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TOWARDS A TOPOLOGY OF MONETARY SYSTEMS

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ABSTRACT

In a world facing complex social and environmental challenges, innovative approaches to monetary systems are essential. Motivated by concerns for both society and ecology, our group developed the concept of monetary topology as a framework for evaluating and comparing diverse monetary systems. This framework is structured around six key themes: the legislator, monetary institution, emission rules, usage conditions, coinage, and operational properties, along with their social and ecological consequences. Each theme is decomposed into objective characteristics, enabling a systematic and multidimensional analysis. Monetary topology allows for the identification of strengths, weaknesses, and contextual relevance across systems. It supports policymakers, researchers, and community leaders in designing and assessing monetary innovations aligned with social and ecological goals. To operationalize this framework, we created the “monetary comparator,” a digital tool in which each characteristic is evaluated across economic, social, and environmental axes. This article presents the structure of the tool and illustrates its application through a comparative analysis of two contrasting systems: a complementary currency for the common good and the free currency Ğ1 (June). Aligned with the principles of RAMICS, this work contributes to the collective effort to better understand, compare, and support diverse monetary experiments.

KEYWORDS

Monetary system topology, Monetary system analysis, Classification of monetary system, Monetary system comparison.

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1. INTRODUCTION

Research on money often remains isolated and underexposed. Despite numerous innovative initiatives, the monetary field suffers from fragmentation and a lack of coherent synthesis. This situation stems in part from structural obstacles: academic economists often avoid monetary questions or reproduce dominant paradigms—such as the neutrality of money or the quantitative theory—without critical examination. Meanwhile, the media seldom engage with monetary debates unless commercially attractive or aligned with prevailing views.

As a result, the current monetary system—rooted in monetarist logic and neoliberal institutional frameworks—appears self-evident and incontestable. It is treated as a technical or natural object, rather than as the political institution it truly is. Presented like air or water, money's design, effects, and alternatives rarely become subjects of democratic deliberation.

Yet, monetary institutions deeply shape societal organization and ecological trajectories. Responses to social and environmental challenges are often constrained by the logics embedded in existing monetary structures. We argue that meaningful alternatives cannot be conceived solely within the dominant system, but require independent or complementary frameworks.

A growing number of monetary experiments challenge mainstream assumptions, but their dispersion and heterogeneity call for tools that facilitate comparison, mutual learning, and collective refinement. What is likely to emerge is not a single new system, but a plurality of proposals—each growing in the shadow of the dominant model. Making these initiatives visible, comparable, and understandable is essential.

Our contribution responds to this need. We present a structured analytical framework—what we call monetary topology—designed to describe and compare monetary systems across multiple dimensions. Rather than classifying systems into fixed categories (a typology), we propose a topological mapping based on shared characteristics, structured into six key themes: the legislator, the monetary institution, issuance rules, usage conditions, coinage, and operational properties, as well as their social and ecological consequences.

Each theme is subdivided into characteristics, which are assessed along three evaluative axes: economic, ecological, and social. These characteristics are coded and scored, allowing for both textual and graphical comparisons. This grid is operationalized through a digital tool—the “monetary comparator”—which enables users to describe, evaluate, and visualize the profiles of different monetary proposals.

Importantly, we recognize the subjective dimension inherent in any such evaluation. With over 600 elements in the model, interpretive dissensus is inevitable. To address this, we have embedded a peer review mechanism that allows for collective refinement of both scores and structural choices. This flexible and participatory architecture ensures that the tool remains open to critique and evolution.

In the sections that follow, we first review the existing literature on monetary typologies and the theoretical limitations they encounter. We then present our analytical framework and describe the development of the monetary comparator. This section also discusses how the tool integrates dissensus and subjectivity through peer review. Finally, we illustrate its use through a comparative analysis of two contrasting systems: a complementary currency for the common good, and the free currency Ğ1 (June). The conclusion highlights the relevance of this approach for researchers, policymakers, and community actors, and outlines several possible directions for improving and extending the tool in future research. The scope of this framework explicitly covers monetary and token systems (sovereign, complementary, or crypto-based) that define a unit of account and rules of issuance. Non-monetary clearing systems without issuance are excluded from analysis.

2. FROM TYPOLOGIES TO TOPOLOGIES: TOWARDS A NEW ANALYTICAL FRAMEWORK

Research on monetary systems has long struggled to establish stable, comprehensive typologies. Economists, sociologists, and monetary reformers have proposed diverse classification schemes based on a range of criteria: institutional roles, functions of money, issuers, regulatory frameworks, or even

ideological orientations. These efforts have brought to light important dimensions of monetary diversity and highlighted recurring patterns. Yet despite this richness, most authors converge on the difficulty of defining a universal and consensual typology of monetary systems, especially in the face of the ongoing proliferation of experimental and hybrid forms.

From a conventional economic standpoint, money is typically treated as a functional instrument: a means of payment, a store of value, and a unit of account. While this approach offers analytical clarity, it tends to abstract away from the institutional, social, and political nature of monetary arrangements. As Pineault (1999) and Boyer-Xambeu et al. (1999) argue, the essence of money cannot be reduced to its functions alone. Pineault emphasizes the historical variability of monetary institutions and distinguishes between immediate, authoritarian forms of monetary regulation, where the sovereign enforces the value of money (as in divine kingship), and mediated, institutionalized forms where money becomes embedded in economic rationalities and political governance. Boyer-Xambeu et al., from a historiographical and institutionalist perspective, examine the evolution of money through systems of exchange, such as bills of exchange, and the tension between metallic and substitute currencies. Both perspectives call for a multidimensional view of money that accounts for its embeddedness in broader institutional orders.

Building on these critiques, several authors have sought to formalize typologies that reflect the institutional and normative variety of monetary systems. Lietaer and Kennedy (2008) proposed a typology based on five core characteristics: the objectives pursued (e.g. profit, stability, sustainability), the form money takes (commodity, fiat, digital), its functions (means of payment, unit of account, store of value), modes of creation (loan, mutual credit, direct issuance), and funding mechanisms. Their goal was to offer citizens and practitioners a clearer map to navigate the diversity of monetary innovations. Blanc (2011, 2013), focusing on complementary currencies, developed a two-tiered typology distinguishing territorial, community, and economic projects, further refined by the nature of the initiating actor—whether public, private, or nonprofit. Blanc also draws on Polanyi to contrast general-purpose and special-purpose monies. The latter are bounded in time, space, scope of use, or social group, reflecting the embedded nature of value relations. His work underscores the difficulty of creating stable classifications while advocating for typologies that remain open to contextual evolution.

Martignoni (2012), drawing on Greco (2009), proposed a multidimensional matrix based on the authority issuing the currency (centralized or decentralized), the basis for issuance (trust in a commodity, borrower, or collective rule), the degree of control over monetary quantity, and the intended goals of the currency (individual gain vs. collective benefit). His model introduces a quadrant-based visualization tool that positions currencies according to these variables, offering a flexible space for mapping their orientations rather than fixing them into closed categories.

While these approaches have significantly enriched the field, their limitations are increasingly acknowledged. Blanc (2013) insists on the provisional and open-ended nature of typologies, which should not be mistaken for rigid taxonomies, and calls for reflexivity in how typologies are constructed and used. Tichit et al. (2016) further emphasize this point by showing how classification systems built on multiple criteria often result in overly complex or unstable grids. They advocate for a bottom-up approach that identifies shared traits *ex post* through empirical observation rather than theoretical imposition. Their work, based on web-based data collection and text mining of non-bank monetary systems, proposes a two-axis chart that distinguishes systems by their goals (social vs. commercial) and their level of dependency on sovereign currencies. This empirical orientation is particularly influential for our methodology.

Dissaux and Fare (2019) emphasize that money is simultaneously a market product, a tool of state governance, and a social institution. They argue for a socio-economic approach to monetary commons that recognizes this plurality and the political nature of money as an institution. Their framework calls for understanding money not just through its economic functions, but through its capacity to coordinate social relations, express collective values, and support ecological and democratic aims. In particular, they highlight the potential of community currencies and local monetary initiatives to serve as vehicles for re-embedding economic practices within social and environmental constraints. This vision opens the way for analytical tools that are capable of grasping the normative, relational, and organizational dimensions of

money, beyond the logic of exchange alone. This plural ontology, they argue, requires a flexible analytical framework that accommodates overlapping logics rather than flattening them into a single system.

Rather than contributing a new typology to this already dense landscape, our proposal seeks to move beyond the typological paradigm altogether. Existing classifications, while useful, tend to presuppose stable categories and normative assumptions that are ill-suited to the dynamic, contested, and often experimental nature of many contemporary monetary initiatives. Instead, we propose a *topological* approach—a tool for the *ex post* comparison of monetary systems that avoids imposing predefined types. By focusing on observable characteristics—regardless of origin, legality, or ideological intent—our framework seeks to build a common analytical language capable of capturing both structural patterns and contextual particularities.

This topological grid is built around six core themes: the legislator, the monetary institution, issuance rules, usage rules, coinage, and operational properties. Each theme is broken down into specific characteristics, themselves described by a range of elements. These elements are evaluated across three transversal axes: economic, ecological, and social. The structure supports both qualitative analysis and graphical representation, and it forms the basis of a digital tool—the "monetary comparator"—designed to facilitate the comparative assessment of monetary systems.

The following section presents this analytical framework in detail. It describes how the topological grid has been operationalized into a practical evaluation tool, introducing its hierarchical structure, the rationale behind the selected themes and characteristics, and the way subjective assessments are integrated through a peer review mechanism. We also outline the current state of development of this tool, which remains a work in progress, open to refinement and extension through collaborative feedback and iterative application. As of today, the analytical framework and the associated digital tool are still evolving. The current version has already been applied to a number of real-world monetary systems, providing preliminary validation of its relevance and usability. Planned developments include refining certain dimensions, enriching the list of elements, integrating additional evaluative axes, and expanding the pool of contributors to enhance collective ownership and applicability.

3. THE ANALYTICAL FRAMEWORK

In order to build a comprehensive comparative tool for monetary systems, we developed a structured analytical framework grounded in a hierarchical classification logic. This framework is based on the assumption that any monetary proposal—whether theoretical or operational—must, implicitly or explicitly, respond to a series of foundational questions. These questions relate to what we term "characteristics" of the monetary system. Their systematic identification and articulation allow for both in-depth analysis and comparative evaluation.

3.1. Structure and Logic of the Framework

We adopted a hierarchical approach to organize the analytical dimensions of monetary systems. At the highest level, we identified eight overarching *themes*, each addressing a major dimension of monetary design and implementation. These are:

1. Generalities
2. Legislator
3. Monetary Institution
4. Rules of Issuance and Redemption
5. Rules of Use
6. Coinage
7. Operation
8. Expected/Observed Consequences

Among these, themes 0 and 7 serve as framing elements—providing contextual and outcome-related insights—while themes 1 through 6 represent the core functional and institutional components of any

monetary system. Their organization reflects a conceptual progression from intention (legislator) to realization (operational dynamics).

3.2. From Themes to Characteristics and Elements

To avoid conflating normative design choices with outcomes, we have introduced an explicit distinction:

- By design characteristics: variables deliberately chosen *a priori* by system designers or legislators, such as governance model, issuance and destruction rules, convertibility, valuation mechanisms, anonymity/privacy settings, transaction finality, and transaction validation methods. This concerns themes 1 to 5.
- Emergent properties: variables observed *a posteriori* in practice, such as circulation velocity, network topology and liquidity distribution, price dynamics (inflation/deflation), or adoption scale. These arise from systemic operation and user behaviour, and cannot be fully fixed in advance. This concerns theme 6.

This distinction helps clarify which variables can be evaluated as design parameters and which must be interpreted as outcomes of system dynamics. It also aligns with structuralist perspectives on inflation and recent work on network dynamics in community currencies (Mattsson et al., 2022; Criscione, 2025).

Each theme is decomposed into a set of *characteristics* that describe more precisely the questions or variables pertinent to that domain. For instance, within the theme of the legislator, characteristics include the legal form of the initiating body, its governance model, its stated objectives, the basis of its legitimacy, and the forms of trust it mobilizes.

