

DP17 – Financial Sustainability

1. Purpose of This Draft

This draft articulates Desirable Property 17 (DP17) as the condition under which the meta-layer sustains itself over time with transparent, non-extractive, and resilient funding mechanisms, so that governance, safety, maintenance, and innovation can persist without relying on hidden rents, unstable grants, or goodwill that inevitably burns out.

DP17 connects DP6 (commerce and value flow), DP9 (incentives), DP3 (governance capacity), DP15 (security investment), DP16 (roadmap realism), and DP20 (community ownership of surplus).

If DP17 is weak, predictable failures follow: underfunded moderation and safety, stalled infrastructure, dependence on extractive business models, and communities that cannot maintain what they build.

DP17 does not mandate a single funding model. It defines the minimum conditions under which funding is durable, legible, and aligned with the meta-layer's human-first principles.

2. Problem Statement

In today's web, sustainability is often achieved through indirect or hidden mechanisms: surveillance advertising, data brokerage, platform fees, or speculative token cycles.

Public goods and community infrastructure frequently rely on grants, volunteer labor, or unstable revenue streams, creating a mismatch between system importance and funding reliability.

This produces recurring failures:

- critical infrastructure maintained by underpaid or unpaid contributors
- safety, moderation, and accessibility treated as cost centers rather than core functions
- revenue models that depend on data extraction or attention manipulation (DP4, DP6)
- boom-bust funding cycles that destabilize communities
- governance systems without budget authority or visibility

These failures are structural. Systems that are not sustainably funded cannot remain aligned.

DP17 reframes sustainability as a first-class design constraint, not an afterthought.

3. Threats and Failure Modes

3.1 Hidden extraction as funding

Systems rely on opaque monetization such as data harvesting or behavioral targeting.

Example: A "free" platform funds itself through invasive ad networks without clear disclosure.

Why this matters: Funding models shape system behavior.

3.2 Grant dependency and fragility

Communities rely on short-term funding with no continuity plan.

Example: A civic project shuts down when a sponsor withdraws.

Why this matters: Sustainability requires continuity, not episodic support.

3.3 Misaligned incentives

Revenue depends on metrics that conflict with user well-being.

Example: Engagement-based monetization incentivizes addictive design.

Why this matters: Funding should reinforce, not undermine, system values.

3.4 Invisible cost structures

Participants cannot see how resources are allocated.

Example: Moderation budgets are opaque despite being critical to community health.

Why this matters: Transparency is required for accountability.

3.5 Underfunded maintenance

New features are funded, but upkeep is neglected.

Example: Security patches lag behind feature releases.

Why this matters: Sustainability includes maintenance, not just growth.

3.6 Centralized funding control

A small group controls financial resources.

Example: A foundation allocates funds without community input.

Why this matters: Funding concentration leads to governance capture.

3.7 Token speculation without utility

Financial instruments prioritize speculation over real value creation.

Example: Token prices fluctuate while underlying systems stagnate.

Why this matters: Financialization without function destabilizes ecosystems.

4. Core Principle

Financial sustainability in the meta-layer requires that funding sources, allocation, and incentives are transparent, aligned with system values, and sufficient to maintain core functions over time. Funding must support governance, safety, infrastructure, and community development as first-class concerns.

Example: A community publishes its revenue streams, cost allocation, and funding reserves alongside governance decisions.

What this feels like: Stability and clarity about how the system persists.

Without this: Systems drift toward extraction or collapse under their own weight.

5. Primary Mechanisms and Structural Conditions

5.1 Transparent revenue models

Funding sources are disclosed in plain language with sufficient detail to distinguish between direct user payments, grants, subsidies, data-driven revenue, and indirect monetization.

Systems **MUST** enable participants to understand not just *what* funds them, but *how those mechanisms shape behavior* (DP9 linkage).

Failure mode: **hidden extraction**, where funding depends on opaque or misrepresented practices.

