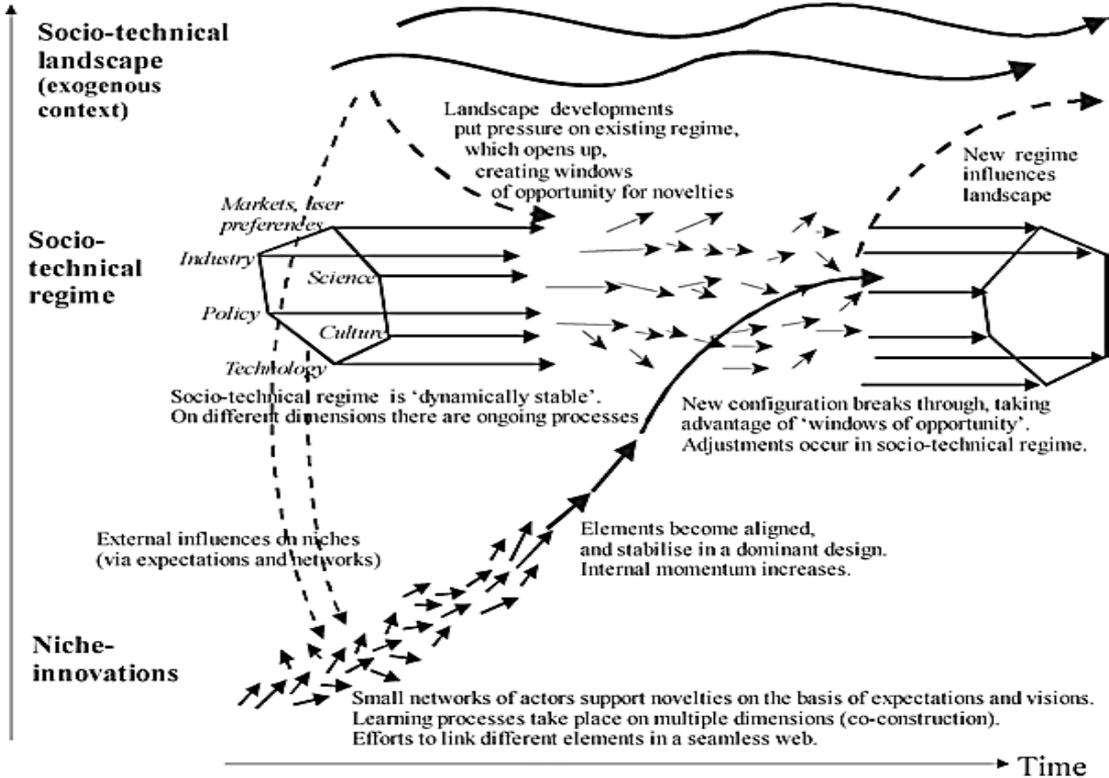


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System Transition and Change

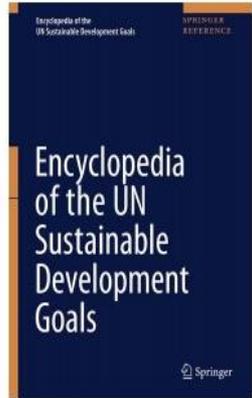
Increasing structuration
of activities in local practices



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Regime elements

F.W. Geels / Research Policy 33 (2004) 897–920

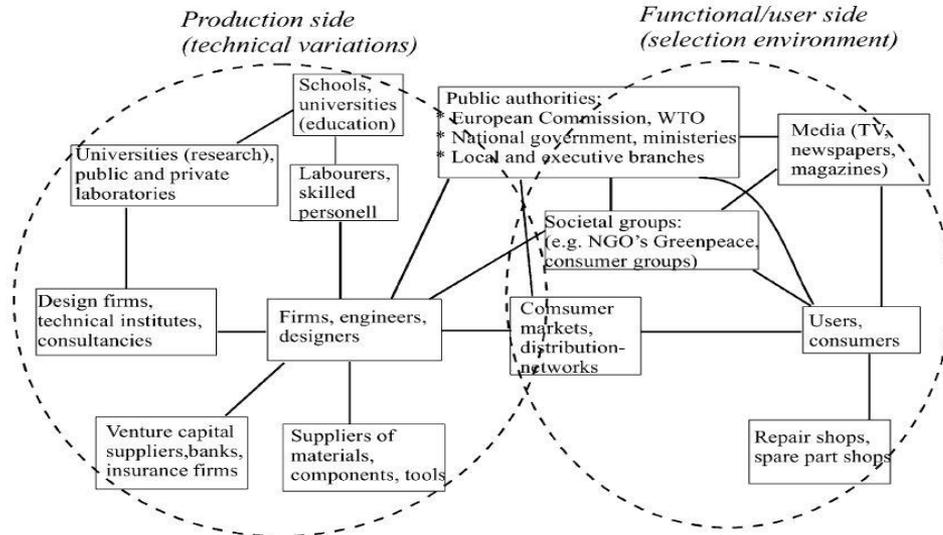


Fig. 2. Social groups which carry and reproduce ST-systems.

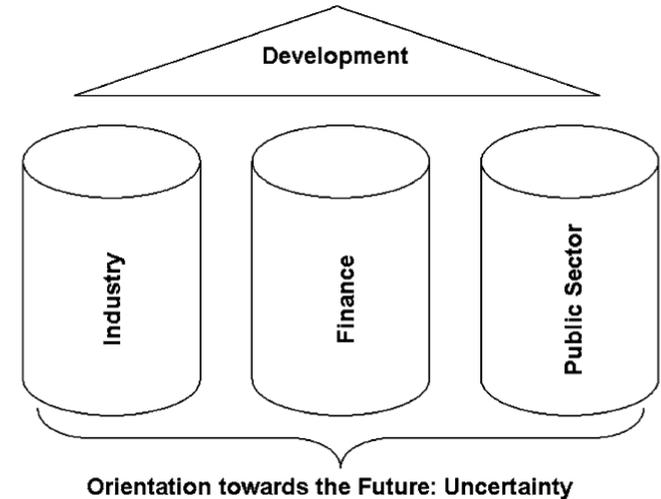


Fig. 1. The three pillars of comprehensive Neo-Schumpeterian Economics.



System Success Uncertainty vs. Time:

Figures: Hanusch and Pyka, 2007.

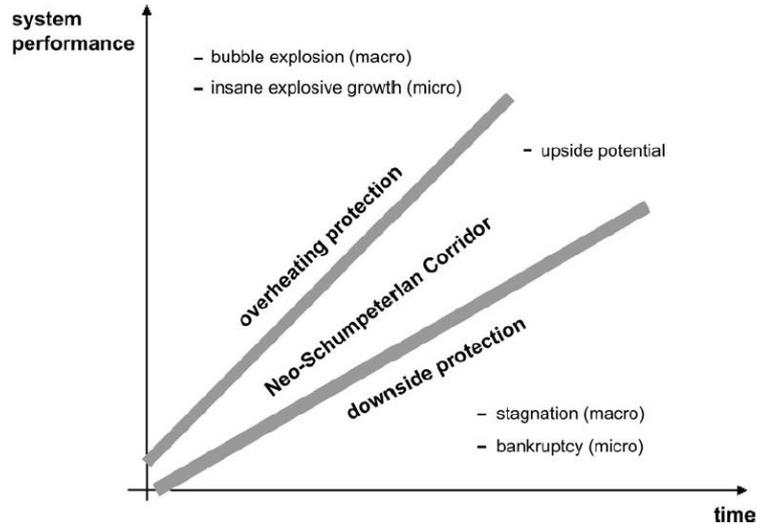
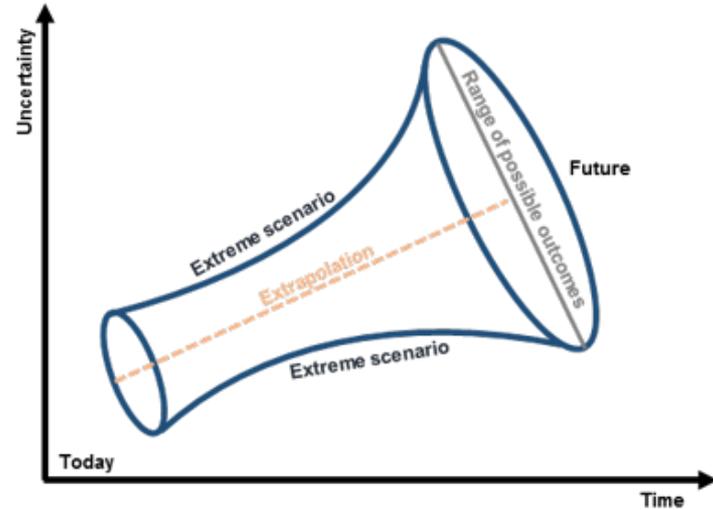


Fig. 2. *The Neo-Schumpeterian corridor.*



Global Collab: Legal, Social, Digital Infrastructure

- **Pessimism** of the intelligence and **optimism** of the will...
- Do we need self and community based actions in sustainable finance outside of the public sector and private sector? Household stock market participation in general low.
- Social sector is both local and global.
- Issues are common.
- Global connectivity is possible with issues.
- Lack of/Low number of legal, financial social entrepreneurs to provide solutions (goods and services, platforms), we have cases for legal advise for creative economy actors:



MEP: Connectivity is vital for an EU single market for data

[Digital] In order for the goals in the EU's data strategy to be realised, connectivity is a necessary prerequisite, but the bloc should also be wary of implementing policies that move towards a culture of data localisation, says Finnish MEP Miapetra Kumpula-Natri.



What is Smart?

Smart

Smart is a non-profit organisation created in Belgium in 1998 which is developing itself in 8 European countries. We aim to simplify and support the professional paths of creative and cultural workers. Our principal goal is to assist freelance workers to develop their own activity through a secure system. We offer multiple services such as information, trainings, legal advice, a social professional network, co-working spaces, etc. Also at the heart of Smart, you will have access to online invoicing tools.