To enhance clarity and neutrality, we have added concise definitions for key characteristics used in the topology. These definitions are summarized below and supported by references (Aglietta & Orléan, 2002; Lietaer & Kennedy, 2008; Mattsson et al., 2022; Criscione, 2025). A glossary of all characteristics has been added in Appendix III to ensure transparency and accessibility. A glossary of core characteristics definitions has been added in Appendix IV.

Each characteristic is then further detailed through a set of *elements*—distinct, predefined modalities through which that characteristic may be expressed in a given monetary system.

This hierarchical breakdown—theme → characteristic → element—provides the structural backbone of our analytical grid. Below is a summary table of the six central themes and their corresponding characteristics (cf. appendix III):

1. Legislator
 - 1-1 – Legislator
 - 1-2 – Governance
 - 1-3 – General Objectives
 - 1-4 – Objectives of Monetary Creation
 - 1-5 – Legitimacy
 - 1-6 – Trust Attributes
2. Monetary Institution
 - 2-1 – Legal Form
 - 2-2 – Centralization
 - 2-3 – Financial Interest
 - 2-4 – Governance
 - 2-5 – Trust Arguments
3. Rules of Issuance and Redemption
 - 3-1 – Issuance Modalities
 - 3-2 – Issuance Conditions
 - 3-3 – Targeting Tool
 - 3-4 – Initial Beneficiary

- 3-5 - Initial Issuance Modalities
- 3-6 - Monetary Sovereignty / Dependency
- 3-7 - Type of Coverage
- 3-8 - Monetary Function
- 3-9 - Main Financing Function
- 3-10 - Monetary Destruction
- 3-11 - Trust
- 3-12 - Position in the Monetary Hierarchy
- 4. Rules of Use
 - 4-1 - Usage Conditions
 - 4-2 - Convertibility
 - 4-3 - Extrinsic Valuation
 - 4-4 - Spatial Restriction
 - 4-5 - Temporal Restriction
 - 4-6 - Social Restriction
 - 4-7 - Anonymity in Holding
 - 4-8 - Transaction Anonymity
 - 4-9 - Creditor Interest
 - 4-10 - Transaction Conditions
- 5. Coinage
 - 5-1 - Material Support
 - 5-2 - Type of Certification
 - 5-3 - Legal Form of Certifier
 - 5-4 - Methodical Trust Attribute
 - 5-5 - Intrinsic Valuation
 - 5-6 - Storage and Holding
 - 5-7 - Technological Supports for Transactions
 - 5-8 - Guarantee of Transaction Anonymity
 - 5-9 - Guarantee of Transaction Finality
 - 5-10 - Inflation / Deflation
 - 5-11 - Transaction validation method
- 6. Operation
 - 6-1 - Cost of the Payment System
 - 6-2 - Direct Energy Impact
 - 6-3 - Circulation Speed
 - 6-4 - Nature of Volume
 - 6-5 - Volume Evaluation Method
 - 6-6 - Volume Evaluation
 - 6-7 - Trust
 - 6-8 - Valuation
 - 6-9: Transaction validation process and cos

3.3. Evaluation Axes and the Scoring Method

In order to enable comparison between systems, each element is evaluated along three normative axes: economic, ecological, and social. The scoring is carried out on a scale from 0 (no significant contribution) to 9 (maximum contribution) for each axis. These scores are not intended to produce definitive rankings, but rather to visualize the orientation and profile of different systems across shared dimensions. Importantly, we recognize the subjectivity inherent in such assessments. To address this, the tool incorporates a peer review mechanism, allowing for collaborative validation, contestation, and refinement of scores.

3.4. *A Flexible and Evolutive Model*

Following the insights of previous authors who emphasized the impossibility of constructing exhaustive typologies, we designed this framework as an open and evolving structure. It is explicitly designed to incorporate new perspectives, dimensions, and descriptors as monetary experiments proliferate and diversify.

The digital tool built upon this framework—the "monetary comparator"—enables the structured description of any monetary system, whether sovereign, complementary, crypto-based, or experimental. Users can encode both textual and quantitative information, generate graphical visualizations, and compare multiple systems side by side. This makes it suitable for researchers, practitioners, activists, and policymakers alike.

The analytical grid and its digital interface have already been applied to several case studies, validating their usability and relevance. While the tool remains a work in progress, further improvements are underway. These include refining thematic categories, expanding the range of evaluative dimensions, and testing the framework with a broader community of users. Our objective is to consolidate the tool's function as a participatory support for the analysis, comparison, and collective improvement of monetary initiatives.

The following section first presents the calculation method used to generate evaluative scores—covering the rating structure, interpretation of the three axes, and procedures for aggregation and visualization. It then turns to one of the more delicate aspects of the approach: the subjectivity inherent in the evaluation process and the dissensus that may arise when monetary initiatives embody diverging ideological or normative frameworks. Rather than viewing these tensions as flaws, we treat them as integral to the richness of monetary diversity—and as essential inputs to critical comparison. Our methodological choices, including the peer review mechanism and the tool's adaptable structure, are designed to accommodate this plurality and foster meaningful dialogue among perspectives.

4. THE MONETARY COMPARATOR AND ITS EVALUATION METHOD

Based on the analytical framework described in Section 3, we developed a digital tool—the monetary comparator—designed to operationalize the comparative evaluation of monetary systems. This tool is built on a database that incorporates the full set of predefined themes, characteristics, and elements identified in the topology. Still under active development, the comparator is accessible online via our research platform for econologists (https://econologistes.org/money_comparator/).

The comparator currently offers the following functionalities:

- Recording of the characteristics of monetary systems via both predefined codes and free-text fields.
- Consultation and visualization of system profiles.
- Numerical and graphical comparison of multiple systems.
- A peer-review interface for reviewing, commenting on, and suggesting modifications to characteristics, elements, and associated ratings.
- A revision interface for collaborative refinement of the analytical framework.
- Administrative tools for managing the underlying database and user contributions.

Each review session involves a systematic examination of the elements constituting a characteristic. This process includes:

- Verifying the completeness of the elements.
- Correcting errors or inconsistencies.
- Re-evaluating the distribution of points along the three axes (economic, ecological, social).
- Ensuring internal coherence and justification of the ratings.
- Allowing proposals for new elements or thematic refinements.

Users are encouraged to input monetary systems they are working on, provide descriptive summaries, and complete the multiple-choice questionnaire. This information forms the basis for subsequent evaluation and comparison.

4.1. The Rating System and Evaluation Procedure

Each element is rated on a scale from 0 to 9 along three axes: economic, ecological, and social. The rating procedure involves a three-step reflection:

1. Evaluating the element's theoretical alignment with the three axes.
2. Comparing it to other elements within the same characteristic to determine relative impact.
3. Ranking all elements from most to least impactful for each axis.

The resulting scores form a reference base that is explicitly acknowledged as subjective and open to revision. Ratings can evolve over time through peer review.

For example, in Theme 1 (Legislator), Characteristic 1.1 identifies various types of initiating actors. Each is evaluated as follows:

Table 1. Legislator evaluation

Theme	Characteristic	Element				Justification
Legislator						
 - 1	1 - Legislator	1 - Consortium of for-profit enterprises	8	0	1	Favors the economic dimension
		2 - Individual for-profit enterprise	7	0	2	Favors the economic dimension
		3 - Public authority from an intergovernmental organization	5	1	3	Should theoretically favor the social dimension
		4 - National public authority	4	2	3	Theoretically social, but in practice more economic
		5 - Local or regional public authority	3	3	3	Expected to be neutral

		6 - Local civic association (formal)	1	4	4	Favors quality of life, thus more social/ecological
		7 - Hyperlocal informal group (e.g., informal association, university)	1	4	4	Favors the social and/or ecological dimension



Rating from the economic perspective



Rating from the ecological perspective



Rating from the social perspective

Ratings must sum to 9 across the three axes (unless Likert-type questions apply). Each element's evaluation is documented with a textual justification.

4.2. Calculation Method

The calculation of theme and characteristic scores depends on the nature of the element:

- For single-choice elements, the score is directly taken from the selected item.
- For multiple-choice elements, the sum of points across selected items is used.

Scores for each characteristic are computed by normalizing the axis-specific points into percentages. Then, theme-level scores are derived by averaging across all characteristics under that theme.

Let:

- $Pt(axis)$: Points on one axis for a selected item
- $Note(axis)$: Normalized score for a characteristic on an axis
- $NoteTheme(axis)$: Theme score on an axis
- $NbCrit$: Number of characteristics under a theme

Then:

$$Node(axis) = \left(\frac{Pt(axis)}{\max(Pt(fin), Pt(eco), Pt(soc))} \right) \times 100$$

$$Note = \frac{(Pt(fin) + Pt(eco) + Pt(soc))}{3}$$

$$NoteTheme(axis) = \frac{\sum Note(axis)}{NbCrit}$$

4.3. Interpreting Results

Rather than aiming to produce a single composite score that ranks monetary systems, our approach emphasizes the comparative analysis of each system's profile across the three axes (economic, ecological,

social) and within each theme. Since most characteristics involve single-choice questions, the total scores across all axes tend to converge between systems. This convergence limits the discriminatory power of aggregate scores. However, when scores are examined axis by axis and theme by theme, significant differences emerge. These differences offer a more nuanced understanding of each system's orientation and priorities, allowing for meaningful comparisons that go beyond simple ranking.

4.4. Accounting for Subjectivity and Interpretive Dissensus

Because the rating process engages with over 600 elements, full objectivity is neither achievable nor desirable. Subjectivity is inherent in any normative evaluation and must be treated not as a flaw, but as an opportunity for reflexive analysis.

To navigate this, the monetary comparator includes a peer review system that invites users to comment, contest, or propose changes to the ratings and their justifications. This mechanism allows for collaborative revisions and collective learning over time.

Some items remain inherently ambiguous or contentious. For example, in the French context, tensions exist within the local currency movement regarding the role of public authorities. Although some technical arrangements may appear equivalent, they are evaluated differently depending on whether state involvement is perceived as legitimate support or as compromising autonomy. Our tool accommodates this divergence through flexible parameters: users can suggest changes, propose alternative interpretations, or even introduce new elements to reflect emerging concerns.

This openness is not limited to ratings alone. The structure of the topology itself—its themes, characteristics, and elements—can be revised. This ensures that the framework evolves alongside the debates it helps to illuminate.

To reinforce transparency, we encourage contributors to attach a reflexive commentary to their evaluations. These annotations document the points of interpretive dissensus and clarify the values or assumptions underlying specific ratings.

In this way, our monetary topology becomes not only a tool for structured comparison, but also a participatory space where normative tensions are made visible, discussable, and potentially productive.

5. COMPARATIVE ANALYSIS

This section presents a comparative analysis between two distinct monetary systems recorded in the comparator: the Complementary Currency for the Common Good and the Free Currency Ğ1 (June). While the comparator allows comparison of any number of systems—at project, pilot, or operational stage—we have opted for a two-case comparison here to maximize clarity. (cf. appendix I for text comparison, cf. appendix II for detailed comparison)

5.1. Complementary Currency for the Common Good

Website: <http://lhed.fr>

Creation date: 2000-01-01

Author: Philippe Derudder

Organization: L'Homme en devenir

Status: Ongoing project (as of 2024-01-01)

Objective: To develop a debt-free complementary currency to finance collective interest activities. (P.Derudder - 2017)

This system proposes a fundamental reconfiguration of monetary logic, aiming to align individual interests with collective needs by moving away from a paradigm based on debt and profitability. In the conventional model, money is created primarily to support market-based, profit-driven activities, while common goods—such as health, education, and ecological transition—are funded through public debt or taxation. In contrast, this system introduces a debt-free complementary currency designed to finance eco-social

projects directly. Issuance is governed by deliberative citizen assemblies, which evaluate and direct monetary flows toward collectively validated initiatives. The broader objective is to enable dignified sufficiency for all, while ensuring that consumption and production respect planetary boundaries.

