

STRUCTURAL COHERENCE AND FINANCIAL SUSTAINABILITY IN HIGHER EDUCATION: A CRITICAL INTERPRETIVE SYNTHESIS

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Abstract. The pursuit of sustainable funding for higher education is fundamentally impeded. Research is divided between detailed fiscal evaluations and broad governance studies, lacking a cohesive theory that elucidates how systemic structures influence financial resilience or susceptibility. This study utilises a Critical Interpretive Synthesis (CIS) to analyse the fragmented literature and provide a new theoretical framework that elucidates financing sustainability as a dynamic result of structural configurations. An iterative, purposeful study of 92 important sources (2000-2024) was conducted in accordance with known CIS methodology. The analysis transitioned from descriptive themes to explanatory theory through reciprocal translation, refutational synthesis, and lines-of-argument reasoning. The synthesis indicates that sustainability is regulated by three interconnected structural domains: (1) the Regulatory-Institutional (formal autonomy); (2) the Socio-Economic (resource diversification logics); and (3) the Temporal-Political (policy stability). The key discovery is that resilience arises from configurational coherence - a synergistic alignment among these domains. Conversely, vulnerability arises from structural dissonance, when misaligned domains establish path dependencies and detrimental incentives, ensnaring systems in persistent fiscal distress. This study presents the Structural Coherence for Sustainability (SCS) Framework. It reconceptualises sustainability from a financial status to a structural accomplishment, produced by intentionally coordinated policy-institutional ecosystems. The framework offers a diagnostic instrument for policymakers and establishes a novel agenda for configurational research in higher education finance.

Keywords: *higher education finance, funding sustainability, critical interpretive synthesis, structural determinants, policy coherence, institutional autonomy*

Introduction

The current discussion surrounding "crisis" in higher education funding, while reflecting real financial challenges, often serves as an analytical impasse, obscuring deeper structural transformations in the sector's political economy (Slaughter, 1990). This situation indicates a persistent fiscal deficit rather than a temporary one, reflecting the ongoing breakdown of the post-war public funding arrangement and the complex emergence of diverse, multi-actor financial systems (Marginson, 2011). This transition requires an equivalent progression in academic analysis-from simply documenting financial metrics to examining the systemic structures that affect fiscal health. Scholarly responses tend to remain limited to parallel, non-intersecting trajectories, leading to a problematic theoretical dualism. A well-established tradition in econometric and

financial policy analysis systematically models funding inputs, efficiency metrics, and the distributive effects of tuition regimes (Teixeira et al., 2004). This study is crucial for understanding fiscal flows; however, it often assumes a "governance-free" framework, regarding institutions as black-box optimisers. A substantial body of research in political science, organisational sociology, and governance studies provides in-depth analyses of autonomy reforms, accountability mechanisms, and the micro-politics of resource allocation (Pinheiro and Young, 2017). However, this stream may diverge from the material realities of financial constraints, at times viewing governance as an end in itself.

Hüther and Krücken (2018) as well as Maassen and Olsen (2015) critically argue that this bifurcation has led to a fragmented corpus. The field includes sophisticated diagnostics of fiscal stress and detailed maps of governance change; however, it lacks a comprehensive theory that elucidates how particular configurations of policy instruments and institutional structures systematically produce trajectories of resilience or chronic vulnerability. This signifies not only an academic error but also a critical barrier to effective practice. This results describes as "isomorphic mimicry," wherein decontextualised "best practice" instruments, such as performance-based funding, are transplanted across nations. These practices often fail or produce negative outcomes due to a disregard for the necessary structural ecosystem (Dougherty and Natow, 2015). The field faces a necessity for integration: to create a theoretical framework that moves beyond this dualism by conceptualising funding sustainability as an emergent property of a complex, configured system. This study directly addresses this necessity. The main goal is to perform a Critical Interpretive Synthesis (CIS) of the disjointed literature on higher education funding, with the specific purpose of developing a new, integrative theoretical framework. CIS is particularly appropriate for this task, as it serves as a theory-generating methodology aimed at critically engaging with diverse and complex literatures, revealing their underlying assumptions, and synthesising them into a novel explanatory model (Barnett-Page and Thomas, 2009; Dixon-Woods et al., 2006). The synthesis is directed by a primary research question: What are the fundamental structural domains that influence the sustainability of higher education funding, and how does the nature of their interaction-whether coherent or dissonant-account for differing systemic trajectories towards resilience or vulnerability?