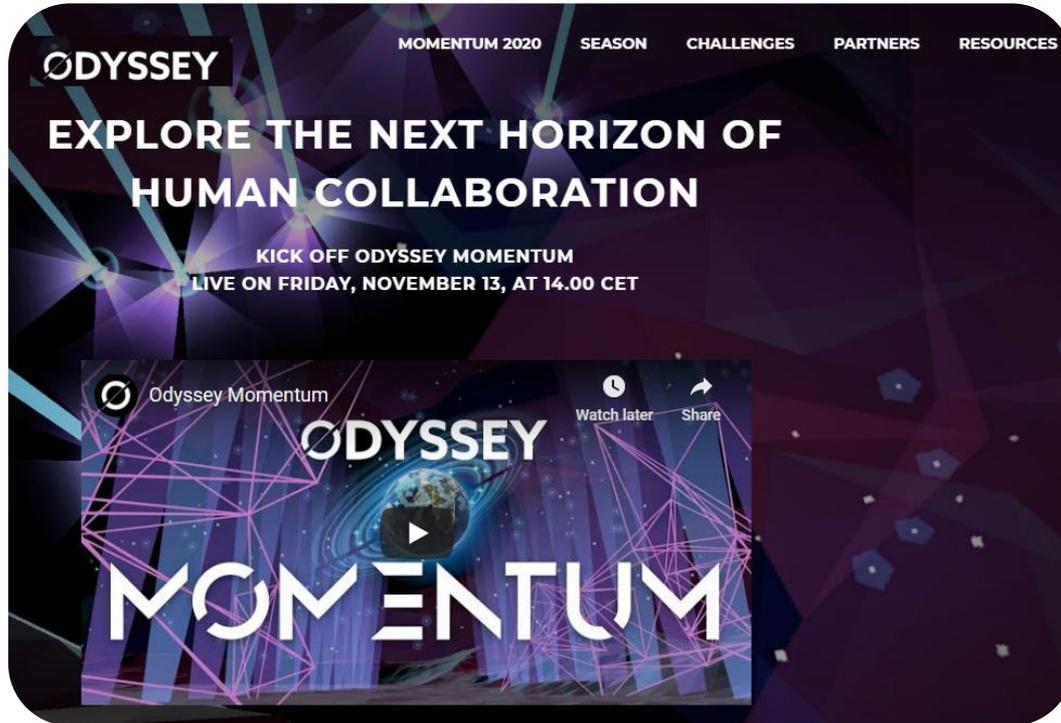


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ODYSSEY



Odyssey is a **non-profit online incubator** for multi-stakeholder collaboration that connects governmental, corporate, scientific and **nonprofit partners** with anyone that can contribute to building **open source solutions** for complex 21st-century challenges. **creating an interconnected, multi-stakeholder ecosystem where discovering the future by building it.**



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Social Citizenship, Solidarity and Sustainability – The changing landscape of welfare in the Nordic countries

- Ongoing changes in the welfare states call for **new understanding of social citizenship and solidarity among citizens, communities and societies, as well as social and citizens groups.**
- The Nordic countries are faced with unprecedented structural transformations in the labour market under the fourth industrial revolution (**digitalisation, robotisation, automatisisation**) and stronger global interdependencies (immigration, transnational enterprises, off-shoring of production).
- Demographic ageing and climate change have intensified discussions on how to bring about **social justice in an ecologically and financially sustainable manner.**
- **New social movements** have mobilised for recognition of their demands and a right to representation in the deliberation of welfare policies. Shifting balances in power between the EU, national, regional and local level of governance have changed how welfare policies are deliberated and implemented.
- However, **the effects are asymmetrical in terms of who has benefitted from these changes and where these processes have increased social inequalities.**

Source: European Network for Social Policy Analysis



Ft. Sia

The video starts with a ~~shot~~ (genesis) of a naked ~~woman~~ (Earth).

*A shot in the dark
A past lost in space
Where do I start?*

Then it moves on to a ~~pack of wolves~~ (generation of human the other and a wounded ~~wolf~~ (the current human the other generation) running from a handful of human ~~hunters~~ (from hunter-gatherers to capitalists).

*The past and the chase
You hunted me down
Like a wolf, a predator*

The ~~scene~~ (idea) ~~tells a story~~ (refers to evolution) - both the ~~video~~ (geographically) and the ~~lyrics~~ (historically) - the ~~she-wolf~~ (human the other on Earth) was once a ~~woman~~ (human on Earth) who fell for and loved the ~~hunting~~ (capitalism, e.g. consumerism), but was ~~shunned~~ (became aware) because of his ~~guilt~~ (exploitation) when he ~~lay with~~ (exploit) her (Earth and human) - giving into the "sin" (alienation, false consciousness, commodity fetishism).

*I felt like a deer in the lights
You loved me and I froze in time
Hungry for that flesh of mine
But I can't compete with the she wolf who has brought me to my knees
What do you see in those yellow eyes?
'Cause I'm falling to pieces*

It is shown that the ~~wolf~~ (human generations) is ~~supernatural~~ (are also governed by some other laws), as it is able to make the ~~hunters~~ (capitalists) "explode" (get into crisis) on every ~~breakdown~~ (crises) of the ~~song~~ (system). Yellow eyes (The Merge of the Sun-Earth-Human)

The "explosions" (crisis) depict the ~~hunters~~ (capitalists) and the ~~landscape~~ (the market) as composed by tiny ~~digital polygons~~ (socio-technological niches), as if everything were part of a ~~computer-simulated reality~~ (non-deterministic system).

At the end of the music video, the ~~canine~~ (human) then ~~transforms back~~ (gets closer) into the naked ~~woman~~ (Earth) at the start.

The ~~man~~ (capitalists) ~~turned on her~~ (exploitation of Earth) and ~~wounded her~~ (further biodiversity and dignity loss), and she ~~fell to pieces~~ (unsustainable socio-ecology), becoming the ~~she-wolf~~ (human the other). Her ~~softness~~ (consciousness) vanished replaced by ~~razor-sharp edges~~ (purposive technical rationality).

*Did she lie and wait
Was I bait, to pull you in
The thrill of the kill
You feel, is a sin
I lay with the wolves
Alone, it seems
I thought I was part of you*

~~Cornered and wounded~~ (no alternative and in daily needs), the ~~wolf~~ (human the other) destroys those who would kill her ~~heart~~ (its socio-ecology). The ~~woman~~ (Earth) may ~~mourn afterwards~~ (difficulties in transitions), looking out across a ~~desolate sea~~ (untested novel beginnings), but the ~~she-wolf~~ (human the other) survives. ~~She~~ (Earth) survives (for some time more).

Ft. Sia
Falling in Pieces
Music Video



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A partial list of *Refused to be learned*:

Layering and Transformation of Multiple Crises into COVID-19 v|c and more

- ...
11. **A US-based structural healthcare crisis** (e.g. high healthcare system costs (insurance, medicine, operations) plus high debt for education costs, leading to lack/low levels of personal savings and personal investments or if high, in general, feeds greed) <->
 12. **A US-based contemporary housing crisis** (e.g. low levels of personal savings leading to being increasingly dependent on lending for housing (mortgage), if not for housing, for other needs, not wants, due to lack/low levels of investment savings) <->
 13. **A Global and local financial crisis** (e.g. Greenspan's team derivatives modelling flaw, and due to key performance criteria of financial providers private predatory lending practices, trade of non-real future options, swapping toxic credits overseas for needs and wants in developing countries) <->
 14. **A Global and local environmental crisis** (e.g. carbon leakage, due to financial crisis, further exploitation of natural resources and outsourcing of production in order to close the gap of former financial loss, need) <->
 15. **A Global and local data privacy crisis** (e.g. meanwhile manufacturing moving to/moved to overseas due to increases in digital services, servitization, and unregulated cybersecurity, legal gaps, alternative currencies, systemic hacks: Wikileaks, ransomware) <->
 16. **A Global and local trade crisis** (e.g. anti-competitive state aid backed products and services leading to trade wars)
 17. **A Global and local humanitarian crisis** (e.g. due to further exploitation of natural resources overseas and low level of livelihood quality of workers' overseas, refugee crisis etc.) <->
 18. **A Global and local political crisis** (e.g. due to populism manipulating to a degree all of the ongoing crises and increasing nano and bio technological capacity of technonationalist implementation of big data and AI, flexible robotics, social scoring systems) <->
 19. **A Global and local Health crisis (COVID-19)** (e.g. a zoonotic virus due to low level of nutritional capacity and states' intervention capacity in the livelihoods) <->
 20. **A Global and local crisis at individual and group level** (e.g. racism, discrimination, social unrest)
- ...



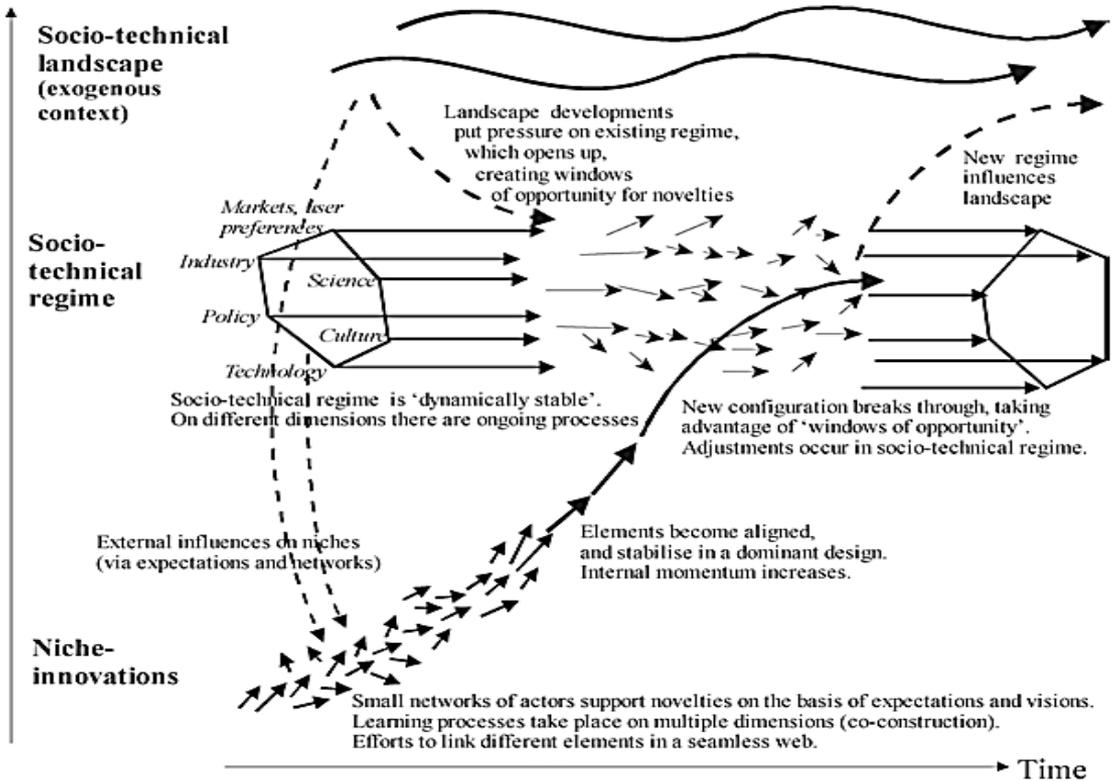
The Latest Trends Financial and Digital Transformation

- Cyber security and privacy
- Personalization, Automation and Holistic view
- Rise of big data, AI, digital cryptocurrencies, and Robo-Advisors
- Focus on home-office models
- Generational and Gender-based movements e.g. sustainable finance, development
- Collaborative digital channels
- Transparent and Advanced hybrid models
- ...