5.2. The Free Currency Ğ1 (June)

Website: <https://monnaie-libre.fr/>

Authors: Stéphane Laborde (TRM) and the Duniter community (S.Laborde)

Status: Live experiment

The Ğ1 (June) is based on the theory of Relative Money (TRM), which posits that monetary equity must be rooted in temporal and spatial symmetry. It implements this principle through a "universal dividend" mechanism, whereby every participant co-creates the currency at a constant rhythm, ensuring equal monetary issuance across generations and locations. This peer-certified system avoids the concentration of monetary power by decentralizing issuance through a blockchain-based infrastructure. The result is a self-governed, non-convertible currency that derives its value from the goods and services exchanged within the community. Participation is open to all individuals who commit to the principles of the system and who receive certification from existing members. Ğ1 is thus both an experiment in economic justice and an ongoing collective construction of a new form of monetary legitimacy. The Ğ1 (June) implements a free monetary protocol through a universal dividend mechanism, which distributes monetary creation equally over time and space. This model ensures neutrality across generations and geography. Participation is open and decentralized, contingent only on community certification.

5.3. Systematic Inventory of Selected Elements

Before proceeding to the comparative evaluation, a systematic inventory of both monetary systems—coded M3 for the Complementary Currency for the Common Good and M7 for the Free Currency Ğ1 (June)—is provided in Appendices I and II. This inventory consolidates, by theme and characteristic, the specific elements that define the architecture of each system. It serves as the empirical foundation for the subsequent analytical comparison.

5.4. Thematic Comparison

The analysis of thematic characteristics aims to identify the specific structural features and underlying logic of each monetary system. By examining how scores are distributed across themes and evaluative axes, we gain insight into the internal configuration of each project. The following table supports a horizontal reading, enabling direct comparison of thematic strengths and weaknesses between the two systems.

Table 2. Comparative radar chart of thematic orientations for M3 and M7 systems : Analysis by theme

Theme	Monnaie complémentaire de bien commun				Monnaie libre Ğ1 (June)			
								
0 - General	45,83 %	58.33 %	50.00 %	51.39 %	81.67 %	62.92 %	73.33 %	72.64 %
1 - Legislator	41.42 %	65.09 %	63.48 %	56.66 %	39.31 %	61.07 %	68.84 %	56.41 %
2 - Monetary institution	34,24 %	63.57 %	54.86 %	50.89 %	17.61 %	74.86 %	90.32 %	60.93 %
3 - Rules issue / remission	30.33 %	48.18 %	43.55 %	40.69 %	29.70 %	37.35 %	41.67 %	36.24 %
4 - Rules of use	41.02 %	39.39 %	74.49 %	51.64 %	62.23 %	26.52 %	47.73 %	45.49 %
5 - Coinage	66.12 %	36.67 %	64.45 %	55.75 %	43.68 %	71.33 %	72.01 %	62.34 %
6 - How it works	46.37 %	63.69 %	62.81 %	57.62 %	39.91 %	25.03 %	44.77 %	36.57 %
7 - Expected / observed consequences	53.33 %	41.67 %	66.67 %	53.89 %	52.38 %	27.78 %	91.97 %	57.28 %
\bar{x} Theme of 1 to 6	43.25 %	52.76 %	60.61 %	52.21 %	38.74 %	49.36 %	60.89 %	49.66 %

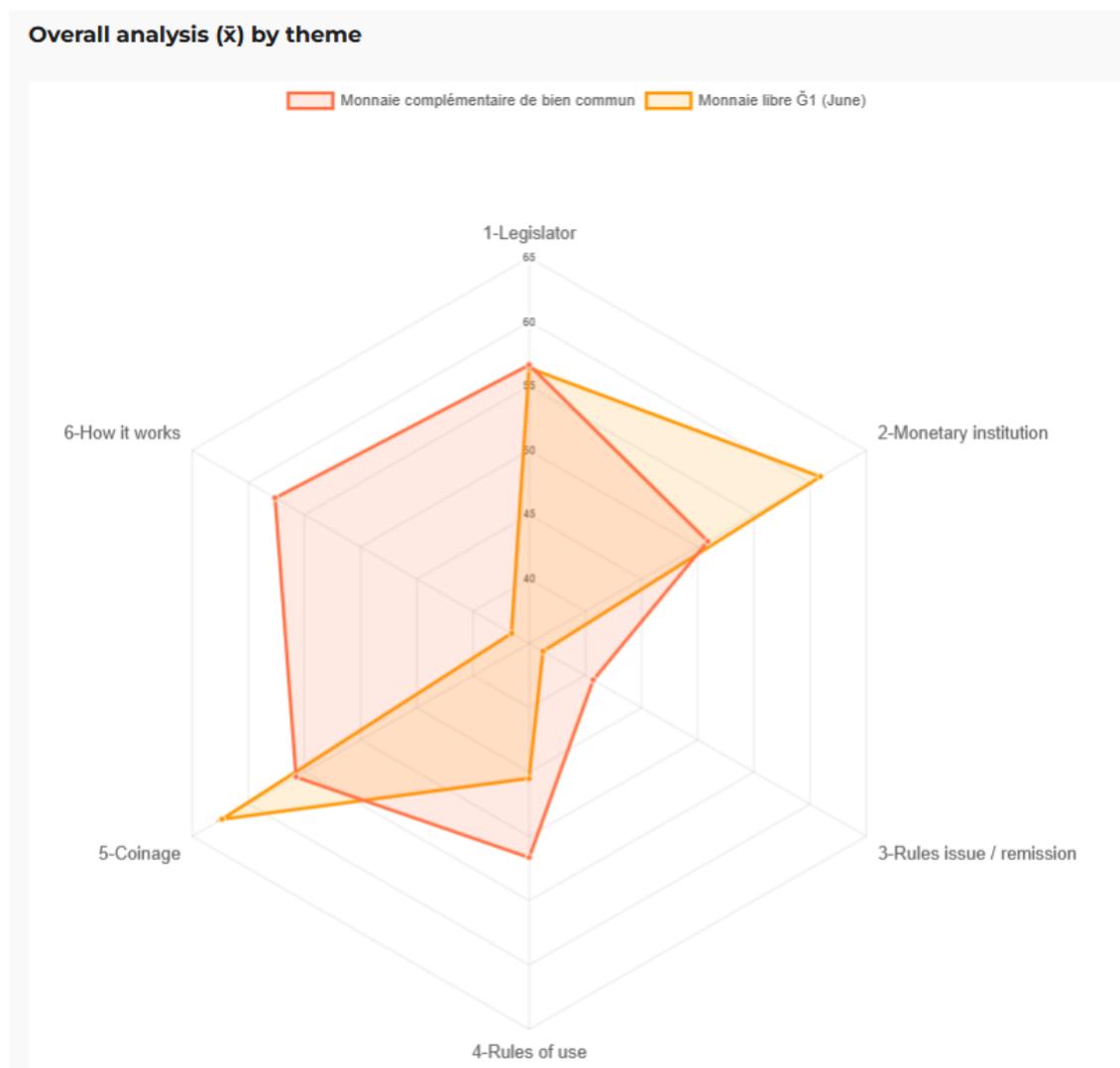
Source: https://economistes.org/money_comparator/

Some themes reveal notable divergences, with score differences exceeding 10 percentage points between the two systems. These variations reflect fundamental design differences. For example, in Theme 2 (Monetary Institution), the score on the social axis reaches 90.32% for the Free Currency Ğ1 (M7), compared to 54.86% for the Complementary Currency for the Common Good (M3). This 35-point gap stems from differing institutional logics: while M7 emphasizes decentralized trust embedded in its blockchain-based protocol, M3 is anchored in a citizen-oriented public institution model. These distinctions, which structure the normative intent and technical setup of each system, are fully documented in the comparator's detailed interface, both in textual annotations and graphical comparisons.

Rather than examining every theme numerically, we rely here on the comparative graphs below to provide a visual synthesis of each system's orientation. These allow us to identify, at a glance, the themes where divergences are most pronounced, and those where convergence occurs. For example, we observe that the Free Currency Ğ1 (June) excels in the theme of monetary institution, while the Complementary Currency for the Common Good demonstrates greater emphasis on the themes of issuance rules, usage rules, and overall functioning. These distinctions reflect fundamental choices in institutional design and normative priorities.

A more granular breakdown of each theme and characteristic is available in Appendix II for readers seeking a detailed analytical comparison. (The dynamic scale of the radar graph emphasize the difference of the projects compared)

Figure 1: Overall analysis by theme



Source: https://econologistes.org/money_comparator/

5.5. System Orientations by Axis

The systems exhibit distinct orientations when aggregated by axis. These aggregated results are drawn from a vertical reading of the normalized scores presented in Table 1, with their totals summarized in Table 2 below:

Table 3. Monetary project(s)

Monetary System	Economic	Ecological	Social	Average Orientation
Complementary Currency for the Common Good (M3)	43.25%	52.76%	60.61%	52.21%
Free Currency Ğ1 (June) (M7)	38.74%	49.36%	60.89%	49.66%

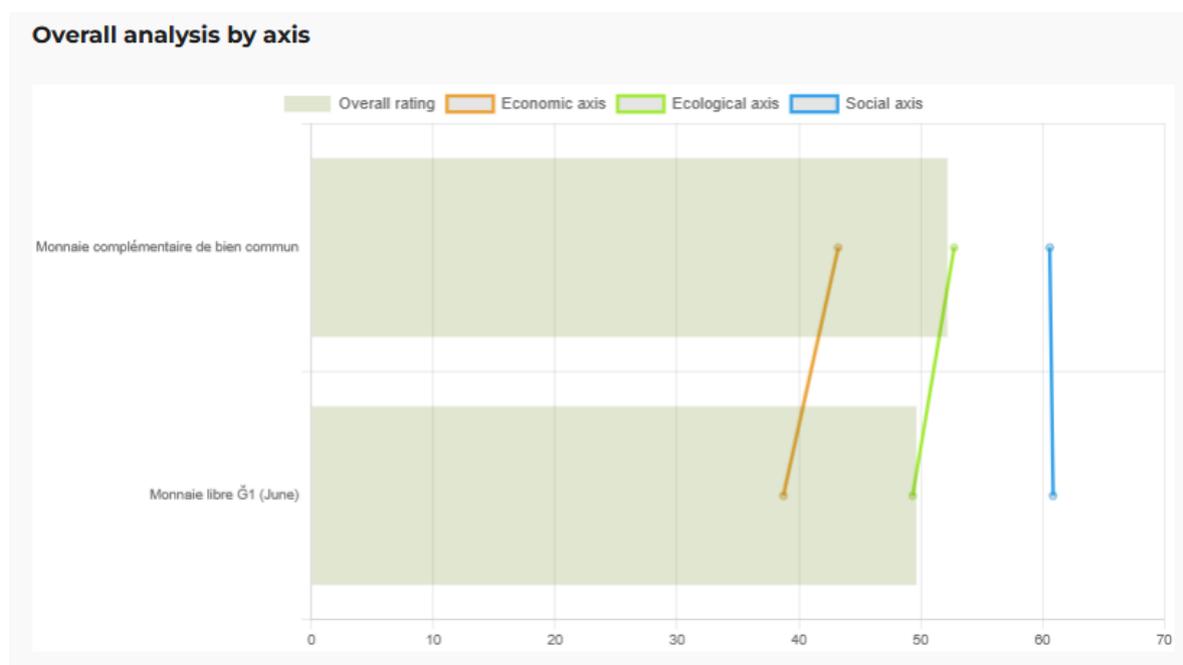
Source: https://economistes.org/money_comparator/

In terms of overarching priorities and normative orientation, both systems demonstrate a pronounced emphasis on the social axis, though with different conceptual underpinnings. The Complementary Currency for the Common Good prioritizes ecological preservation and social utility through a logic of public, deliberative allocation of monetary resources. Its structure reflects a desire to link monetary issuance to collective needs and to reinforce the economy of the common good.