5.2 Budget visibility

Communities can see how funds are allocated across functions, including governance, infrastructure, safety, and growth.

Budgets **SHOULD** be presented with meaningful granularity (not overly abstracted) and updated over time.

Failure mode: **allocation opacity**, where critical spending (e.g., moderation, security) is obscured.

5.3 Sustainable incentive alignment

Revenue models reinforce, rather than undermine, user well-being and system integrity.

Systems **MUST** assess whether revenue depends on behaviors that degrade trust, safety, or agency.

Failure mode: **incentive inversion**, where revenue grows as system quality declines.

5.4 Maintenance funding

Budgets explicitly allocate resources for upkeep, security, and support, including long-term maintenance of previously delivered features.

Maintenance **MUST** be treated as a first-class financial obligation, not residual spending.

Failure mode: **maintenance collapse**, where systems degrade due to underfunded upkeep.

5.5 Diversified funding streams

Systems avoid reliance on a single funding source by maintaining multiple revenue streams or contingency pathways.

Diversification **SHOULD** reduce exposure to abrupt funding shocks.

Failure mode: **single-point funding failure**, where loss of one source destabilizes the system.

5.6 Community participation in budgeting

Members have input into how funds are used, with mechanisms ranging from consultation to direct voting or delegated authority (DP3, DP8 alignment).

Participation **SHOULD** be proportional to stake, responsibility, or role.

Failure mode: **financial disenfranchisement**, where communities bear impact without influence.

5.7 Reserve and contingency planning

Financial buffers exist for unexpected events, including downturns, attacks, or infrastructure failure.

Reserves **SHOULD** be visible and tied to risk scenarios.

Failure mode: **shock fragility**, where systems cannot absorb disruption.

5.8 Funding–roadmap linkage

Milestones are tied to secured or clearly labeled contingent funding (DP16 alignment).

Roadmaps **MUST** not imply delivery where funding is uncertain or absent.

Failure mode: **funding illusion**, where commitments exceed resources.

5.9 Ethical monetization boundaries

Certain revenue practices may be restricted or banned within zones, especially those that violate privacy, agency, or community norms.

Systems **SHOULD** define these boundaries explicitly.

Failure mode: **boundary erosion**, where harmful practices re-enter through exceptions.

5.10 Public goods support mechanisms

Infrastructure critical to the ecosystem receives dedicated funding, including shared services that do not generate direct revenue.

Funding **SHOULD** be stable and not solely dependent on voluntary contributions.

Failure mode: **commons neglect**, where essential systems degrade due to lack of direct monetization.

5.11 Financial System Layer: Flow Integrity, Allocation Enforcement, and Alignment Verification

Beyond individual mechanisms, DP17 requires a coherent financial system layer that ensures money flows are **visible, constrained, and aligned with system values under pressure**.

Financial systems are not neutral. They shape incentives, power distribution, and long-term system behavior. Without enforceable structure, funding drifts toward extraction, concentration, or instability.

5.11.1 Financial flow visibility

All significant flows of value (revenue, grants, fees, distributions) must be observable at an appropriate level of abstraction.

This includes inflows, outflows, and internal transfers between functions.

Failure mode: **flow opacity**, where value movement cannot be understood or audited.

5.11.2 Allocation integrity and constraints

Funds allocated to specific purposes (e.g., security, moderation, infrastructure) must remain bound to those purposes unless explicitly reauthorized.

Systems SHOULD define constraints or policies on reallocation.

Failure mode: **allocation drift**, where resources are silently redirected.

5.11.3 Alignment verification

Funding sources and allocations must be evaluated against system values and declared principles.

This includes detecting:

- dependence on extractive revenue
- funding that introduces governance conflicts
- misalignment between stated goals and financial incentives

Failure mode: **alignment illusion**, where funding appears compatible but introduces hidden distortion.

5.11.4 Power distribution and concentration detection

Financial systems must surface concentration of control over resources.