System Transition and Change

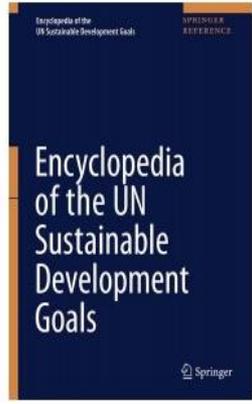
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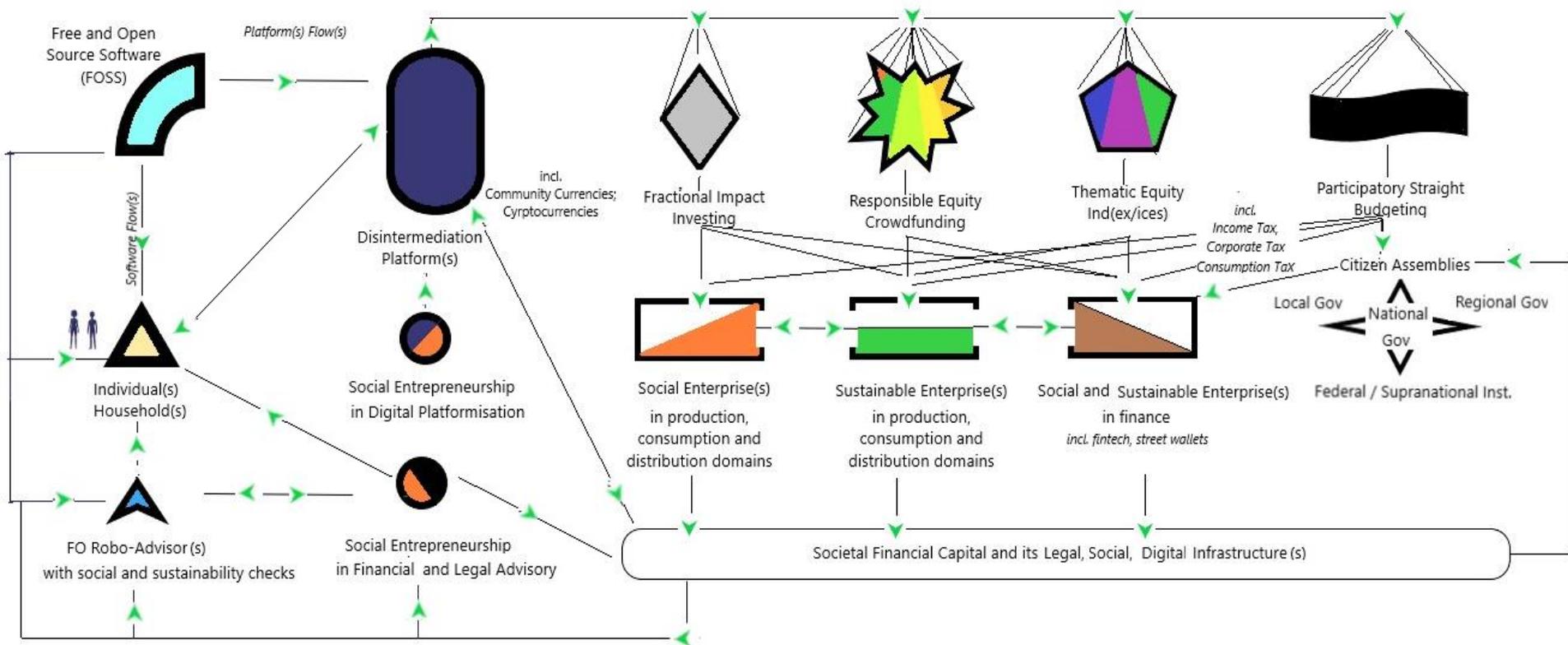
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Niches	Cases	Regime Elements (incl. issues and frontiers)	Cases
Free and Open Source Disintermediation Software and Platforms (see list in the following pages)	 Data: Parse, Twilio, Bitcoinj, Github and Amazon	Private Software, Platforms, Banks, States	
Personalized Value Purpose-based Robo-Advisors		Personalized Risk based algorithmic Robo-Advisors	Too many...
Fractional Share Impact Investing		Threshold Budgets	Too many...
Responsible Equity Crowdfunding,		Generic for Start-up Equity	Too many...
Thematic Equity Index Funds (+OTC)		Generic Index Funds Thematic Index Funds	
Participatory (Direct) Budgeting	>>> Conceptual...	Public sector budgeting, Participatory budgeting	
(Lifeworld) Deal and (Post-) Taxonomy	>>> Conceptual...	Green Deal and Taxonomies	
Societal Financial Capital	>>> Conceptual...	Financialisation	~ €260 billion a year from 2020 to 2030 Green Deal

Niches and an Eco-system of New Finance



Policy instruments

Three broad categories of policy instruments:

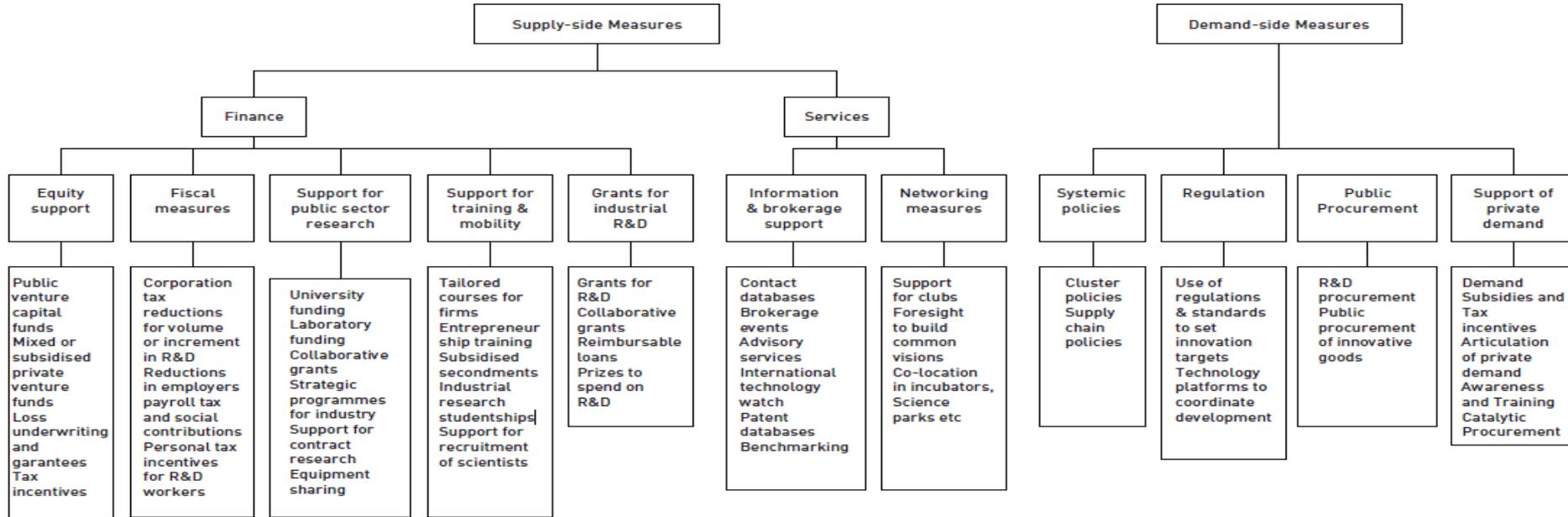
- a) economic and financial instruments (carrots),
- b) regulatory instruments (sticks)
- c) normative instruments (soft, sermons, voluntary)
(Borrás and Edquist, 2013).

–Which instruments do you think would be effective to achieve sustainable financial and digital transformation?