Conversely, the Free Currency Ğ1 (June) places stronger emphasis on monetary equality and autonomy. Its orientation toward social equity is reflected in its daily co-creation model—based on the principle of a universal dividend—and in its technological architecture, which ensures temporal and spatial fairness in access to monetary issuance. This social prioritization is followed in both systems by ecological concerns, then by economic impact, though M3 maintains slightly higher scores in these two latter domains.

Both systems prioritize the social axis, but differ in implementation. M3 emphasizes public legitimacy and ecological targeting, while M7 relies on cryptographic trust and community self-certification.

Figure 2. Overall analysis by axis



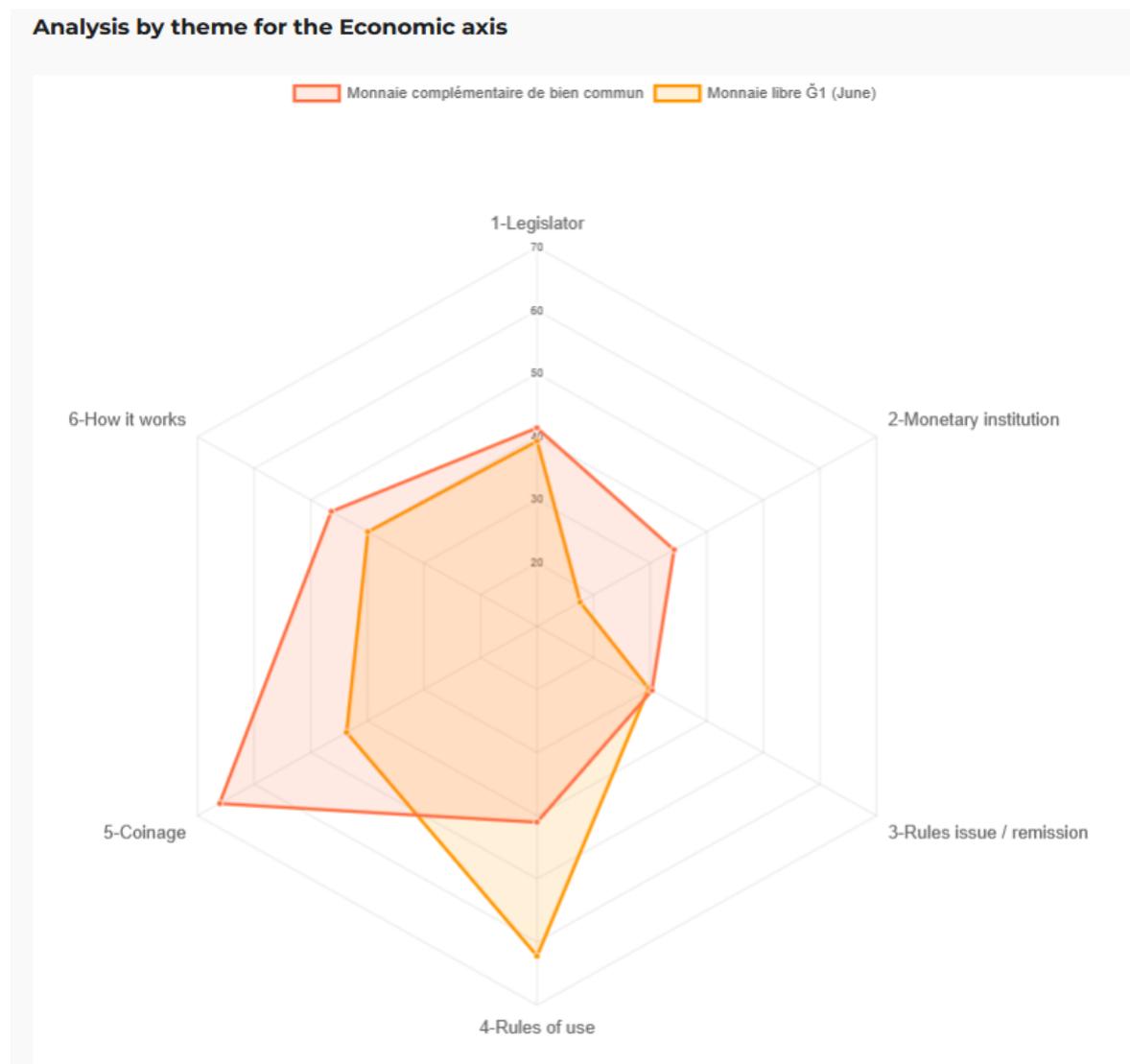
Source: https://economistes.org/money_comparator/

5.5.1. Economic axis

The analysis of the economic axis reveals nuanced differences between the two systems, particularly in the themes of issuance and usage. The Complementary Currency for the Common Good (M3) obtains a higher score in coinage due to its model based on project-specific monetary creation by a public authority. This structure builds trust through institutional backing and supports the allocation of money in alignment with collectively validated objectives.

In contrast, the Free Currency Ğ1 (June) (M7) scores more highly in the theme of usage rules, reflecting its universal applicability and accessibility. Although non-convertible, its valuation emerges from internal mechanisms of supply and demand, as expressed in exchanges of goods and services denominated in Ğ1. Its broad usability enhances its economic role despite its lack of institutional backing. The difference in economic orientation thus stems from divergent issuance logics and valuation mechanisms.

Figure 3. Analysis by theme for the Economic axis



Source : https://econologistes.org/money_comparator/

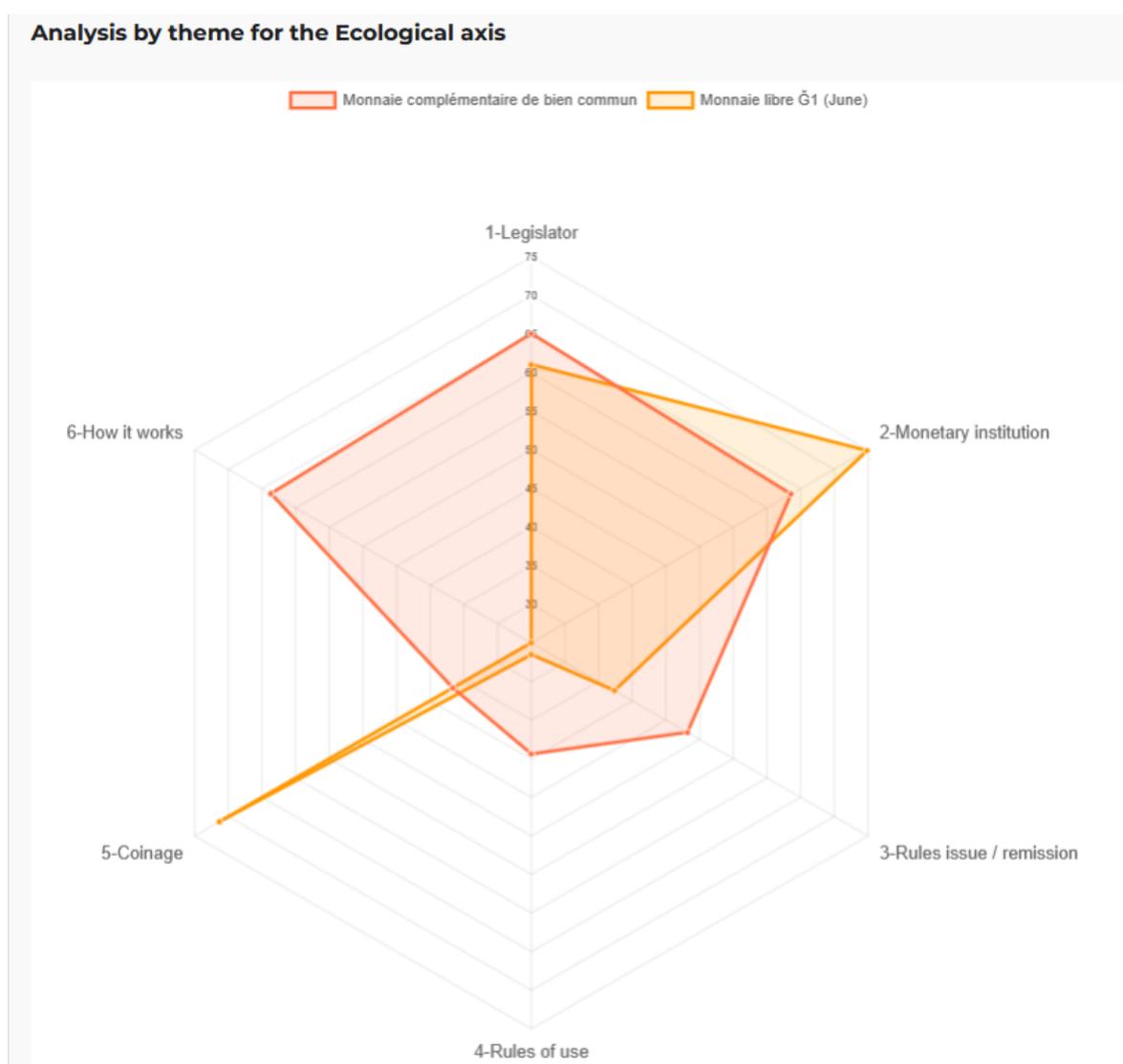
5.5.2. Ecological Axis

The analysis of the ecological axis reveals more pronounced differences between the two systems. The Free Currency Ğ1 (June) achieves its strongest ecological scores in the themes of monetary institution and currency issuance, reflecting its open-source architecture, decentralized governance, and the transparency embedded in its technical infrastructure. These attributes contribute to reduced material usage and greater energy efficiency in monetary management.

Conversely, the Complementary Currency for the Common Good (M3) scores more highly in legislative design, issuance/remittance rules, and operational functioning. Its ecological profile is shaped by its explicit targeting of sustainability in project selection and by the diversity of its monetary supports—physical, scriptural, and electronic—which are adapted to context-specific needs. The system’s orientation integrates ecological concerns through both its governance mechanisms and its material design.

These differences illustrate two distinct ecological strategies: M7 leverages digital decentralization and algorithmic trust, while M3 anchors its ecological relevance in deliberative governance and the direct financing of sustainable initiatives.

Figure 4. Analysis by theme for the Ecological axis



Source: https://econologistes.org/money_comparator/

5.5.3. Social Axis

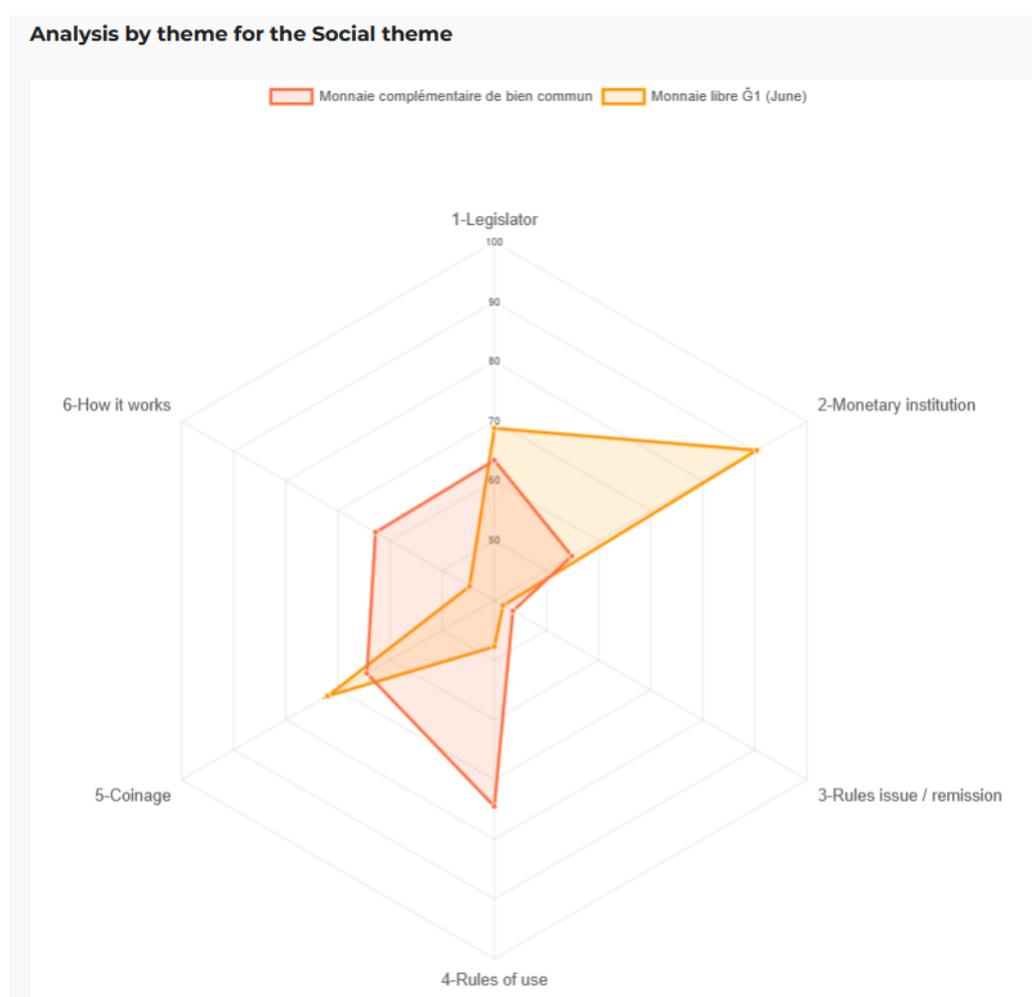
The systems display distinct social orientations rooted in their institutional frameworks and use cases. The Free Currency Ğ1 (June) obtains its highest social score under the theme of monetary institution, driven by its egalitarian issuance model based on peer certification and universal participation. This model embodies a commitment to horizontal governance and equal access to monetary creation, independent of institutional gatekeeping.