This includes visibility into who controls allocation decisions and how influence accumulates.

Failure mode: **financial capture**, where a small group controls system direction through funding.

5.11.5 Cross-system financial coherence

When multiple systems interact, financial commitments and dependencies must remain consistent and non-contradictory.

Failure mode: **coordination divergence**, where funding assumptions differ across actors.

5.11.6 Financial memory and auditability

Participants must be able to reconstruct funding history, including past allocations, changes, and rationales.

This requires durable records and accessible reporting.

Failure mode: **financial opacity over time**, where history cannot be audited.

5.11.7 Adversarial resilience

Financial systems must anticipate manipulation, including:

- speculative distortion
- subsidy gaming
- governance capture through capital

Systems SHOULD include detection, signaling, and mitigation mechanisms.

Failure mode: **financial exploitation**, where adversaries extract value or influence.

This financial system layer ensures that sustainability is not just declared, but structurally maintained across time, incentives, and scale.

6. Governance, Accountability, and Agency Surfaces

DP17 requires that financial signals are not only visible but **actionable, contestable, and enforceable** within governance (DP3, DP8).

Participants MUST be able to:

- inspect funding sources, allocations, and changes with stable identifiers
- understand which costs are fixed, variable, contingent, or underfunded
- trace how funding decisions affect safety, infrastructure, and roadmap commitments (DP15, DP16)
- challenge misleading or incomplete financial representations through defined processes

Communities and governance bodies MUST be able to:

- **approve, reject, or reallocate** budget segments tied to core functions

- trigger **integrity reviews** when signals indicate misalignment (e.g., hidden extraction, maintenance underfunding)
- require **reclassification** of funding (committed vs. contingent) when conditions change
- attach **confidence or integrity ratings** to funding streams and budget areas

Systems SHOULD support:

- issue/appeal pathways bound to specific budget lines or revenue streams
- public annotation/commentary layers for financial artifacts
- escalation paths for high-impact discrepancies (e.g., safety budget cuts)

Enforcement pathways:

- downgrade or restrict features dependent on misrepresented funding
- block roadmap commitments that lack verified funding (DP16 linkage)
- initiate governance votes or audits for repeated integrity failures

Failure modes:

- **non-actionable transparency** (visible but no leverage)
- **accountability gaps** (no actor responsible for correction)
- **governance capture** (funding control overrides community decisions)

7. Incentives and Power Analysis

Financial systems create and amplify power. DP17 addresses how incentives **distort behavior under pressure** and how to realign them with system integrity (DP9).

Key dynamics:

- **Extraction loops:** revenue tied to attention, data, or speculation drives behaviors that degrade user welfare
- **Underinvestment in non-visible work:** safety, maintenance, and governance lose funding to growth-visible features
- **Capital concentration:** large funders gain outsized influence over priorities and policy
- **Signaling games:** optimistic financial narratives attract resources despite weak fundamentals
- **AI hype amplification:** capability claims accelerate funding without corresponding verification (DP12, DP15)

Adversarial/attack surfaces:

- **subsidy gaming:** actors exploit grants or incentives without delivering durable value
- **governance capture via capital:** funding conditions steer decisions against community interest

- **speculative distortion:** token or asset prices drive priorities away from utility
- **cross-subsidy masking:** losses hidden behind unrelated profitable lines

Alignment requirements:

- revenue must not increase as safety, trust, or agency decrease
- funding for assurance (security, privacy, governance) must be **protected and non-optional**
- incentives should reward **durable contributions and maintenance**, not just growth metrics

Mitigations:

- caps or checks on concentration of funding control
- ring-fenced budgets for safety/maintenance
- disclosure of incentive structures alongside revenue streams
- independent audits or attestations for high-impact funding claims

Failure modes:

- **incentive inversion** (harmful behavior is profitable)
- **credibility arbitrage** (short-term gains from inflated claims)
- **capture dynamics** (decision power tracks capital rather than legitimacy)

8. Community Signals Informing DP17

Community signals are not just sentiment; they are **early indicators of financial misalignment and coordination risk**. DP17 treats these signals as inputs to system design and ongoing monitoring.