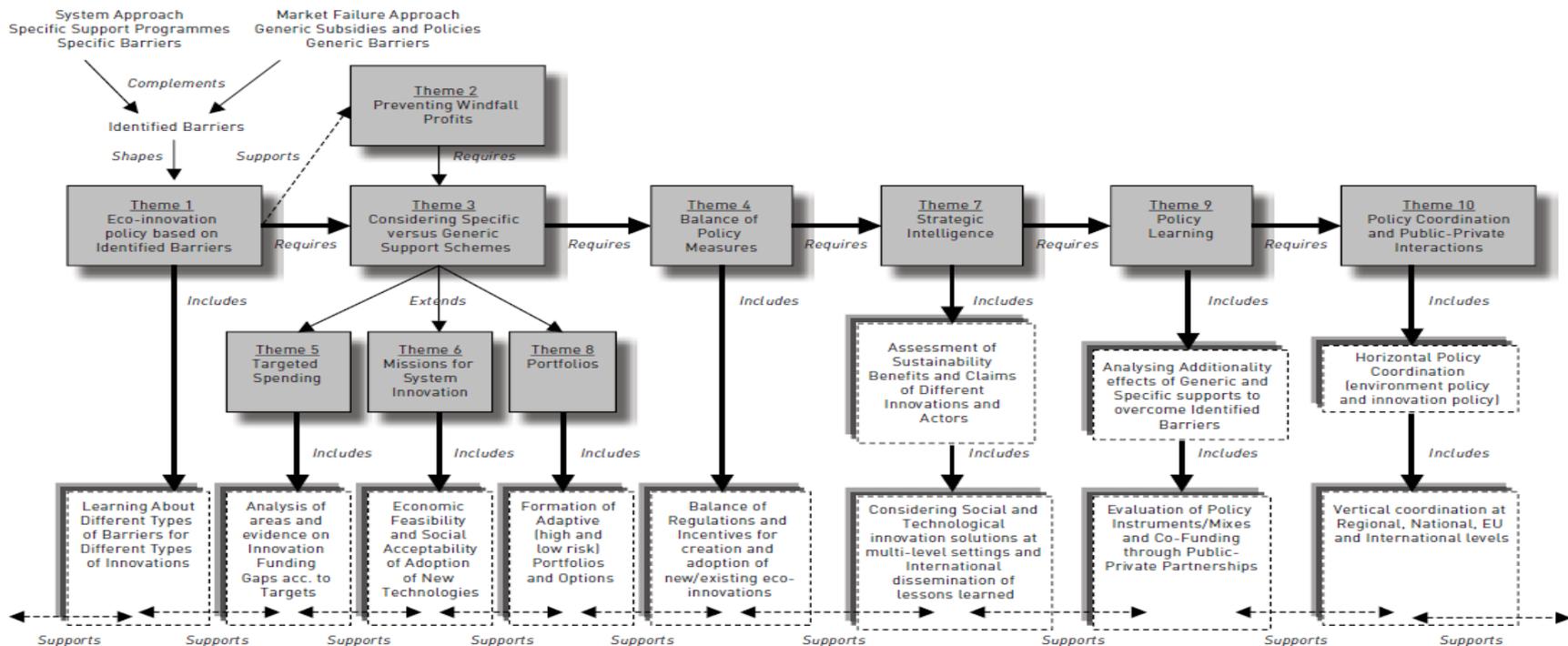
Policy instruments

Table 4. A taxonomy of innovation policy



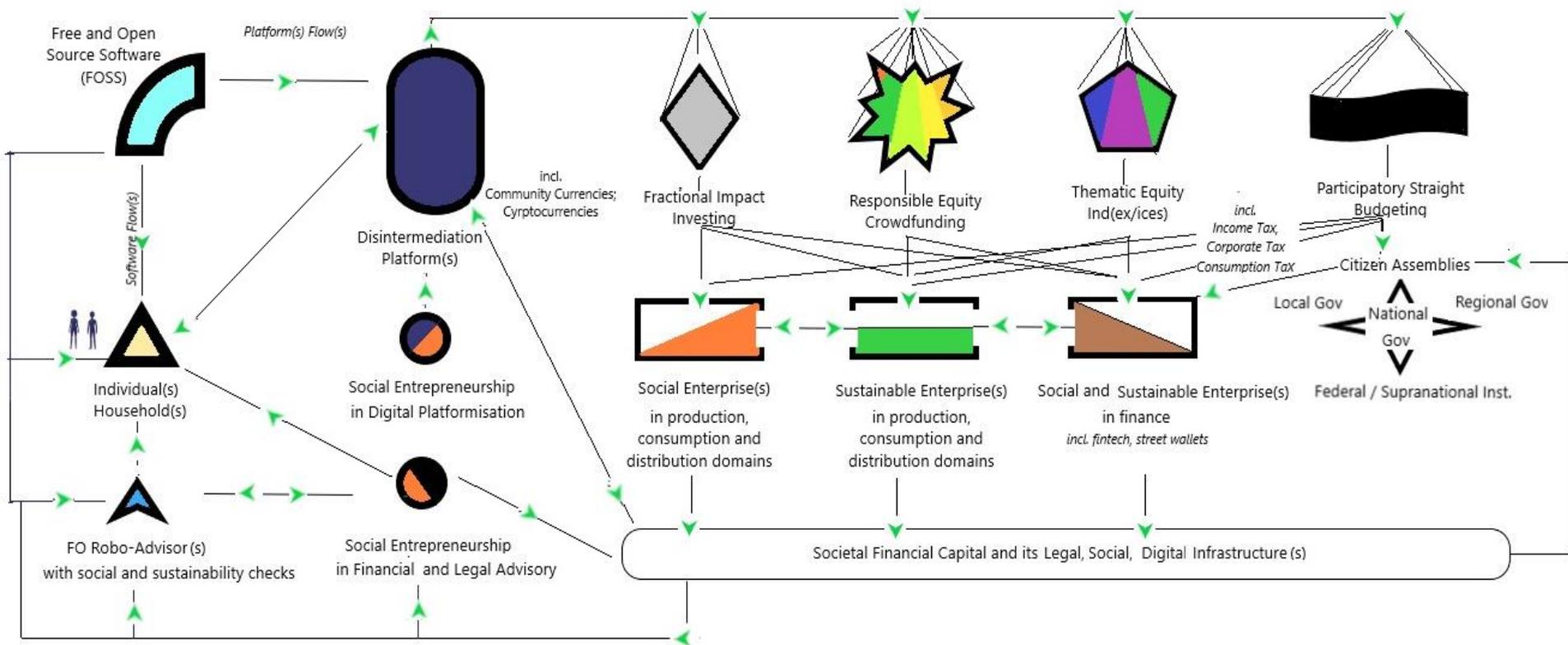
Source: Edler and Georghiou (2007, p. 953), based on authors' inventory of policy measures.

A Governance Framework for Eco-Innovation



Niches	Cases	Regime Elements (incl. issues and frontiers)	Cases
Free and Open Source Disintermediation Software and Platforms	  <p>Data: Parse, Twilio, Bitcoinj, Github and Amazon</p>	Private Software, Platforms, Banks, States	
Personalized Value Purpose-based Robo-Advisors		Personalized Risk based algorithmic Robo-Advisors	Too many (e.g. e.g. Betterment, Wealthfront, Scalable Capital)
Fractional Share Impact Investing		Threshold Budgets	Too many
Responsible Equity Crowdfunding,	 	Generic for Start-up Equity	Too many
Thematic Equity Index Funds (OTC)	 	Generic Index Funds Thematic Index Funds	
Participatory (Direct) Budgeting	>>> Conceptual...	Public sector budgeting, Participatory budgeting	
(Lifeworld) Deal and (Post-) Taxonomy	>>> Conceptual...	Green Deal and Taxonomies	
Societal Financial Capital	>>> Conceptual...	Financialisation	~ €260 billion a year from 2020 to 2030 Green Deal; fine tuned €547.2 billion could be made available for investments over the next seven years to help achieve the EU's climate goals.

Niches and an Eco-system of New Finance



Scope

- Financing for **sustainable** innovation, start-ups and non-listed companies;
- Making it easier for **sustainable** companies to enter and raise capital on public markets;
- **Responsible** investing for long term, infrastructure and sustainable investment;
- ~~Leveraging banking capacity to support the wider economy;~~
- Facilitating cross-border **responsible** investing; and
- Fostering retail ~~and institutional~~ **responsible** investment.

In comparison to European Commission, 'Capital Markets Union'. Implementation table.

Available at: http://ec.europa.eu/finance/capital-markets-union/implementation-table_en.htm



Size

Table 1: Proportion of households saving and investing across Member States

	Belgium	France	Germany	Italy	Netherlands	Spain	Sweden	UK	Average
Survey respondents who have savings (%)	83%	87%	75%	79%	78%	81%	75%	79%	80%
Survey respondents who invest (%)	42%	33%	44%	45%	27%	44%	61%	43%	43%

Source: Blackrock 2017 Investor Pulse survey (2017)



Disintermediation of the Banks

- Intermediation is a fundamental fact of finance.
- Intermediaries like commercial banks, investment banks, stockbrokers, mutual funds, and stock exchanges form the fabric of modern finance.
- Yet despite all these financial links, **entrepreneurs and innovators** continue to endeavor towards the possibilities of fundamentally disrupting and disintermediating these existential financial ties, breaking apart from the financial main, and building new financial islands.

Source: Lin, Tom C. W., Infinite Financial Intermediation (January 5, 2016). Wake Forest Law Review, Vol. 50, No. 643, 2015, Temple University Legal Studies Research Paper No. 2016-06, Available at SSRN: <https://ssrn.com/abstract=2711379/>



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Disintermediation of the States

- As governments continue to inflate their currencies to fund their ever-growing welfare and warfare commitments, citizens have been deprived of a reliable instrument for saving their wealth into the future and across generations.
- **Cryptocurrencies** is an elegant technological solution to this political problem which sidesteps the political process.
- The existence of Cryptocurrencies allows individuals **the option** of exit from some of the most important coercive arrangements of modern nation states. Whereas for years the pendulum of technological innovation in payments had swung the way of surveillance and central control, Cryptocurrencies channels the strengths of distributed networks online to put **monetary sovereignty back in the hands of users**, non-state competitor to an arena long monopolized by coercive government control.

Source: America Institute for Economic Research: <https://www.aier.org/research/bitcoin-and-the-disintermediation-of-the-state>



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Disintermediation without social entrepreneurship:

- Crowdfunding platforms substitute for traditional financial intermediaries and serve as a new intermediary, without eliminating the need for intermediation;
- Blockchain also creates new intermediaries; and
- The trust element inherent in blockchain enables blockchain to eliminate the need for intermediaries in some financial areas but not all.

Source: Cai, C. W. (2018). Disruption of financial intermediation by FinTech: a review on crowdfunding and blockchain. *Accounting & Finance*, 58(4), 965-992.



Source: <https://betterfinance.eu/>



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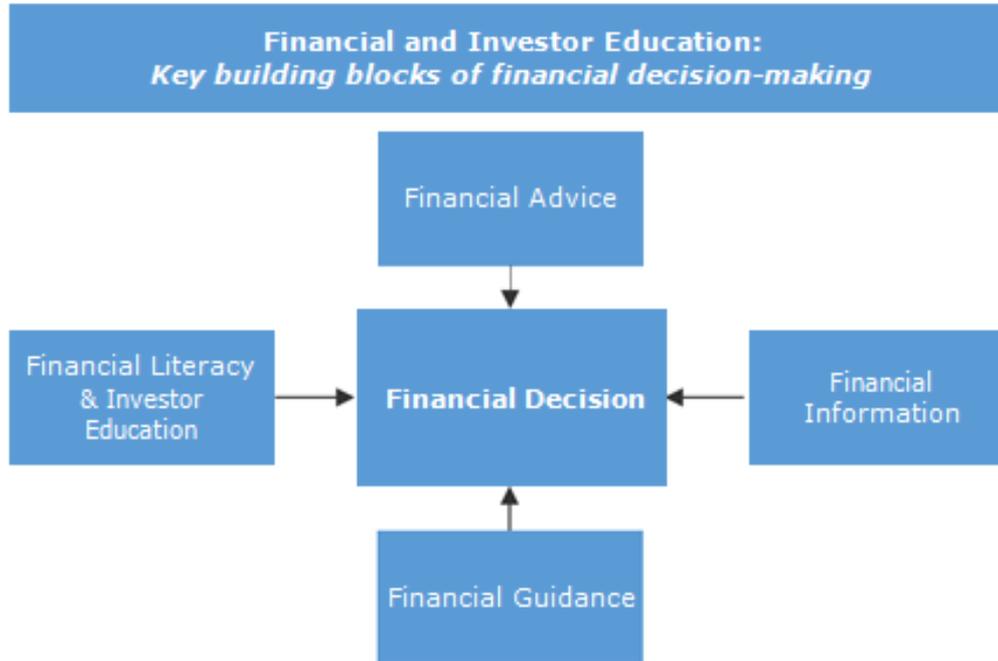
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Social Entrepreneurship (Basics)

- **Social entrepreneurship** is an approach by individuals, groups, start-up companies or entrepreneurs, in which they develop, fund and implement solutions to social, cultural, or environmental issues.
- This concept may be applied to a wide range of organizations, which **vary in size, aims, and beliefs**.
- For-profit entrepreneurs typically measure performance using business metrics like profit, revenues and increases in stock prices.
- Social entrepreneurs, however, are either non-profits, or they blend for-profit goals with generating a positive "return to society". Therefore, **they use different metrics**.
- Social entrepreneurship typically attempts to further broad social, cultural, and environmental goals often associated with the voluntary sector in areas such as poverty alleviation, health care and community development.
- At times, profit-making social enterprises may be established to support the social or cultural goals of the organization but **not as an end in themselves**.



Where Social (Financial) Entrepreneurs can play a (starting) role?



Source: EFAMA (2014)



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I > Open Source (Disintermediation) Software and Platforms

Finance

Accounting

GnuCash – Double-entry book-keeping

HomeBank – Personal accounting software

KMyMoney – Double-entry book-keeping

LedgerSMB – Double-entry book-keeping

RCA open-source application – management accounting application

SQL Ledger – Double-entry book-keeping

TurboCASH – Double-entry book-keeping for Windows

Wave Accounting – Double-entry book-keeping

Cryptocurrency

EOS.ID – Blockchain platform, peer-to-peer decentralised digital currency

Customer relationship management (CRM)

CiviCRM – Constituent Relationship Management software aimed at NGOs

iDempiere – Business Suite, ERP and CRM

SugarCRM – Commercial Customer Relationship Management



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Open Source (Disintermediation) Software and Platforms

Enterprise resource planning (ERP)

Adempiere – Enterprise resource planning (ERP) business suite

Compiere – ERP solution automates accounting, supply chain, inventory, and sales orders

Dolibarr – Web-based ERP system

ERPNext – Web-based open-source ERP system for managing accounting and finance

Ino erp – Dynamic pull based system ERP

JFire – An ERP business suite written with Java and JDO

metasfresh – ERP Software

Odoo – Open-source ERP, CRM and CMS

Openbravo – Web-based ERP

Tryton – Open-source ERP

Human resources

OrangeHRM – Commercial human resource management

Microfinance

Cyclos – Software for microfinance institutions, complementary currency systems and timebanks

Mifos – Microfinance Institution management software



Open Source (Disintermediation) Software and Platforms

Process management

Bonita Open Solution – Business Process Management

Trading

jFin – Java-based trade-processing program

QuickFIX – FIX protocol engine written in C++ with additional C#, Ruby, and Python wrappers

QuickFIX/J – FIX protocol engine written in Java



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II > Robo-Advisors / Current Situation

- The Robo-Advisors segment contains private asset management providers who offer automated online portfolios in which private investors can choose investment volumes depending on their scope and private appetite for risk.
- Providers such as Wealthfront, Schwab Intelligent Portfolios and Betterment allow private and/or institutional investors to invest their money (starting at very small amounts) in pre-existing portfolios, which are automatically managed by individually configured algorithms.
- The advantage of these services lies in the passive role of the investor, who may not want or cannot afford ongoing personal monitoring of their portfolio development.
- Such automated investment services also allow for attractive returns with low starting capital and without specific investment know-how, which is in contrast to classic investments offered by traditional banks.
- In the Robo-Advisors segment, financial figures show the assets under management of automated online portfolios.
- Online brokers without automated and recommendation-based advisory functions are not included in this segment.