In contrast, the Complementary Currency for the Common Good (M3) achieves its strongest social performance in the theme of usage rules. Its design emphasizes targeted allocation toward collective eco-social objectives, and its usability is framed by deliberative processes and public legitimacy. Unlike M7, which is designed for universal and regional use, M3 aspires to national reach but for specific social and ecological purposes.

Another point of divergence lies in the treatment of anonymity. M3 allows for conditional anonymity, revocable by the account holder, thereby protecting privacy while enabling accountability. M7, by contrast, does not provide explicit anonymity guarantees, relying instead on transparency and traceability embedded in its technical infrastructure.

These differences underscore how each system mobilizes distinct social values—one privileging structural equality through decentralized certification, the other foregrounding social utility through institutional anchoring and purposeful allocation.

Figure 5. Analysis by theme for the Social axis



Source: https://economistes.org/money_comparator/

Looking at the overall thematic analysis, we observe clear patterns of divergence and convergence between the two systems. The Free Currency Ğ1 (June) stands out for its performance in themes related to the monetary institution, particularly due to the strong emphasis it places on trust through decentralized governance and technological security. Its digital infrastructure provides a high degree of protection against counterfeiting and reinforces transparency.

In contrast, the Complementary Currency for the Common Good distinguishes itself in themes such as issuance and remittance rules, usage conditions, and operational modalities. Its issuance is tied to the relevance of funded activities with respect to the common good, and its structure reflects a normative ambition to prioritize societal benefit over market-driven logic.

These results highlight how monetary design choices—whether technical, institutional, or ideological—translate into differentiated profiles when examined through the lens of monetary topology.

Overall, this analysis illustrates how the same comparator can reveal profound structural and ideological distinctions between monetary innovations.

6. GENERAL CONCLUSION

This article has presented a topological framework for the comparative analysis of monetary systems, grounded in a hierarchical structure of themes, characteristics, and elements assessed across three evaluative axes: economic, ecological, and social. Drawing on previous typological attempts while acknowledging their limitations, we have opted for a bottom-up, descriptive methodology—one that does not impose fixed categories but instead enables *ex post* comparison based on the observable architecture and normative orientation of each system.

To operationalize this approach, we have developed the monetary comparator, a digital tool that allows for the systematic encoding of monetary systems. Each system can be evaluated in terms of its structure and impact, with scores normalized across the three axes and visualized using radar charts. Through this structure, we introduce the notion of *monetary topology*—a dynamic and evolutive cartography of monetary experiments, as opposed to static typologies.

The comparative analysis between the Complementary Currency for the Common Good (M3) and the Free Currency Ğ1 (June) (M7) illustrates the power of this approach. M3 emerges as a nationally scoped currency designed to finance specific eco-social objectives, relying on public institutional legitimacy and offering flexible forms of monetary support. In contrast, M7 is a decentralized, community-based cryptocurrency structured around a universal dividend and peer-certification process. While M3 places emphasis on targeted public interest and institutional trust, M7 advances a model of monetary equality based on autonomous, distributed governance.

Our framework has also been designed to address one of the core challenges in comparative evaluation: **subjectivity and dissensus**. The peer review mechanism embedded in the comparator allows for iterative revision and collective discussion, making room for interpretive divergence and reflexive dialogue. Disagreements between evaluators—whether technical or ideological—are not seen as obstacles but as constitutive elements of the analytical process.

This work remains open and evolving. Future developments will include refinements of existing themes and elements, as well as the integration of new dimensions as suggested by users and analysts. In particular, we plan to distinguish more explicitly within Theme 3 (Issuance/Redemption Rules) between (1) the counterpart to monetary issuance (e.g., loan-based, service-based, or unconditional) and (2) the degree of decentralization in issuance (e.g., centralized authority, federated institution, or distributed issuance among members). These additions will enrich the analytical resolution of the tool and further support the participatory mapping of monetary diversity.

We invite researchers, practitioners, and system designers to contribute to this collective endeavor by testing, challenging, and expanding the monetary comparator. By doing so, we hope to foster a more

democratic, transparent, and intellectually robust approach to understanding the diverse forms and functions of money in the 21st century. Nevertheless, this analytical scope excludes non-monetary clearing arrangements, focusing only on monetary and token systems.

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APPENDIX A

Comparison of selected elements

Themes and characteristics	Elements	Elements
 0 - General	M3 - The Complementary Currency for the Common Good	M7 - The Free Currency Ğ1 (June)
0.1 - Progress	<ul style="list-style-type: none"> • Theory • Peer-reviewed theory • Under development 	<ul style="list-style-type: none"> • Theory • Peer-reviewed theory • POC: Proof of Concept. • Under development • Alpha deployment on a selected group of users • Public deployment
0.2 - Number of users	<ul style="list-style-type: none"> • Not deployed : no users 	<ul style="list-style-type: none"> • Restricted : several thousand users
0.3 Implementation	<ul style="list-style-type: none"> • Demands an in-depth transformation of the system and people. 	<ul style="list-style-type: none"> • Existing and already in place.
0.4 - Acceptability	<ul style="list-style-type: none"> • Necessary but not necessarily desired by the whole population (question of survival or preservation of endangered human or non-human populations) 	<ul style="list-style-type: none"> • Acceptable (With improvements that do not greatly disrupt the current economic system)
 1 - Legislator	M3 - The Complementary Currency for the Common Good	M7 - The Free Currency Ğ1 (June)
1.1 - The legislator	<ul style="list-style-type: none"> • A country's public authority. 	<ul style="list-style-type: none"> • Grouping of human beings hyperlocal: de facto association, University...
1.2 - Governance	<ul style="list-style-type: none"> • Direct democracy or participatory democracy 	<ul style="list-style-type: none"> • Organic (DAO)

1.3 - General objectives	<ul style="list-style-type: none"> ● Financing special projects of a social / environmental / health / cultural / ... nature ● Development of a complementary banking and payment system 	<ul style="list-style-type: none"> ● Financing the economy in general ● Development of a complementary banking and payment system
1.4 - Monetary Creation goal	<ul style="list-style-type: none"> ● Public service objectives: education, health, justice, etc. ● Common good objectives: ecology, biodiversity, water, ... 	<ul style="list-style-type: none"> ● Personal well-being goals: knowledge, know-how, health, culture, mutual aid (intangible) ● Economic objectives: business investment, economic development
1.5 - Legitimacy	<ul style="list-style-type: none"> ● Institutional legitimacy validated by a national legal process 	<ul style="list-style-type: none"> ● Legitimacy purely social and civic, de facto legitimacy
1.6 - Trust attributes	<ul style="list-style-type: none"> ● Ethical trust: trust in the presumed ethics of the legislator underpins trust in the monetary system 	<ul style="list-style-type: none"> ● Technico-human trust: trust in the complementarity of man helped by machine
 2 - Monetary Institution	M3 - The Complementary Currency for the Common Good	M7 - The Free Currency Ğ1 (June)
2.1 - Legal form	<ul style="list-style-type: none"> ● Central public authority : central bank state monetary institution 	<ul style="list-style-type: none"> ● Any member of the monetary system: member of the Mutual Credit Association, beneficiary of a service in a time banking system (SEL, Accorderies, Time Banking)
2.2 - Centralization	<ul style="list-style-type: none"> ● Centralized: Issued by a single entity in a given territory 	<ul style="list-style-type: none"> ● Decentralized: Issuance by several entities on the territory
2.3 - Financial interest	<ul style="list-style-type: none"> ● non-profit and general interest. 	<ul style="list-style-type: none"> ● non-profit but of interest to members only
2.4 - Governance	<ul style="list-style-type: none"> ● Democratic: participation, user representation, representation of social bodies, interactions with the authority mandated upstream of the monetary institution. 	<ul style="list-style-type: none"> ● Cooperative and systemic: through systematic improvement of contractual rules defined by collaborative processes (sociocracy, holacracy, etc.).

2.5 - Confidence-building arguments	<ul style="list-style-type: none"> ● Legal and institutional (public body) 	<ul style="list-style-type: none"> ● Democratic. ● Social: social integration and stability. Well-being and individual progress ● Techniques related to media and payment systems (anti-fraud, protocols, algorithms, etc.) ● Systemic : relating to a system recognized as relevant as a whole
 <p>3 - Rules issue / remission</p>	M3 - The Complementary Currency for the Common Good	M7 - The Free Currency Ğ1 (June)
3.1 - Type of issue	<ul style="list-style-type: none"> ● Monetary donation / sui generis creation 	<ul style="list-style-type: none"> ● Monetary donation / sui generis creation
3.2 - Issue condition	<ul style="list-style-type: none"> ● Conditions of use / assignment : solvency, majority, being a natural person, etc... ● Conditions related to the counterparty : solvency, majority... ● Location criteria: local or territorial currency ● Systematic: linked to the system being used 	<ul style="list-style-type: none"> ● Systematic: linked to the system being used
3.3 - Currency orientation tools	<ul style="list-style-type: none"> ● actions on money supply - direct project financing. ● creation of monetary substitutes (local currency, arrow currencies, etc.) 	<ul style="list-style-type: none"> ● actions on the money supply - Giving to individuals (money helicopter)
3.4 - Initial beneficiary	<ul style="list-style-type: none"> ● Regional public authority or local authority 	<ul style="list-style-type: none"> ● Any natural person in the monetary system
3.5 - Terms of the initial issue	<ul style="list-style-type: none"> ● One-off issue following a democratic decision by the regulator 	<ul style="list-style-type: none"> ● Specified flow issuance (conditions laid down by law) and verified by an algorithm (example: smartcontracts)
3.6 - Sovereignty / monetary dependence	<ul style="list-style-type: none"> ● complementary currency with legal tender & fixed exchange rate 	<ul style="list-style-type: none"> ● alternative currency: not linked to sovereign money (low or zero hedge rate, mutual credit or a non-monetary criterion: time)

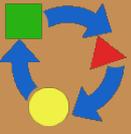
3.7 - Type of coverage	<ul style="list-style-type: none"> ● Intangible counterpart : work, service, socially or ecologically beneficial... 	<ul style="list-style-type: none"> ● cash without counterpart.
3.8 - Monetary function	<ul style="list-style-type: none"> ● Payment method only (MP). ● Corporate governance means (arrow money) 	<ul style="list-style-type: none"> ● Reserve of value with interest (RVi) ● Interest-free value reserve (RV). ● Unit of account (UA). ● Payment method only (MP).
3.9 - Main financing function	<ul style="list-style-type: none"> ● Payment function. 	<ul style="list-style-type: none"> ● Payment function.
3.10 - Monetary destruction	<ul style="list-style-type: none"> ● Political decision: Retraction of money by public authority via taxation 	<ul style="list-style-type: none"> ● No intentional monetary destruction.
3.11 - Trust	<ul style="list-style-type: none"> ● Changing rules known to all 	<ul style="list-style-type: none"> ● Permanent rules known to all
3.12 - Position in the monetary hierarchy	<ul style="list-style-type: none"> ● Non-convertible currency or partially convertible into sovereign currency 	<ul style="list-style-type: none"> ● Non-convertible currency or partially convertible into sovereign currency

 <p>4 - Rules of use</p>	M3 - The Complementary Currency for the Common Good	M7 - The Free Currency Ğ1 (June)
4.1 - Conditions of use	<ul style="list-style-type: none"> ● Special-purpose money: social assistance, usable in certain stores, reserved for certain products (ecocheques), certain services (service vouchers, airline miles, luncheon vouchers) or earmarked money. 	<ul style="list-style-type: none"> ● Complete universal use currency: can be used to purchase all types of goods and services sovereign currency (including JEU: Jardin d'Echange Universel : Universal Garden Exchange, ...)
4.2 - Convertibility	<ul style="list-style-type: none"> ● Inconvertibility with a sovereign currency. 	<ul style="list-style-type: none"> ● Inconvertibility with a sovereign currency.