Observed signals and implications:

- **Concern about extractive monetization** → signals hidden revenue dependencies; requires clearer revenue classification and disclosure (5.1, 5.11.3)
- **Demand for fair compensation** → indicates gaps in value distribution; requires explicit allocation policies and contributor compensation pathways (5.2, 5.6)
- **Frustration with unstable funding cycles** → indicates weak reserves and diversification; requires contingency planning and runway visibility (5.5, 5.7)
- **Desire for community-controlled resources** → indicates legitimacy gaps; requires participatory budgeting and governance linkage (Section 6)
- **Skepticism of “free” services** → indicates perceived hidden costs; requires explicit mapping from revenue to behavior (5.1, 7)
- **Concern about safety underfunding** → indicates risk externalization; requires ring-fenced budgets for assurance (5.4, 7)

Operationalization:

- Convert recurring signals into **metrics** (e.g., % budget to maintenance, % revenue from non-extractive sources)
- Attach **confidence ratings** to funding streams based on signal alignment (Section 6)
- Feed signals into **governance triggers** (e.g., review when safety budget falls below threshold)

Failure modes:

- **signal neglect** (warnings ignored until failure)
- **performative response** (surface-level changes without structural correction)

9. Non-Goals and Explicit Boundaries

DP17 does not prescribe a single economic ideology or eliminate markets. It defines **hard boundaries on misleading or harmful financial behavior** in the meta-layer.

DP17 does not:

- mandate a single funding mechanism or ownership model
- eliminate profit, competition, or market dynamics
- guarantee equal distribution of funds across participants
- replace legal or regulatory financial frameworks

DP17 explicitly disallows:

- **hidden extraction** (undisclosed data monetization, dark patterns tied to revenue)
- **misrepresented funding states** (presenting contingent or unfunded work as committed)
- **assurance starvation** (underfunding security, privacy, or governance to inflate growth)
- **history rewriting** (removing or obscuring past funding decisions)
- **cross-subsidy masking** (hiding losses or risks behind unrelated profitable lines without disclosure)

Boundary principle:

Financial systems may be complex, but they must not be misleading about what is funded, who controls it, and how it shapes behavior.

Failure modes:

- **methodology masking** (jargon obscures lack of commitment)
- **selective disclosure** (only favorable financial information is shown)
- **narrative protection** (truth suppressed to maintain perception)

10. Minimum Alignment (Non-Normative) (Non-Normative)

Minimum alignment defines the threshold at which financial signals are **reliable enough to coordinate real work**. Below this threshold, systems may publish numbers but do not provide trustworthy sustainability.

A DP17-aligned system should, at minimum:

- **Bind revenue to behavior:** disclose sources and how they influence system actions (DP9)
- **Show allocation with purpose:** publish major cost categories with sufficient granularity (governance, safety, infra, growth)
- **Fund core functions:** maintain explicit, protected budgets for maintenance, security, and governance (DP15)
- **Link funding to commitments:** tie roadmap milestones to secured or clearly contingent funding (DP16)
- **Maintain change memory:** record material budget and funding changes with brief rationale
- **Signal uncertainty:** distinguish committed, contingent, and speculative funding
- **Enable comparison over time:** allow participants to compare past and current funding states without reconstruction

Failure modes to avoid:

- **funding illusion:** commitments exceed available resources
- **allocation opacity:** critical spending hidden or aggregated beyond usefulness
- **commons neglect:** public goods unfunded despite system dependence
- **signal inflation:** financial claims exceed operational reality
- **historical erasure:** prior funding states disappear without record

Systems that omit binding, allocation visibility, or change memory **SHOULD NOT** be considered aligned with DP17.

11. Open Questions and Future Work

DP17 requires further work to standardize how financial integrity is measured and enforced across diverse contexts.