Source: Statista



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Robo-Advisors

- IN-SCOPE
 - Automated online portfolio management of private assets
 - Financial advisory based on smart algorithms, lead investors or swarm intelligence (social trading)
 - Notable generic robo-advisors, e.g. Betterment, Wealthfront, Scalable Capital
- OUT-OF-SCOPE
 - Traditional online brokers
 - Human wealth manager advisory

Assets under Management (2020) +19.3% yoy US\$987,494m
Users (2020) +49.6% yoy 224,522.7 thousand

Year-over-year (YOY) is a method of evaluating two or more measured events to compare the results at one period with those of a comparable period on an annualized basis.

Source: Statista



Robo-Advisors

- Assets under management in the Robo-Advisors segment are projected to reach US\$987,494m in 2020.
- Assets under management are expected to show an annual growth rate (CAGR 2020-2024) of 26.0% resulting in a projected total amount of US\$2,487,280m by 2024.
- In the Robo-Advisors segment, the number of users is expected to amount to 436,334.1 thousand by 2024.
- The average assets under management per user in the Robo-Advisors segment is expected to amount to US\$4,398 in 2020.
- From a global comparison perspective it is shown that the highest assets under management is reached in the United States (US\$682,726m in 2020).

Source: Statista



Robo-Advisors

Hybrid solutions which appear to be the best suited to merge the power and precision of the robots with the personalized recommendation of the traditional advisors.

Table 9: Sources of information consulted by European retail investors before making investment decisions (% of survey respondents)

Banks	Internet	Family, friends	Financial advisors	Press	Radio, television	Insurance companies	Asset managers	Employers	Other
41%	38%	28%	23%	20%	10%	8%	8%	4%	6%

Source: Blackrock 2017 Investor Pulse survey (2017)





Distribution systems of retail investment products across the European Union

Final report

Source: EC (2018) https://ec.europa.eu/info/sites/info/files/180425-retail-investment-products-distribution-systems_en.pdf

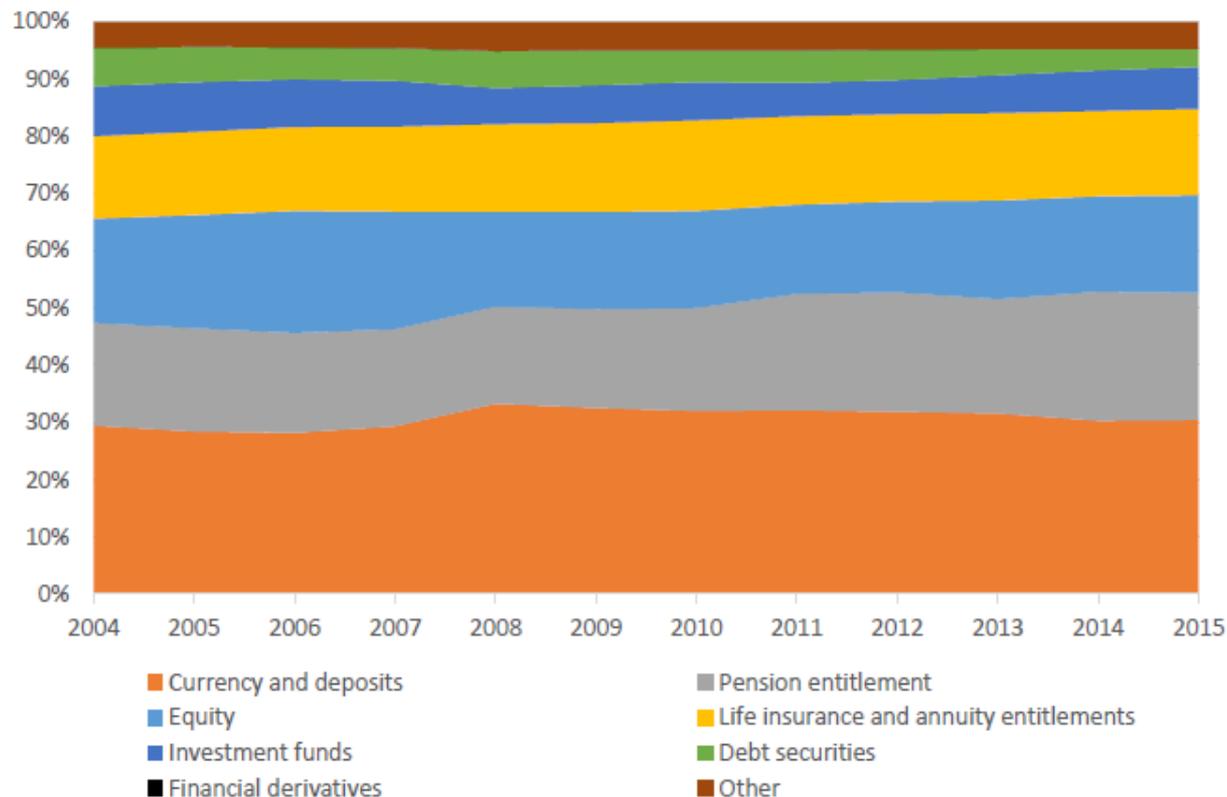


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Graph 2: Structure of households' financial assets in EU-28 since 2004



Currency and deposits includes: currency in circulation, transferable deposits, inter-bank positions, other transferable deposits and other deposits, both in national and foreign currencies.

Debt securities includes: short-term debt securities and long-term debt securities, including structured products.

Investment funds includes: money market fund shares/units and non-MMF investment fund shares/units.

Life insurance and annuity entitlements includes: financial assets representing policy and annuity holders' claim against the technical reserves of corporations providing life insurance. This category includes life insurance (both unit-linked and non-unit linked), as well as voluntary pension subscribed on individual initiatives (not linked to employment).

Pension entitlements includes: pension entitlements either from employer(s) or life (or a non-life) insurer, claims of pension funds on pension managers and entitlements to non-pension benefits. It is our understanding that this definition refers to funded occupational schemes, excluding entitlements from both state-run pension systems and voluntary private pensions. As mentioned, voluntary private pensions are included in the Life insurance and annuity entitlements category.

Equities includes: listed shares, unlisted shares and other equity.

Financial derivatives includes: financial derivatives (e.g. options, forwards and credit derivatives) and employee stock options.

Other includes: loans, non-life insurance technical reserves and provisions, and monetary gold and special drawing rights (SDRs).

Source: Eurostat (2004-2015)



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Robo-advisory solutions have first emerged in the USA during the financial crisis. Betterment and kaChing (later rebranded to Wealthfront) started rebalancing investor assets within target-date funds, while giving investors a modern, online interface. Upon starting out, US-based robo-advisors profited greatly from a new generation of retail investors who trust technology to delegate important tasks, yet are knowledgeable enough to realise the importance of saving even with lower wealth levels.¹⁶⁵ While early adopters in Asia, who are also described as highly employed as well as risk-taking and knowledgeable investors¹⁶⁶ are rather similar to the U.S., the initial customers of European robo-advisors significantly differ. More explicitly, European clients were usually around 40 to 50 years old males with moderate financial knowledge and greater wealth.¹⁶⁷ According to recent statistics, these individuals make up a growing segment of robo-advisors globally and contribute to the continued growth with their propensity to invest larger amounts that verge on 100,000 USD.¹⁶⁸ Besides targeting a standard customer profile, North American robo-advisors are now seeking out different customer niches by offering investment management services directed towards females and socially responsible customers.

¹⁶² Report on Digital Investment Advice, FINRA (2016)

¹⁶³ Putting Robo Advisors to the Test, Wall Street Journal (2015)

¹⁶⁴ https://www.fs-cp.org.UK/sites/default/files/final_panel_position_paper_online_investment_and_advice_services.pdf

¹⁶⁵ <https://www.cnbc.com/2015/06/21/millennials-and-robo-advisors-a-match-made-in-heaven.html>

¹⁶⁶ Hype vs. Reality: The Coming Waves of "Robo" Adoption, A.T. Kearney (2015)

¹⁶⁷ Robo-advice – a true innovation in asset management, DB Research (2017)

¹⁶⁸ Robo-advice – a true innovation in asset management, DB Research (2017)



Robo-advisors / Issues

For the 29 robo-advisors analysed across Europe, the median allocation for the lower risk profile was 71% in bonds. This high weighting of bond allocation was typical for almost all robo-advisors across Europe, with robo-advisors in Germany and Italy recommending as much as 90% and even 100% investment in bonds. Portfolio allocations of Robo-advisors in France often list 'fonds euro' as significant proportions of their recommended portfolios. These are typically highly secure and guaranteed funds, composed of around 80% bonds, and around 10% in equity, and are offered as life insurance contracts, but the breakdown of which is often not visible.

Source: EC (2018) https://ec.europa.eu/info/sites/info/files/180425-retail-investment-products-distribution-systems_en.pdf



Robo-advisors / Issues

More than 90% of robo-advisors in Europe ask about the current financial situation in terms of assets, with typical questions for personalization as limited as below:

- What is the value of your total assets, excluding primary residence? [5 options];
- Financial assets [total figure, with the option to provide more detailed information according to several asset categories];
- Are you the owner of your residence? Y/N:
- What is the total amount of your real estate? [total figure after deducting remaining loans
- Capital markets are vulnerable to fluctuations. What loss of value makes you nervous? [percentage of loss with additional illustrative example];
- If you invest 10,000 EUR over 5 years, what potential gain / potential loss are you ready to take? [4 options].



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Techno-moral situation

- 80% Male in Germany
- Personal Value Matching Robo-advisors and Social Entrepreneurial Financial Advisors (-)
- Positives:
 - asset allocation. Investify, a robo-advisor operating in Luxembourg and Germany offers its clients to invest in specific "themes" such as cybersecurity, water, or disruptive technologies. As these themes cannot be executed solely with ETFs, Investify adds different investment products to the portfolio.
- We observe Social Entrepreneurial legal advise for individuals in creative industry

Smart

What is Smart?

Smart is a non-profit organisation created in Belgium in 1998 which is developing itself in 8 European countries. We aim to simplify and support the professional paths of creative and cultural workers. Our principal goal is to assist freelance workers to develop their own activity through a secure system. We offer multiple services such as information, trainings, legal advice, a social professional network, co-working spaces, etc. Also at the heart of Smart, you will have access to online invoicing tools.



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III > Fractional Share / Impact Investing

- Impact investing historically took place through mechanisms aimed at institutional investors.
- However, there are **ways for individuals** to participate in providing early stage or growth funding to such ventures.