4.3 - Extrinsic valuation	<ul style="list-style-type: none"> ● No extrinsic valuation. 	<ul style="list-style-type: none"> ● Market value (supply/demand) : variable exchange rate
4.4 - Spatial restriction	<ul style="list-style-type: none"> ● National : national currency (Franc, Dollar) 	<ul style="list-style-type: none"> ● Regional: regional currency (Eusko)
4.5 - Time restriction	<ul style="list-style-type: none"> ● Permanent currency whose duration is theoretically unlimited: Bitcoin, Currency created by donating or exchanging currencies (currencies that do not have an endogenous destruction mechanism) 	<ul style="list-style-type: none"> ● Permanent currency whose duration is physically unlimited : Gold, Silver, Platinum, ...
4.6 - Social restrictions	<ul style="list-style-type: none"> ● currency used by all social groups. 	<ul style="list-style-type: none"> ● internal currency of a social group or community.
4.7 - Anonymity on holding (excluding account holder)	<ul style="list-style-type: none"> ● Anonymous vis-à-vis all third parties, except account holders (bank). 	<ul style="list-style-type: none"> ● No anonymity
4.8 - Transaction anonymity	<ul style="list-style-type: none"> ● Transaction traceable but anonymous to all third parties 	<ul style="list-style-type: none"> ● Transaction traceable but anonymous to all third parties
4.9 - Interest income	<ul style="list-style-type: none"> ● interest-free money: strictly a payment instrument 	<ul style="list-style-type: none"> ● interest-free money: strictly a payment instrument
4.10 - Transaction conditions	<ul style="list-style-type: none"> ● no special constraints. 	<ul style="list-style-type: none"> ● no special constraints.
 <p>5 - Coinage</p>	<p>M3 - The Complementary Currency for the Common Good</p>	<p>M7 - The Free Currency Ğ1 (June)</p>
5.1 - Hardware support	<ul style="list-style-type: none"> ● currency (banknotes) ● scriptural money (writing in a digital or real account book: paper) ● electronic money (digital ledger entry) 	<ul style="list-style-type: none"> ● electronic money (digital ledger entry)

5.2 - Type of certification	<ul style="list-style-type: none"> ● Certified by the issuer - internal process. 	<ul style="list-style-type: none"> ● Certified by a certifying algorithm: the system
5.3 - Legal form of certifier	<ul style="list-style-type: none"> ● Public body: central bank, state, royal mint, local authority 	<ul style="list-style-type: none"> ● Open algorithm (open source / non-proprietary): Bitcoin, Eth...
5.4 - Attribute of methodical confidence	<ul style="list-style-type: none"> ● Characteristics of the monetary support. 	<ul style="list-style-type: none"> ● Storage medium characteristics.
5.5 - Intrinsic value	<ul style="list-style-type: none"> ● Symbolic value: fiat currency 	<ul style="list-style-type: none"> ● Symbolic value: fiat currency
5.6 - Storage and holding	<ul style="list-style-type: none"> ● Mixed 	<ul style="list-style-type: none"> ● Decentralized
5.7 - Transaction technology supports	<ul style="list-style-type: none"> ● Technological 	<ul style="list-style-type: none"> ● Technological
5.8 - Guaranteed transaction anonymity	<ul style="list-style-type: none"> ● Guaranteed by the anonymous monetary medium (banknotes and coins) 	<ul style="list-style-type: none"> ● Guaranteed by technical data anonymization (total or partial)
5.9 - End of transaction guarantee	<ul style="list-style-type: none"> ● Guaranteed by the detaining authorities of the 2 parties. 	<ul style="list-style-type: none"> ● Guaranteed by the transaction system or technical foundation
5.10 - Inflation / deflation	<ul style="list-style-type: none"> ● Neutral (or dynamically adjustable) 	<ul style="list-style-type: none"> ● relative currency.
5.11 - Transaction validation method	<ul style="list-style-type: none"> ● centralized validation (by a single operator or authority), 	<ul style="list-style-type: none"> ● Public permissionless consensus

 <p>6 - How it works</p>	<p>M3 - The Complementary Currency for the Common Good</p>	<p>M7 - The Free Currency Ğ1 (June)</p>
<p>6.1 - Payment system costs</p>	<ul style="list-style-type: none"> ● Printing documents. ● Employees ● Terminal, phone, tablet, PC 	<ul style="list-style-type: none"> ● Network infrastructure ● Terminal, phone, tablet, PC
<p>6.2 - Direct energy impact</p>	<ul style="list-style-type: none"> ● Printing documents. ● Employees 	<ul style="list-style-type: none"> ● Network infrastructure ● Terminal, phone, tablet, PC
<p>6.3 - Circulation velocity of money</p>	<ul style="list-style-type: none"> ● V = at 1: Available currency in line with needs over a given period 	
<p>6.4 - Type of volume</p>	<ul style="list-style-type: none"> ● Variable volume according to internal rules 	<ul style="list-style-type: none"> ● Volume at constant growth (June)
<p>6.5 - Volume evaluation method</p>	<ul style="list-style-type: none"> ● Central bank / balance : banking system 	<ul style="list-style-type: none"> ● Ledger balance (global ledger balance)
<p>6.6 - Volume assessment</p>	<ul style="list-style-type: none"> ● Volume / GDP ● Volume / inhabitant (contributor) ● Other 	<ul style="list-style-type: none"> ● Volume / inhabitant (contributor)
<p>6.7 - Trust</p>	<ul style="list-style-type: none"> ● confidence in use (widespread use) 	<ul style="list-style-type: none"> ● confidence in use (widespread use)
<p>6.8 - Valuation</p>	<ul style="list-style-type: none"> ● fixed value (political decisions, limitation on available resources) 	<ul style="list-style-type: none"> ● Supply / demand (created by the market)
<p>6.9 - Transaction validation process</p>	<ul style="list-style-type: none"> ● Validation by a single central authority (state register : Central Bank Digital Currency, CBDC) 	<ul style="list-style-type: none"> ● Validation by distributed consensus on a public ledger (Ethereum PoS, Bitcoin PoW)

 <p>7 -</p> <p>Expected observed consequences /</p>	<p>M3 - The Complementary Currency for the Common Good</p>	<p>M7 - The Free Currency Ğ1 (June)</p>
<p>7.1 - Social consequences</p>	<ul style="list-style-type: none"> ● Positive impact. 	<ul style="list-style-type: none"> ● Positive impact.
<p>7.2 - Ecological consequences</p>	<ul style="list-style-type: none"> ● Positive impact. 	<ul style="list-style-type: none"> ● Minor Negative impact
<p>7.3 - Economic consequences</p>	<ul style="list-style-type: none"> ● Positive impact (growth) 	<ul style="list-style-type: none"> ● Minor Positive impact

APPENDIX B

Detailed comparison

M3 - Complementary Currency for the Common Good; M7 - Free Currency Ğ1 (June)

Theme	Caracteristic	Element				M3	M7
	0 - General						
	1 - Progress	1 - Theory	1	1	1		
- 0 -		2 - Peer-reviewed theory	1	1	1		
		3 - POC: Proof of Concept.	1	1	1		
		4 - Fund raising.	1	1	1		
		5 - Under development	1	1	1		
		6 - Currently accredited or official accreditation already issued	1	1	1		
		7 - Alpha Deployment on a selected group of users	1	1	1		
		8 - Public deployment	1	1	1		
		9 - Already massively deployed, if not completely	1	1	1		
	2 - Number of users	1 - Monopoly : several billion users	5	5	5		
- 0 -		2 - Common : several million users	4	4	4		
		3 - Restricted : several thousand users	3	3	3		

		4 - Limited : up to a thousand users	2	2	2	
		5 - Testers : less than one hundred users	1	1	1	
		6 - Not deployed : no users	0	0	0	
 <p>3 - Implementation</p> <p>- 0 -</p>		1 - Existing and already in place.	1	1	1	
		2 - Demands realistic improvements to the existing system.	1	1	1	
		3 - Requires major adaptations to the existing system.	1	1	1	
		4 - Exists already, but needs to be scaled up.	1	1	1	
		5 - Doesn't exist yet and requires scale-up.	1	1	1	
		6 - Demands an in-depth transformation of the system and people.	1	1	1	
		7 - Utopical or very cumbersome to implement.	1	1	1	
 <p>4 - Acceptability</p> <p>- 0 -</p>		1 - Unacceptable to civil society.	1	1	0	
		2 - Already accepted by the majority of the population (but not necessarily desired)	1	1	0	
		3 - Possible (with minor improvements to the current economic system)	2	2	2	
		4 - Acceptable (With improvements that do not greatly disrupt the current economic system)	2	1	2	
		5 - Desirable (With consequent improvements that engender profound changes in the current economic system) with disruption of the current system)	1	3	3	

		6 - Necessary but not necessarily desired by the whole population (question of survival or preservation of endangered human or non-human populations)	1	4	2	
		7 - Necessary and desired by the whole population (question of survival or preservation of endangered human or non-human population)	2	4	3	
Theme	Characteristic	Element				M3 M7
	1 - Legislator					
	1 - The legislator	1 - For-profit business group	8	0	1	
		2 - For-profit sole proprietorship.	7	0	2	
		3 - Public authority of an association of countries / Supranational organization.	5	1	3	
		4 - A country's public authority.	4	2	3	
		5 - Local public authority or regional public authority	3	3	3	
		6 - Civil Association local : formal association	1	4	4	
		7 - Grouping of human beings hyperlocal: de facto association, University...	1	4	4	
	2 - Governance	1 - Autocratic	1	1	1	
		2 - Technocratic	2	2	2	
		3 - Representative democracy	3	3	3	

 - 1 -	3 - General objectives	4 - Direct democracy or participatory democracy	3	3	3			
		5 - Organic (DAO)	3	3	3			
		6 - Anarchic	1	1	1			
		7 - Other	2	2	2			
		<hr/>						
		1 - Maintain inflation at a predefined level	8	0	1			
		2 - Financing the economy in general	7	0	2			
3 - Financing specific economic projects or specifics sectors of activity	6	1	2					
4 - Financing special projects of a social / environmental / health / cultural / ...	1	4	4					
5 - Development of a complementary banking and payment system	3	3	3					
6 - Developing an alternative to the banking and payment system	0	5	4					
<hr/>								
 - 1 -	4 - Monetary Creation goal	1 - Personal goals: private investments (real estate, vehicles), personal expenses: consumer goods (equipment)	7	0	2			
		2 - Personal well-being goals: knowledge, know-how, health, culture, mutual aid (intangible)	2	1	6			
		3 - Economic objectives: business investment, economic development	8	0	1			
		4 - Public infrastructure objectives: public investments (buildings, roads, bridges, etc.)	3	3	3			
		5 - Public service objectives: education, health, justice, etc.	0	3	6			