Key questions:

- **Transparency vs. sensitivity:** How to disclose enough for accountability without exposing competitive or security-sensitive details?
- **Cross-jurisdiction funding:** How to represent taxes, compliance costs, and legal constraints consistently across regions?

- **Measuring alignment:** What metrics best capture alignment between revenue and system values (e.g., % non-extractive revenue, maintenance ratio)?
- **Public goods funding models:** What hybrid models (grants, fees, commons funding) sustain non-market services?
- **AI-era financing:** How to represent costs and risks of AI systems, including compute, safety, and liability (DP12, DP15)?
- **Contributor compensation:** How to fairly allocate value to maintainers and community contributors over time?
- **Recourse mechanisms:** What should participants be able to do when financial signals are repeatedly misleading?

These should be explored through ML-Drafts, pilots, and comparative implementations.

12. Relationship to Other Desirable Properties

DP17 is a cross-cutting layer that conditions whether other DPs remain viable over time.

- **DP6 (Commerce):** Defines revenue mechanisms; DP17 ensures those mechanisms are transparent and non-extractive.
- **DP9 (Incentives):** Aligns economic signals with desired behaviors; DP17 verifies that alignment holds under pressure.
- **DP3 (Governance):** Requires budget authority and visibility to make legitimate decisions.
- **DP15 (Security & Provenance):** Security work must be funded and evidenced; DP17 ensures it is not starved.
- **DP16 (Roadmaps):** Commitments must match funding reality; DP17 binds milestones to resources.
- **DP20 (Ownership & Surplus):** Determines how value returns to communities; DP17 ensures flows are visible and fair.

If DP17 fails, other DPs degrade into promises without resources.

13. Foresight and Failure Design

DP17 assumes systems will face **financial stress, growth pressure, and adversarial manipulation**. The goal is not to avoid failure, but to make it **visible, bounded, and repairable**.

Common failure paths:

- **overcommitment:** promises exceed funding; leads to roadmap drift (DP16)
- **assurance deferral:** safety and maintenance lag behind features
- **funding shocks:** sudden loss of revenue without reserves

- **capture events:** concentration of capital redirects priorities
- **speculative cycles:** attention shifts to price over utility

Recovery practices:

- reclassification of commitments (committed → contingent)
- budget reallocation with public rationale
- activation of reserves and contingency plans
- governance review and potential rebalancing of power
- public postmortems linking funding decisions to outcomes

A mature system treats financial failure as a **learning loop**, not a hidden defect.

14. Path Toward ML-RFC

Advancement requires operational evidence that financial integrity can be implemented and audited.

Key steps:

- **Standardize financial schemas:** revenue types, budget categories, funding states, and confidence levels
- **Define reporting formats:** periodic disclosures with comparable fields across systems
- **Create verification artifacts:** links from budgets to receipts, audits, and outcomes (DP15)
- **Test governance integration:** demonstrate budget approval, reallocation, and audit pathways (Section 6)
- **Run adversarial tests:** simulate capture, subsidy gaming, and funding shocks
- **Demonstrate cross-system coherence:** shared projects maintain consistent funding signals (DP7)

Promotion criteria should include the ability for participants to **inspect, compare, and challenge** financial claims over time.

15. Closing Orientation

DP17 is where the meta-layer demonstrates respect for resources and power.

Participants allocate time, money, and trust based on financial signals. When those signals are opaque or distorted, coordination fails and communities bear the cost.

When financial systems are transparent and aligned, participants can understand what is funded, what is at risk, and how decisions are made. They can act with confidence, adjust expectations, and hold systems accountable.

When financial systems are not, even successful outcomes become suspect, because the path to them cannot be trusted.

DP17 is the commitment that the meta-layer will not fund itself through hidden extraction, unstable promises, or erased history.

Financial sustainability is not just survival. It is the ability to **persist with integrity under pressure, incentives, and change.**