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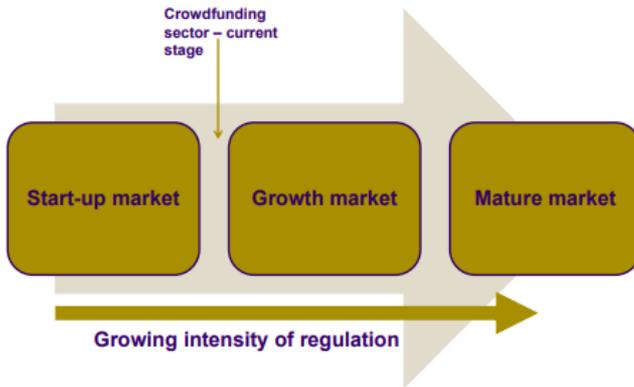
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IV >> Generic vs. Responsible Equity Crowdfunding

- Generic equity crowdfunding
- Responsible (social and sustainable) Equity crowdfunding



Source: The Netherlands Authority for the Financial Markets (AFM), (2014)
Crowdfunding – Towards a sustainable sector
<https://www.afm.nl/~/-/profmedia/files/rapporten/2014/crowdfunding-engels.ashx>



Generic equity-crowdfunding

In July 2013, Italy **became the first country** in Europe to implement a complete regulation on equity-crowdfunding, which applies only to innovative start-ups and establishes, among other rules, a national registry for equity crowdfunding portals and disclosure obligations for both issuers and portals.

The first equity crowdfunding campaign launched in Italy was a success, raising a total of €157,780 in three months, exceeding its initial target of €147,000.



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Responsible Equity-crowdfunding

Netherlands

In April 2011, **Symbid** was founded in the Netherlands by Robin Slakhorst and Korstiaan Zandvliet as **one of the world's first investment crowdfunding platforms**.

In December 2014, the Netherlands Authority for the Financial Markets published **'Crowdfunding – Towards a sustainable sector'** by The Netherlands Authority for the Financial Markets (AFM) which provides insight into how the crowdfunding market in the Netherlands can develop into a **sustainable one**.



V > (Thematic) equity index funds + OTC

(Thematic) equity index funds

Generic

ECPI Circular Economy

...

OTC Markets

Needed more

The ETF market in Europe, predominantly domiciled in Ireland, has been strongly growing over the last few years. Although dominated by a handful of manufacturers, investors have the choice between a large variety of ETF products.

ETFs in Europe are today on average 25% more expensive than in the US.

Only about 10 to 15% of total ETF assets in Europe are held by retail investors.

A well-educated and self-directed retail investor is able to easily access ETFs through online platforms at a low cost.

In contrast, a financially less sophisticated investor which relies on human-based advice through banks, will today only in rare cases be advised to invest in ETFs. In contrast, IFAs in the UK are offering ETFs to their clients.



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THEMATIC

Global indices with ESG filter and thematic focus.



ECPI Global Megatrend 100

2,247.36

GALPHM1N

0.80% (17.89) ▲

ECPI Circular Economy Leaders Index

2,952.70

GALPHCEN

0.62% (18.22) ▲

ECPI Digital Revolution ESG Equity Index

1,818.64

GALPHDRN

1.32% (24.01) ▲

ECPI Children Rights Leaders

3,200.77

GALPHCRN

0.62% (19.94) ▲

ECPI Asian Infrastructure Equity

1,694.98

ECPAIFN

-0.93% (-15.75) ▼

ECPI China Consumption Tradable Equity

6,001.62

ECPACCTN

0.10% (5.93) ▲

ECPI Global ESG Healthcare Equity

3,984.59

GALPHHCN

0.67% (26.54) ▲

ECPI Global ESG Technology Equity

3,809.03

GALPHGTN

0.90% (34.44) ▲

ECPI Global Longevity Winners Equity

5,165.94

GALPHLWN

0.91% (47.25) ▲

ECPI Global Science for Life

4,773.43

GALPHSLN

0.70% (33.45) ▲

ECPI Global Agriculture Liquid

2,066.90

GALPLAGN

0.72% (14.86) ▲

ECPI Global Blue Gold GD Equity

2,397.26

GALPHWN

0.48% (11.43) ▲



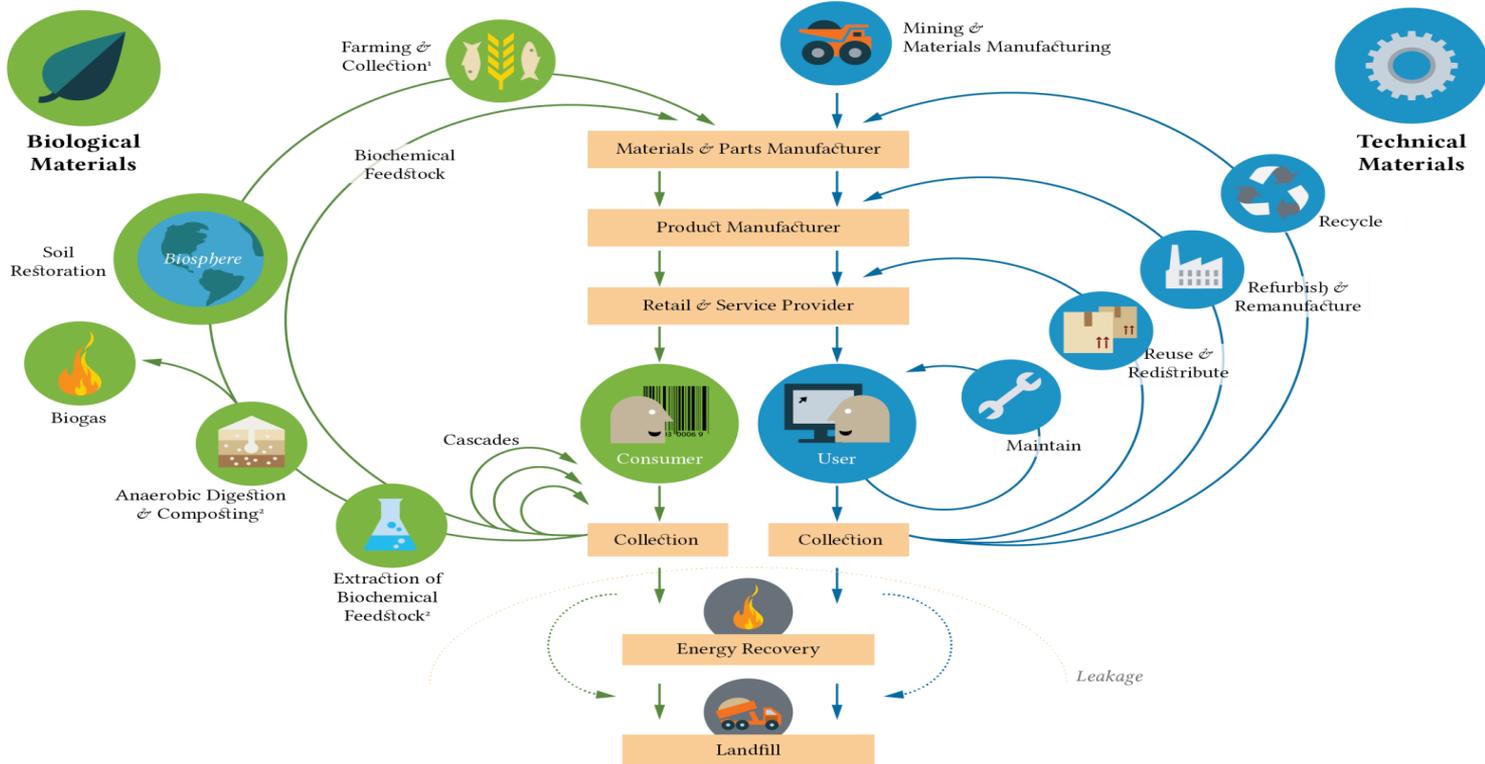
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Circular Economy







ECPI Circular Economy Leaders Index

The Index selects the 50 top capitalized companies in the Global Market which are exposed to the opportunities offered by the Circular Economy.

EUR (Net Returns)



Last update: 13-Nov-2020

Ticker	GALPHCEN	YTD	7.18 %
Calculation	End-of-day	1Y	9.82 %
Components	50	3Y	38.96 %
Weighting	Equal Weighted	5Y	68.34 %
Excluded Sectors	YES	CAGR	16.6 %
Rebalancing Frequency	Semiannual	Annual Volatility	14.78 %
Last Value	2,952.70	Var 95%	-24.38 %
Daily Return	0.62 % (18.31)	Var 99%	-34.43 %
Weekly Return	4.03 %	Max Drawdown	-30.39 %

Resources



Index rules



Factsheet



Constituents



End of day level



Millennials?

The companies most exposed to benefit from the growing spending power of the Millennial Generation with a positive ECPI ESG Rating (from EEE to E-) are selected and classified into five different clusters:

- **Apparel, Clothing, Luxury & Personal Care:** Companies involved in the production and commercialization of Clothing, Sport apparels, Luxury Goods, Fashion Brand, Beauty and Personal Care Products.
- **Technology & Consumers Electronics:** Companies involved in the production and commercialization of Software and Hardware equipment, Mobile Devices, storage solutions, small appliances.
- **Leisure & Lifestyle:** Companies involved in food and dining, travel, hospitality, Health and fitness, Home Improvement Retail
- **Entertainment & Interactive Media:** companies involved in the production and distribution of Movies, gaming solutions, Social Networks, and related services
- **E-Commerce, Fintech & Sharing Economy:** Companies involved in the provision of electronic payment systems, web based financial services, smart mobility solutions, E-Commerce Platforms, and direct marketing

To be eligible for inclusion in the ECPI Global ESG Millennial Index, a stock must satisfy the following criteria (in which case, it will be an “eligible stock”):

Methodology: https://www.ecpigroup.com/wp-content/uploads/rules/ECPI_Equity_Index_Family_Methodology.pdf