 - 1 -	6 - Common good objectives: ecology, biodiversity, water, ...	0	5	4		
	<hr/>					
	5 - Legitimacy	1 - Contractual legitimacy deriving from the status of the company or group of companies	7	1	1	
		2 - Institutional legitimacy validated by an international legal process (SDR, Euros)	6	1	2	
		3 - Institutional legitimacy validated by a national legal process (Franc)	5	1	3	
		4 - Regional or local institutional legitimacy	3	3	3	
		5 - Combining institutional and social legitimacy.	2	2	5	
		6 - Legitimacy purely social and civic , de facto legitimacy	0	3	6	
	7 - Legitimacy in human defense and/or biodiversity (UN, GreenPeace,...)	0	5	4		
	8 - Legitimacy linked to the reliable architecture of a system (e.g.: man helped by machine)	3	3	3		
<hr/>						
 - 1 -	6 - Trust attributes	1 - Hierarchical institutional trust: trust in the legislator stems from the force he uses to impose the monetary system he wants	9	0	0	
		2 - Contractual trust: trust in the legislator stems from the quality of the founding charter of the proposed monetary system. Contract is the basis of trust	3	3	3	
		3 - Democratic institutional confidence: confidence stems from the democratic legitimacy of the political authority that legislates on monetary matters. It inspires confidence through the democratic expression of its sovereignty.	2	1	6	

	4 - Symbolic confidence in the legislator through external attributes (natural resource potential, military strength, political, economic, social, economic or monetary stability, financial capacity, etc....)	7	1	1	
	5 - Ethical trust: trust in the presumed ethics of the legislator underpins trust in the monetary system	1	4	4	
	6 - Technico-human trust: trust in the complementarity of man helped by machine	3	3	3	

Theme	Characteristic	Element				M3	M7
	2 - Monetary institution						
	1 - Legal form	1 - International supranational organization: created by states that may or may not form a monetary union	3	3	3		
- 2 -		2 - Central public authority : central bank state monetary institution	3	3	3		
		3 - Decentralized public authority: administration reporting to a Region, local authority	3	3	3		
		4 - Private for-profit legal entity : Algorithms, commercial bank, check issuer (services, meals, culture, ecocheques, ...)	7	1	1		
		5 - Private non-profit legal entity : Local association, foundation, 1901 law association, NGO	3	3	3		
		6 - Any member of the monetary system: member of the Mutual Credit Association, beneficiary of a service in a time banking system (SEL, Accorderies, Time Banking)	0	2	7		

 - 2 -	2 - Centralization	1 - Centralized: Issued by a single entity in a given territory	7	1	1	
		2 - Mixed : Centralized / Decentralized	3	3	3	
		3 - Decentralized: Issuance by several entities on the territory	2	3	4	
 - 2 -	3 - Financial interest	1 - For-Profit.	8	0	1	
		2 - non-profit but of interest to members only	2	3	4	
		3 - non-profit and general interest.	0	5	4	
 - 2 -	4 - Governance	1 - Autocratic: leaders make decisions without a mandate	9	0	0	
		2 - Technocratic: executives acting in a discretionary and independent manner within the framework of a mandate	7	1	1	
		3 - Automatic: by automatic application of contractual rules: example: smartcontracts (user agreement)	3	3	3	
		4 - Democratic: participation, user representation, representation of social bodies, interactions with the authority mandated upstream of the monetary institution.	1	3	5	
		5 - Collaborative: participation of all stakeholders (direct decision-making, sociocracy...)	0	4	5	
		6 - Cooperative and systemic: through systematic improvement of contractual rules defined by collaborative processes (sociocracy, holacracy, etc.).	0	4	5	
		1 - Legal and institutional (public body)	5	2	2	

 - 2 -	5 - Confidence-building arguments	2 - Contractual : between private persons	5	1	3		
		3 - Democratic		3	3	3	
		4 - Symbolics : the power of the army, the king, religion, Gaia, etc...		3	3	3	
		5 - Economic : economic or monetary stability, financial capacity, exploitation of natural resources		5	1	3	
		6 - Social : social integration and stability. Well-being and individual progress		1	1	7	
		7 - Ethics : justice, morality, spirituality, learning, respect for individual rights and freedom, respect for life, etc...		1	4	4	
		9 - Techniques related to monetary support and payment systems (anti-fraud, protocols, algorithms, etc.)		3	3	3	
	10 - Systemic : relating to a system recognized as relevant as a whole		3	3	3		

Theme	Caracteristique	Element				M3	M7
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 - 3 -	3 - Rules issue / remission						
	1 - Type of issue	1 - Credit	8	0	1		
		2 - Monetary exchange	6	0	3		
		3 - Providing consideration.	5	1	3		
		4 - Mutual Credit	2	3	4		
		5 - Monetary donation / sui generis creation	2	3	4		



2 - Issue condition

1 - Financial conditions: collateral, interest rates	8	0	1		
2 - Conditions of use / assignment : solvency, majority, being a natural person, etc....	3	3	3		
3 - Conditions related to the counterparty : solvency, majority...	3	3	3		
4 - Location criteria: local or territorial currency	3	3	3		
5 - Systematic: linked to the system being used	3	3	3		



3 - Currency arrow tools

1 - regulatory and prudential actions (reserve requirements, various limitations)	7	0	2		
2 - interest rate actions - repurchase agreement	7	0	2		
3 - actions on the money supply - purchase and sale of government securities (QE: Quantitative Easing)	6	0	3		
4 - actions on the money supply - purchase/sale of private securities.	8	0	1		
5 - actions on money supply - direct project financing.	3	3	3		
6 - actions on money supply - Donations to public authorities	3	3	3		
7 - actions on the money supply - Giving to individuals (money helicopter)	4	0	5		
8 - creation of monetary substitutes (local currency, arrow currencies, etc.)	3	3	3		
9 - not concerned by fleaching.	7	0	2		
1 - Supranational public authority.	7	1	1		



- 3 -

4 - Initial beneficiary	2 - National public authority (Parliament, Government, Public Administration)	6	1	2	
	3 - Regional public authority or local authority	3	3	3	
	4 - Private for-profit legal entity (company)	8	0	1	
	5 - Private non-profit legal entity (ASBL)	0	5	4	
	6 - Any natural person in the monetary system	0	0	9	



- 3 -

5 - Terms of the initial issue	1 - One-off issue following a unilateral decision by the regulator	7	1	1	
	2 - One-off issue following a democratic decision by the regulator	5	2	2	
	3 - Issuance following the decision to purchase financial assets or real assets by the issuer	9	0	0	
	4 - Issuance following the delivery of a work or material resource or natural resource at the issuer's request	5	0	4	
	5 - Issue at the request of conversion of another currency	7	0	2	
	6 - Issuance at the request of borrowers by decision of the credit institution.	6	0	3	
	7 - Constant-flow issuance by a legislator-defined algorithm (without conditionality)	4	1	4	
	8 - Specified flow issuance (conditions laid down by law) and verified by an algorithm (example: smartcontracts)	5	0	4	



- 3 -

	9 - Issuance following the marketing of a physical quantity (time, natural resources, etc.).	1	4	4	
6 - Sovereignty / monetary dependence	1 - monnaie souveraine avec couverture en garantie (obligation ?)	7	0	2	
	2 - supranational sovereign currency with legal tender	6	0	3	
	3 - national sovereign currency with legal status	5	1	3	
	4 - complementary currency with legal tender & fixed exchange rate	3	3	3	
	5 - complementary currency with reserve (cover) in sovereign currency 1:1 (monetary substitute 1:1)	5	2	2	
	6 - additional currency with reserve ratio (coverage ratio) in sovereign currency set below 1 to 1 (currency substitute 1<1)	3	3	3	
	7 - additional currency with free reserve rate and fixed exchange rate.	2	3	4	
	8 - additional currency with free reserve rate and free exchange rate.	1	1	1	
	10 - alternative currency : not linked to sovereign money (low or zero hedge rate, mutual credit or a non-monetary criterion: time)	1	3	5	
	7 - Type of coverage	1 - cash without consideration.	2	2	2
2 - Metal counterpart : Gold or silver		3	3	3	
3 - Real consideration in other real, tangible goods: land, non-renewable resources, etc.		3	3	3	
4 - Financial counterpart in a sovereign currency or a basket of currencies		9	0	0	

- 3 -

		5 - Financial counterpart in public debt and other government debt	8	0	1		
		6 - Intangible consideration: work, service, socially or ecologically beneficial...	0	4	5		
 8 - Monetary function - 3 -		1 - Reserve of value with interest (RVi)	6	0	3		
		2 - Interest-free value reserve (RV)	5	2	2		
		3 - Unit of account (UA).	3	3	3		
		4 - Payment method only (MP).	3	3	3		
		5 - Corporate governance means (arrow money)	0	5	4		
 9 - Main financing function - 3 -		1 - Financing the economy (FEC)	9	0	0		
		2 - Financing state action or projects (FET)	4	2	3		
		3 - Financing ecological restoration (FRE)	0	8	1		
		4 - Financing social catering (FRS)	0	2	7		
		5 - Payment function.	5	0	4		
 10 - Monetary destruction - 3 -		1 - Reciprocity: Debt repayment (debit, zero-sum currency, mutual credit)	6	0	3		
		2 - Reciprocity: Counter-giving (Marcel Mauss's theory), counter-provision	1	2	6		
		3 - Policy decision: Monetary meltdown, negative interest, programmed monetary depreciation	1	4	4		

		4 - Political decision: Retraction of money by public authority via taxation	5	0	4	
		5 - Political decision: Withdrawal from monetary circulation by another decision (e.g. compulsory conversion into a new currency)	5	0	4	
		6 - Reconversion : Conversion based on a exchange rate .	3	3	3	
		7 - Reconversion into another currency with redemption fixed a priori (fees)	2	3	4	
		8 - Other: Non-convertible currency (time currency, complementary currency not convertible into domestic currency)	0	2	7	
		9 - No intentional monetary destruction .	5	2	2	
 11 - Trust - 3 -		1 - Changing rules unknown to all (over-the-counter or mafia-style monetary system)	9	0	0	
		2 - Permanent rules unknown to all	9	0	0	
		3 - Changing rules known to all	7	1	1	
		4 - Permanent rules known to all	3	3	3	
 12 - Position in the monetary hierarchy - 3 -		1 - Ultimate reserve currency : US Dollars, Rouble, Yuan, BitCoin, etc.	9	0	0	
		2 - Sovereign currency : Euros, Yen, etc.	6	0	3	
		3 - Complementary or supplementary currency: convertible into sovereign currency (CFA franc, Stable Coin, any currency dependent on domestic currency, monetary substitute)	4	0	5	

Theme	Characteristic	Element				M3	M7
		5 - Non-convertible currency or partially convertible into sovereign currency	4	1	4		
	4 - Rules of use						
	1 - Conditions of use - 4 -	1 - Special-purpose money : social assistance, usable in certain stores, reserved for certain products (ecocheques), certain services (service vouchers, airline miles, luncheon vouchers) or earmarked money.	0	4	5		
		2 - Restricted-use currency : can be used to purchase all types of goods and services (restricted on amount, location, temporality, backed by another currency, LETS, etc.).	3	3	3		
		3 - Complete universal use currency : can be used to purchase all types of goods and services sovereign currency (including JEU: Jardin d'Echange Universel, ...)	7	1	1		
	2 - Convertibility - 4 -	1 - Free and general convertibility to another sovereign currency with a market exchange rate	9	0	0		
		2 - Convertibility to other sovereign currencies subject to certain restrictions (regulated exchange rate, currency snake, limited quantities, personal conditions of the holder (company, individual) and others by regulation)	8	0	1		
		3 - Reconversion to backing currency , subject to certain rules (reconversion fees, redemption rule, quantity limits, etc.).	7	1	1		
		4 - Inconvertibility with a sovereign currency.	2	0	7		