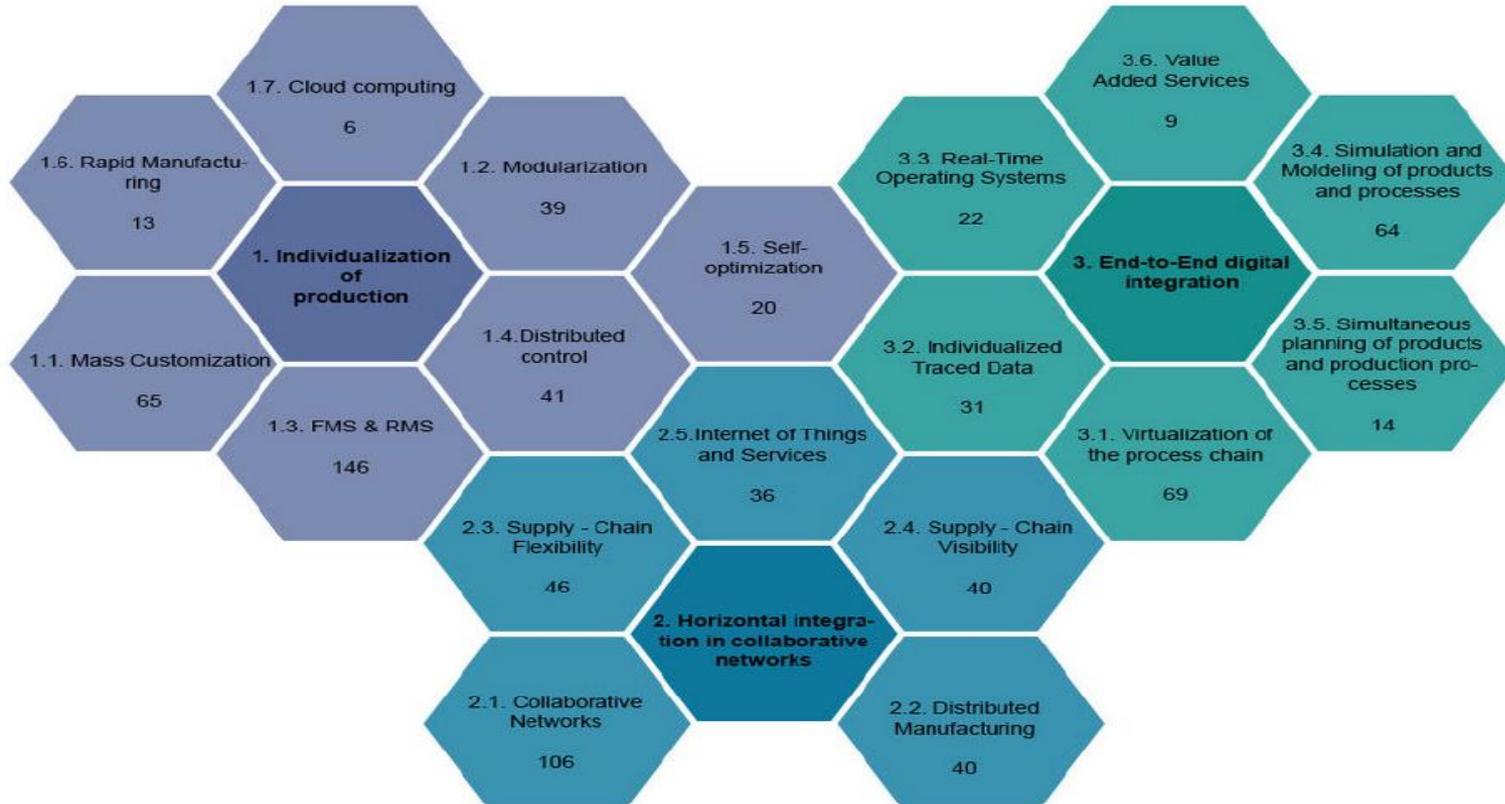


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Digital Economy and Transformation



Industry 4.0 related research streams; the numbers underneath the topics illustrate the assigned articles



VI > Participatory Direct Budgeting

Fiscal policy: Gov. Spending, Tax Routes and Transfer Payments

Flows for New-Mission Oriented Projects, Companies and Communities

Corporate Tax: Current Mode: From Businesses to Government Tax Administration

New mode: From a Business to directly new Business(es) as an investment shared with public sector.

Definition: Share of corporate tax as mandatory investment goes in new ventures, partnerships, and/or startup, seed or growth capital, Businesses decides to where to invest as the company and the public sector being partners in these ventures/startup companies; and/or businesses directly issue a call to fund scientific projects, both with new job creation targets, yearly, can be listed and monitored by governmental agencies, or trusted social third parties.

Income tax: Current Mode: From Individuals to Government Tax Administration

New mode: From Individuals to Community Bank, From Community Bank to new Individuals (e.g. youth) -> new companies as community and public sector partners.

Definition: Share of income tax as mandatory investment in local community collective account to finance and/or invest into entrepreneurs from local community, with community and public sector being partners in newly established enterprises. Enterprises can be approved, listed and monitored by governmental agencies or trusted social third parties.

Consumption tax: From Consumers to Government Tax Administration

New Mode: From consumers to financing, production and distribution of universal basic products and services

Definition: No name dietary nutritionally customized products (nutrition, living, energy) and public services access, transformable into cash and/or brand products and services if the difference is paid at the point of sale. From Transfer payments to Transfer basic products and services, convertible to cash.

...



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Commission readies implementation of sustainable finance

By Jorge Valero | EURACTIV.com

📅 Oct 30, 2020 (updated: 📅 Nov 3, 2020)



The implementation of the taxonomy will help to exclude polluting industries from mainstream finance, experts hoped. [Nneirda / Shutterstock]

Supporter



From Twitter

Tweets by @VDMAeu



👍 VDMA European Office Retweeted



Frankfurter Allgemeine gesamt
@FAZ_NET

Was haben Parlament und Mitgliedsstaaten im

Source: <https://www.euractiv.com/section/circular-economy/news/commission-readies-implementation-of-sustainable-finance/>



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- Taxonomy regulation did not provide an exhaustive list of ‘green activities’, but rather established four conditions they have to meet:
 1. The activity must contribute substantially to one of the six environmental objectives (climate change mitigation and climate adaptation, sustainable use and protection of water and marine resources; transition to a circular economy, waste prevention and recycling; pollution prevention and control; protection of healthy ecosystems) set out in the regulation;
 2. It must not significantly harm any of the other five environmental objectives;
 3. It must be carried out in compliance with minimum safeguards, mainly in terms of fundamental labour rights; and
 4. It must comply with the mentioned technical screening criteria.





EU seals deal on green finance in breakthrough for climate goals

Lawmakers in the European Parliament have approved a compromise on the EU's proposed sustainable finance rulebook, ending a bitter fight with EU member states on whether to recognise nuclear power as "green".



EU green finance czar: 'Obvious' that companies should report on climate risk

Reporting on greenhouse gas emissions should become mandatory "as soon as possible" for companies with more than 250 employees, argues Michèle Lacroix, an EU expert who helped design the EU's landmark green finance taxonomy.



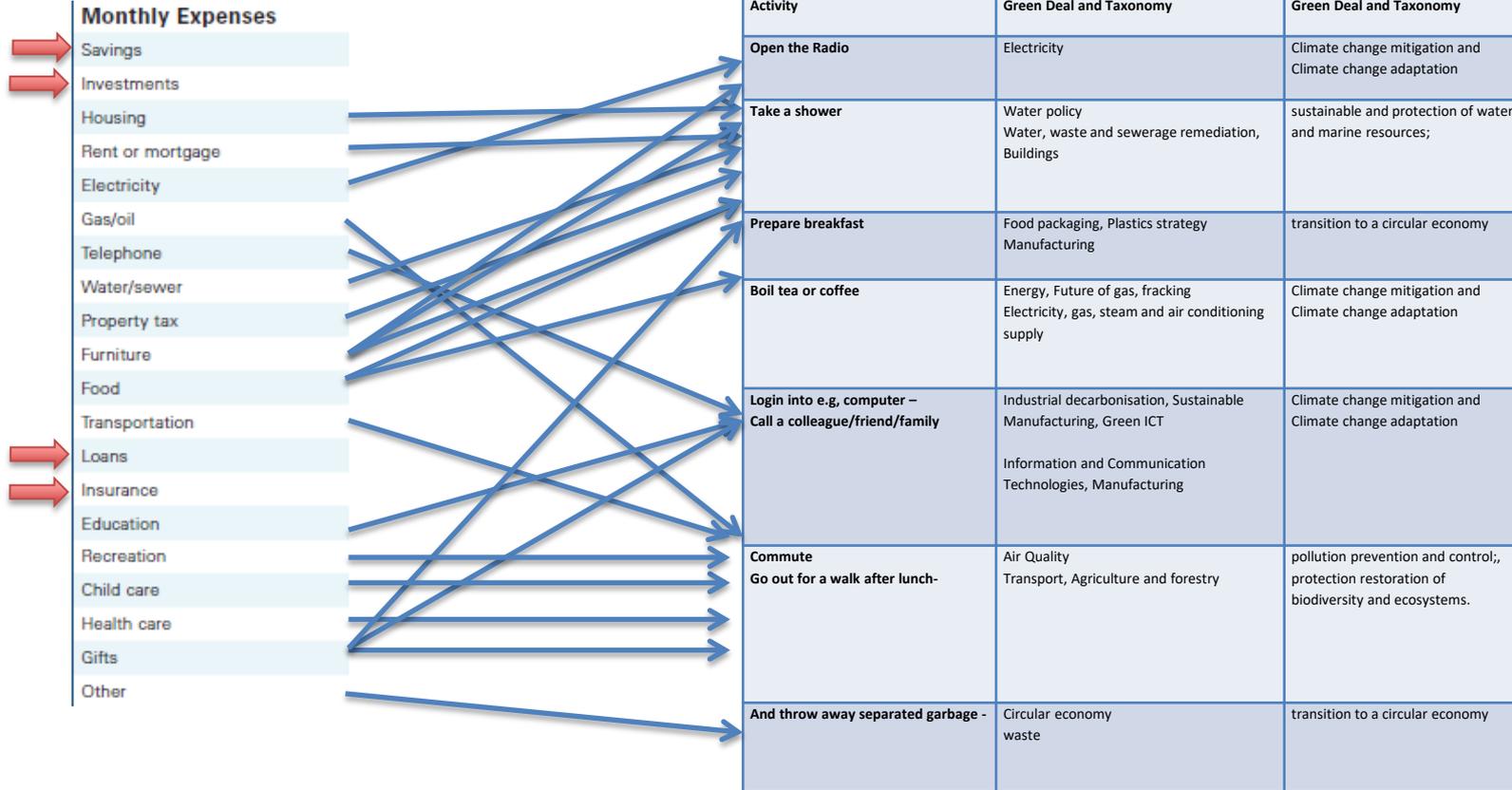
Europe urged to align budget with green finance rules

The EU's sustainable finance taxonomy should be systematically applied to track green investments in the bloc's next long-term budget and coronavirus recovery fund, which together amount to €1.8 trillion over the next seven years, according to a new report launched on Wednesday (28 October).

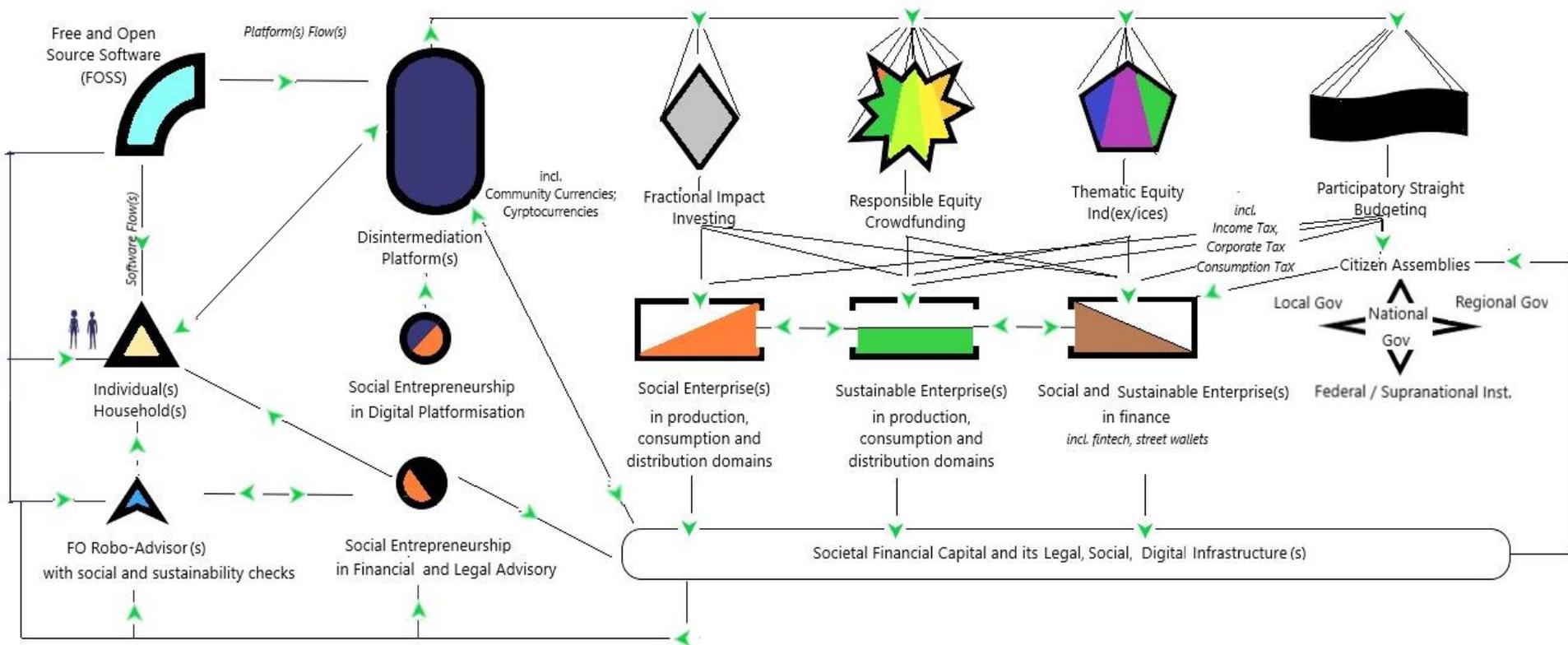


VII > Lifeworld Deal and Non-Taxonomy: Contradictions

Table - WAKE UP



Niches and an Eco-system of New Finance





Don't walk behind me; I may not lead. Don't walk in front of me; I may not follow. Just walk beside me and be my friend.

A. Camus

- DIY ethic is **the ethic of self-sufficiency** through completing tasks without the aid of a paid expert.
- The **"do it yourself" (DIY) ethic** promotes the idea that anyone is capable of performing a variety of tasks rather than relying on paid specialists.
- Such as managing financial and digital matters if in a knowledge society.
- According to the **DIY aesthetic**, one can express **oneself** and produce moving and serious works with limited means and also work **collectively**.
- The Homebrew Computer Club, **personal computing, and sharing**,
- Highly probably personal and community-based **financing and sharing** is the next - if **the youth** and **robots** are not captured by traditional thinking and practice.



The NI youth and the AI robots: e.g. Colu and Newlife.ai & more!

colu.

BUSINESSES PARTNERS TECHNOLOGY ABOUT US BLOG CONTACT

Open Community Finance

Change the face of your local economy with Colu. Issue local currency and boost your community's economic activity. Be a stakeholder in a new model of shared prosperity.



new life

Touch Meet Cultivate Earn

Receive payments for your anonymised taste data

Subscriptions

Marketplace

Affiliate

Merch

Data

Grants

Partners

Investments

Universal Creator Income

Get PAID for your DeepTouch™ anonymised data

By producing and responding to content through the app, your interactions garner real-world value through fair and transparent algorithms. You can monetise your taste data anonymously and help solve redundancy and waste throughout the creative industry, contributing to more agile systems globally.

Start my new life →



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HEALTH / MANTE LAAR / Digital Social Economy ?

Mantelzorgers

Mantelzorgondersteuning

Mantelaar koppelt zorgstudenten aan ouderen voor zorg én gezelschap. Wij staan voor een goede balans tussen verzorging en persoonlijk aandacht.

Aanmelden

Meer informatie

Studenten

Aanmelden als student

Ben jij op zoek naar een maatschappelijk betrokken bijbaan? Bepaal zelf wanneer je werkt en verdien 10 euro per uur.

Aanmelden

Meer informatie

Mantelzorg

Mantelaar koppelt medisch studenten aan ouderen voor zorg én gezelschap.

Mantelaar vindt voor u een goede balans tussen persoonlijke verzorging en persoonlijke aandacht. Naast het verrichten van lichte zorgtaken en hulp bij praktische zaken is er tijd voor een kop koffie, een praatje of een wandeling. De studenten nemen de tijd voor u. Zo leert u elkaar kennen en kan er een band worden opgebouwd tussen u en de student.

Ben u op zoek naar zorg? Kijk dan [HIER](#) voor meer informatie of meld u hieronder gelijk aan.

Ik zoek mantelzorgondersteuning

Ben je een student en op zoek naar een leuke bijbaan? Kijk dan [HIER](#) voor meer informatie of meld je hieronder gelijk aan:

Ik zoek een mooie bijbaan

Voor

Mantelzorgers

Persoonlijke verzorging, begeleiding en gezelschap van een zorgstudent: tijd voor uw ouder. Zorg doe je samen.



Voor

Studenten

Ben je enthousiast en geïnteresseerd om met ouderen te werken? Ben je op zoek naar een bijbaan waarbij je maatschappelijk bezig bent en ontzettend dankbaar werk doet? Kijk dan snel verder.



Verhaal

Verhalen

Bij Mantelaar kijken we niet naar wat er niet meer gaat, maar naar wat er nog wel lukt. En dat levert de prachtigste verhalen...

26 september 2018:
De kracht van
storytelling voor
alzheimerpatiënten

5 november 2018
Nieuwsbrief november

Mante Laar **matches** medical students with elderly people in need of care **in their own home.**

This **service** is available in Netherlands (Leiden) and is provided by Mante Laar.

It is organised through a **multi-sided platform** providing in a 'booking form' filled in by the elderly, a relative, the general practitioner or a neighbour, stating the type of care needed and the frequency.

The care offered concerns household and personal care, care for dementia and can be either short term (i.e. to relieve temporarily the career for a holiday or a simple day-off) or can be longer term, including night shift or around the clock care.

The services are **provided for a price** which is either **subsidised, through insurance, or paid by the person in need.**

The students providing the care are **trained for their social care duties** and are not allowed to provide medical care or nursing tasks.



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ShareNL platformization and automation

“Welcome to a new world. A world where everyday, there is **more technology in our lives**, and **more life in our technologies**. A continuous **interflow of humanity and technology** is reshaping our society. Finding an equilibrium between ‘man and machine’ is of the essence. We invite you to join us today, in order to develop the opportunities and take on the challenges of tomorrow together.”

- Our journey began during the emergence of the sharing economy. Over the years we developed a deep understanding **of how online platforms are reshaping the way people connect and how this affects industries and societies**. We evolved into an agency with a **unique global perspective and network**. An ecosystem consisting of the world’s largest online platforms, world leading companies, and some of the most advanced city-, state- and intergovernmental organizations. We have developed a strong track record on **strategically consulting the leadership of governments and businesses**.
- Today we are firmly rooted in the sharing & platform economy, but **as our ecosystem evolves we comprehend that digital platforms are only forming the foundations of where we are heading**. **New technologies like artificial intelligence, blockchain and internet of things will build and grow on these platforms and bring us new levels of platformization and automation**. Together with our ecosystem we embody this change, always with an eye for the ‘people perspective.’
- Collaborating with us means you get access to **insights, inspiration, intelligence and interaction**. We are here to help you see, feel, think and create the change. From an inspiring keynote presentation to a highly effective one-on-one. From a creative concept to adapting your strategy. And from organizing an unforgettable experience or event to participating in a pilot project. We encourage you to explore what we have to offer you. Come on board, join our ecosystem and start ‘re:shaping the way we live, work & play.’ “

Source: ShareNL



So, whose responsibility is it anyway?

- States (Leg./Exe./Jur.) undermine themselves via neoliberalism any case (e.g. small and smart government)
- Private sector undermine themselves via process, and organizational overhead.
- For a social individual, what kind of knowledge society consist of people who cannot handle their own financial and digital decisions themselves?
- Empowering citizens to have personal and community-based financial and digital sovereignty.
- **Financial regulation and digital regulation to empower people and to empower available products, processes, platforms and organizations in social entrepreneurship domain, including finance.**
- **The focus is social sector sustainable finance entrepreneurs and enterprises other than institutional via either public, private or public-private partnerships.**



And then? Details in a new publication and dissemination:

Special issue "Assessment of Socio-Economic Sustainability and Resilience after COVID-19"

Wednesday, June 24, 2020 12:28 CEST



Idiano D'adamo idiano.dadamo@uniroma1.it

To

turkeli@merit.unu.edu

Dear Dr. Serdar Turkeli,

Your scientific activity is very interesting and we think that you can provide a vital contribution to our new special issue referred to the relationship between sustainability and resilience.

The journal /Sustainability/ (ISSN 2071-1050; indexed by *Scopus* with a growing Impact Factor equal to 2.592) is currently running a Special Issue titled "Assessment of Socio-Economic Sustainability and Resilience after COVID-19".

Prof. D'Adamo Idiano from Sapienza University of Rome is serving as Guest Editor for this issue.

We kindly invite you to contribute to this Special Issue. The submission deadline is the 16 June 2021.

For further information, please follow the link to the Special Issue Website at:
https://www.mdpi.com/journal/sustainability/special_issues/economic_resilience



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References (Other)

- Arnaldi, S. (2018). Retooling Techno-Moral Scenarios. A Revisited Technique for Exploring Alternative Regimes of Responsibility for Human Enhancement. *NanoEthics*, 12(3), 283-300.
- Baudewyn, N., Draou, L., & Iania, L. Robo-advisors in asset management: towards a complete automation?.
- Borrás, S. (2012). Three tensions in the governance of science and technology. *The Oxford handbook of governance*, 429-440.
- Borrás, S., & Edquist, C. (2013). The choice of innovation policy instruments. *Technological forecasting and social change*, 80(8), 1513-1522.
- Hoppe R. (1999) 'Policy analysis, science, and politics: from "speaking truth to power" to "making sense together"' *Science and Public Policy*
- Latour, B. (1987). *Science in action: How to follow scientists and engineers through society*. Harvard university press.
- Masini, Elenora. 1983. *Visions of Desirable Societies*. Oxford: Pergamon Press.
- René Kemp, « Ten themes for eco-innovation policies in Europe », S.A.P.I.EN.S [Online], 4.2 | 2011, Online since 04 October 2011, connection on 16 March 2017. URL : <http://sapiens.revues.org/1169>
- Ringe, W. G., & Christopher, R. U. O. F. (2020). Regulating Fintech in the EU: the Case for a Guided Sandbox. *European Journal of Risk Regulation*, 11(3), 604-629.
- Rip, A. and H. Kolve, 2008, *Constructive Technology Assessment and Socio-Technical Scenarios*, in *Presenting Futures*, E. Fisher, C. Selin, and J. Wetmore, Editors. Springer Netherlands. p. 49-70.
- van Notten, P.W.F., et al., 2003, An updated scenario typology. *Futures*, 35(5): p. 423-443.



THANK YOU

GRACIAS
ARIGATO
SHUKURIA
JUSPAXAR

DANKSCHEEN
SPASSIBO
SNACHALHYA
NUHUN
CHALTU
TASHAKKUR ATU
YAQHANYELAY
WABEEJA MAITEKA
SUKSAMA
EKHMET
MEHRBANI
PALDIES
BOLZIN

BIYAN
SHUKRIA
TINGKI
YUSPAGARATAM
HUI
GUL
HATUR
EKOJU
SIKOMO
MAKETAI
MINMONCHAR

ATTO
DHANYABAD
ANBHA
MERSI
SPASIBO
DENKAUJA
NENACHALHYA
UNALCHEESH
UNALCHEESH
MERASTAWHY
GAEJTHO
GOZAIMASHITA
EFCHARISTO
AGUYJE
FAKAAUE
KOMAPSUMNIDA
MAAKE
LAH



Q&A.



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Techno-Legal Frontiers and Techno-Moral Futures of Sustainable Financial Transition

Dr. Serdar Türkeli
turkeli@merit.unu.edu

The Classroom Talks
Vrije Universiteit Brussel,
Brussels, 16 November 2020