		5 - Inconvertibility of a backed currency.	2	1	6	
 - 4 -	3 - Extrinsic valuation	1 - Market value (supply/demand) : variable exchange rate	9	0	0	
		2 - Regulated exchange rates : currency snake	8	0	1	
		3 - Fixed exchange rate.	6	0	3	
		4 - Degressive exchange rate : monetary melting	5	1	3	
		5 - No extrinsic valuation.	0	4	5	
 - 4 -	4 - Spatial restriction	1 - World currencies : SDR, BTC, Eth	9	0	0	
		2 - Monetary area : Euro	8	0	1	
		3 - National : national currency (Franc, Dollar)	7	1	1	
		4 - Regional: regional currency (Eusko)	6	1	2	
		5 - Local: local currency	3	3	3	
		6 - Hyper-local: a party, an event, a club, unique place, prison	2	1	6	
 - 4 -	5 - Time restriction	1 - One-time money or money with an expiration date (luncheon vouchers, drink vouchers)	8	0	1	
		2 - Currency with a programmed lifespan: money created by credit (circulating credit) or melting money (destructible).	6	0	3	

		3 - Permanent currency whose duration is theoretically unlimited : Bitcoin, Currency created by donating or exchanging currencies (currencies that do not have an endogenous destruction mechanism)	4	0	5		
		4 - Permanent currency whose duration is physically unlimited : Gold, Silver, Platinum, ...	4	1	4		
 - 4 -	6 - Social restrictions	1 - currency used by all social groups.	3	3	3		
		2 - internal currency for several social groups or communities.	4	2	3		
		3 - internal currency of a social group or community.	3	1	1		
 - 4 -	7 - Anonymity on holding (excluding account holder)	1 - No anonymity	9	0	0		
		2 - Anonymous to third parties, except account holders (banks) and public authorities.	7	0	2		
		3 - Anonymous vis-à-vis all third parties, except account holders (bank).	5	0	4		
		4 - Anonymous with respect to all third parties except by court order.	5	0	4		
		5 - Anonymous with regard to all third parties.	0	0	9		
 - 4 -	8 - Transaction anonymity	1 - No anonymous transactions: transparency or KYC (Know Your Customer)	9	0	0		
		2 - Anonymous transaction for third parties, account custodians, public authorities and intermediary parties to the transaction	3	0	6		

		3 - Anonymous transaction for all third parties, except account holders (banks) and public authorities.	6	0	3		
		4 - Anonymous transaction for all third parties (including public authorities), except account holders (banks).	4	0	5		
		5 - Anonymous transaction for all third parties, except by court order.	3	0	6		
		6 - Transaction traceable but anonymous to all third parties	4	0	5		
		7 - Anonymous transactions for all third parties: untraceable.	9	0	0		
		<hr/>					
	9 - Interest income	1 - interest-bearing money: instrument for saving and increasing value	7	0	2		
- 4 -		2 - interest-free money: strictly a payment instrument	3	3	3		
		3 - Money bears negative interest: demurrage - instrument for accelerating the economy, melting money	5	0	4		
		<hr/>					
	10 - Transaction conditions	1 - exists rules capping the amounts paid.	5	4	0		
- 4 -		2 - there is a threshold for reporting to the authorities.	6	0	3		
		3 - there is a technical or physical limit (e.g.: paying with 1 ton of feather, constraint on money supply)	2	6	1		
		4 - no special constraints.	5	0	4		
		<hr/>					
	11 - Condition of ownership	1 - no special constraints.	7	0	2		
- 4 -		2 - Restriction on amount held (capped)	2	7	0		

		3 - Restriction sur la durée de détention (monnaie fondante)	9	0	0		
		Restriction on ownership length date (melting currency)					
		4 - Restriction on access to borrowing: requires a fixed minimum amount or an amount proportional to the value of the loan	7	1	1		
Theme	Caracteristic	Element				M3	M7
	5 - Coinage						
	1 - Hardware support	1 - commodity currency (salt, livestock, shellfish...)	0	3	6		
- 5 -		2 - metallic currency (gold, silver)	4	1	4		
		3 - currency (banknotes)	6	1	2		
		4 - scriptural money (writing in a digital or real account book: paper)	6	0	3		
		5 - electronic money (digital ledger entry)	7	0	2		
	2 - Type of certification	1 - Certified by the issuer - internal process.	6	0	3		
- 5 -		2 - Certified by the issuer - internal process with validation by an external certifier (audit & control)	5	0	4		
		3 - Certified by a third-party auditor (according to predefined procedures) - external process	5	0	4		
		4 - Certified by a certifying algorithm: the system	5	1	3		

		5 - Certified by a rule intrinsic to the system (no need for a certification process as such: manual signature in JEU (Jardin d'Echange Universel : Universal Garden Exchange) transactions for example or electronic signature)	6	1	2		
 <p>3 - Legal form of certifier</p> <p>- 5 -</p>		1 - International organization of public law.	4	1	4		
		2 - Public body: central bank, state, royal mint, local authority	5	1	3		
		3 - Private for-profit organization : commercial banks, companies	9	0	0		
		4 - Private non-profit organization: associations, foundations, mutual societies...	1	4	4		
		5 - Private algorithm: Crypto developed by a commercial company under patent or copyright	6	0	3		
		6 - Public algorithm : CBDC	7	0	2		
		7 - Open algorithm (open source / non-proprietary): Bitcoin, Eth...	0	4	5		
 <p>4 - Attribute of methodical confidence</p> <p>- 5 -</p>		1 - Characteristics of the monetary support.	8	0	1		
		2 - Storage medium characteristics.	3	3	3		
		3 - Physical trust/knowledge of the person (KYC: know Your Customer)	3	2	4		
 <p>5 - Intrinsic value</p> <p>- 5 -</p>		1 - Symbolic value: fiat currency	5	1	3		
		2 - Physical unit : Gold, Silver	1	5	3		
		3 - Time unit: time	1	2	6		

		4 - Natural resources : oil, etc...	2	5	2		
 - 5 -	6 - Storage and holding	1 - Centralised	6	1	2		
		2 - Mixed	3	3	3		
		3 - Decentralized	0	4	5		
 - 5 -	7 - Transaction technology supports	1 - Physics : coins, banknotes	4	1	4		
		2 - Dematerialized	6	1	2		
		3 - Technologic	3	3	3		
 - 5 -	8 - Guaranteed transaction anonymity	1 - Not guaranteed.	8	0	1		
		2 - Guaranteed by legislation (example: RGPD)	4	1	5		
		3 - Guaranteed by technical anonymization of data (total or partial)	2	1	6		
		4 - Guaranteed by anonymous monetary support (banknotes and coins)	1	0	8		
 - 5 -	9 - End of transaction guarantee	1 - No warranty.	0	0	0		
		2 - Over-the-counter guarantee (bilateral)	1	1	1		
		3 - Guaranteed by the transaction system or technical foundation	3	3	3		
		4 - Guaranteed by the detaining authorities of the 2 parties.	4	2	3		
 - 5 -	10 - Inflation / deflation	1 - Inflationary.	8	0	1		

 - 5 -	11 - Transaction validation method	2 - relative currency	5	1	3			
		3 - Neutral (or dynamically adjustable)	3	3	3			
		4 - Deflationary	1	2	3			
		<hr/>						
		1 - no validation	0	9	0			
		2 - centralized validation (by a single operator or authority).	7	1	1			
3 - federated/permissioned consensus among known validators,	5	1	3					
4 - public permissionless consensus (e.g. blockchain),	1	3	5					
5 - manual/peer attestation (e.g. signatures or community notarization).	0	5	4					
Theme	Characteristic	Element				M3	M7	
 - 6 -	6 - How it works							
	1 - Payment system costs	1 - Printing documents.	5	0	4			
		2 - Active equipment (Eftpos terminals, ATMs, etc.)	4	1	3			
		3 - Network infrastructure	4	1	3			
		4 - Buildings, offices, ...	4	1	3			
		5 - Employees	2	1	6			
		6 - Terminal, phone, tablet, PC	5	0	4			

		7 - Redemptions (VAT, taxes)	3	3	3	
		8 - Unjustified costs (fraud).	3	3	3	
 - 6 - 2 - Direct energy impact		1 - Printing documents.	3	2	4	
		2 - Active equipment (Eftpos terminals, ATMs, etc.)	4	1	4	
		3 - Network infrastructure	4	2	3	
		4 - Buildings, offices, ...	3	1	5	
		5 - Employees	3	1	5	
		6 - Terminal, phone, tablet, PC	5	0	4	
 - 6 - 3 - Circulation velocity of money		1 - $V < \text{to } 1$: Money available > as needed over a given period: reserve instrument	4	1	4	
		2 - $V = \text{at } 1$: Available currency in line with needs over a given period	3	3	3	
		3 - $V > \text{to } 1$: Money available < as needed over a given period: scarce money	7	0	2	
 - 6 - 4 - Type of volume		1 - Fixed volume	9	0	0	
		2 - Limited volume over time.	7	1	1	
		3 - Variable volume according to internal rules	3	3	3	
		5 - Volume at constant decrease (melting currency)	8	0	1	
		6 - Volume at constant growth (June)	3	0	6	
		7 - Mutual credit : Total amount zero	0	4	5	

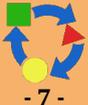
 - 6 -	5 - Volume evaluation method	1 - Accounting method.	3	3	3		
		2 - Central bank / balance : banking system	4	2	3		
		3 - Physical method.	3	3	3		
		4 - Ledger balance (global ledger balance)	3	2	4		
		5 - Null sum method	3	3	3		
 - 6 -	6 - Volume assessment	1 - Volume / GDP	7	0	2		
		2 - Volume / inhabitant (contributor)	3	1	5		
		3 - Trading volume	7	1	1		
		4 - Other	3	3	3		
		5 - None	0	0	0		
 - 6 -	7 - Trust	1 - confidence in use (widespread use)	3	3	3		
		2 - confidence in the intrinsic value of the medium (gold, natural resource)	4	1	4		
		3 - Legal confidence (payment of taxes in local currency)	5	0	4		
 - 6 -	8 - Valuation	1 - Supply / demand (created by the market)	8	0	1		
		2 - fixed value (political decisions, limitation on available resources)	3	3	3		
		3 - timeless (physical value, time, etc.)	2	5	2		

 - 6 -	9 - Transaction validation process	1 - no transaction validation (closed system or intrinsic value : casino chips, transfer of a gold bar)	4	3	2		
		2 - Validation by physical delivery and mutual acceptance (cash payment, barter)	1	3	5		
		3 - Validation by a centralized trusted third party (intermediation : bank card payments, SEPA transfers, PayPal)	6	1	2		
		4 - Validation by a single central authority (state register : Central Bank Digital Currency, CBDC)	7	1	1		
		5 - Validation by distributed consensus on a public ledger (Bitcoin (PoW), Ethereum (PoS))	2	2	5		
		6 - Validation by direct mutual agreement between peers (acknowledgment of debt : Local Exchange Systems (LES), peer-to-peer debt recognition applications)	0	4	5		

Theme	Characteristic	Element				M3	M7
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 - 7 -	7 - Conséquences attendues / observées						
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 - 7 -	1 - Social consequences	1 - Negative impact	5	4	0		
		2 - Minor Negative impact	4	3	2		
		3 - No social impact.	3	3	3		
		4 - Minor positive impact	3	2	4		
		5 - positive impact	2	1	6		
		6 - undetermined impact	1	1	1		

 - 7 -	2 - Ecological consequences	1 - Negative impact	5	0	4	
		2 - Minor Negative impact	3	2	4	
		3 - No social impact.	3	3	3	
		4 - Minor positive impact	2	4	3	
		5 - positive impact	1	6	2	
		6 - undetermined impact	1	1	1	
 - 7 -	3 - Economic consequences	1 - Negative impact (inflation, recession, deflation, decline)	0	8	1	
		2 - Minor Negative impact	2	3	4	
		3 - No social impact.	3	3	3	
		4 - Minor positive impact	4	2	3	
		5 - positive impact (growth)	7	0	2	
		6 - undetermined impact	1	1	1	



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