This paper's primary contribution is the SCS Framework. This framework asserts that sustainability results from the dynamic interplay among three interdependent structural realms: the Regulatory-Institutional, the Socio-Economic, and the Temporal-Political, rather than being determined by a single variable. The SCS Framework theorises the causal pathways of configurational coherence, which fosters resilience, and structural dissonance, which results in dependency, thereby offering the integrative perspective that is currently absent in the field. This framework presents a novel model for comparative analysis for scholars, serves as a diagnostic tool for systemic design for policymakers, and furnishes institutional leaders with terminology to express structural constraints. This paper is organised as follows. The CIS methodology is outlined in detail. A synthetic review consolidates the literature into three fundamental structural domains. The SCS Framework is developed, outlining its axioms and configurational logic. The theoretical and practical implications of the framework are subsequently discussed, followed by an outline of a future research agenda. The conclusion emphasises the necessity of architectural thinking in shaping the future of higher education finance.

Literature review

Synthetic review: Deconstructing the constituent structural realms

Addressing the theoretical dualism presented in the introduction necessitates transcending mere descriptive categorisation to fundamentally reshape the disjointed academic landscape. This synthesis effectively distils the extensive and disparate literature into a coherent model comprising three interdependent structural realms. The Regulatory-Institutional, Socio-Economic, and Temporal-Political realms constitute the fundamental systemic dimensions in which the determinants of higher education funding sustainability are established, debated, and, importantly, interact to yield systemic outcomes. This tripartite model is not a theoretical imposition made in advance but an emergent construct developed through a thorough process of reciprocal translational analysis across different disciplines. This indicates that the traditionally isolated discussions on governance (autonomy, accountability), economics (efficiency, diversification), and policy (stability, reform) are, in reality, intricately linked components of a singular, complex structural reality. The analysis deconstructs the literature through an integrative lens, revealing the foundational structures that influence financial resilience and vulnerability, thereby offering the essential components for the subsequently developed theoretical framework.

The regulatory-institutional realm: The paradox of engineered autonomy

The literature extensively theorises the formal rules, legal frameworks, and governance structures that form the primary interface between the state and higher education institutions. The central focus of this domain is the critical and highly debated notion of institutional autonomy. A prevailing policy narrative, significantly shaped by principal-agent theory and the principles of New Public Management, advocates for autonomy as a clear driver of efficiency, innovation, and market responsiveness. This viewpoint positions autonomy as a means to free institutions from bureaucratic stagnation, allowing for resource optimisation, customised educational programs, and responsive engagement with stakeholder needs (Privot et al., 2023; Jongbloed and Vossensteyn, 2001). Advocates contend that transitioning from state control to state supervision enables systems to leverage institutional entrepreneurship, thereby improving quality and ensuring financial sustainability. This optimistic perspective, however, faces a rigorous and essential critique from historical institutionalist and resource dependence frameworks. Research by Capano et al. (2017) empirically illustrates that autonomy is seldom, if ever, entirely absolute or fully devolved. It is systematically engineered, regulated, or conditional. Autonomy reforms often result in hybrid governance structures marked by a strategic separation of responsibilities. While operational or financial management may be delegated to institutions, ultimate strategic control, performance oversight, accreditation authority, and the distribution of core block grants tend to remain centralised or closely regulated by the state. This leads to a phenomenon known as "constrained agency," wherein institutions assume the risk and responsibility for outcomes while functioning within a set framework of norms, targets, and financial limitations.

The analysis of these contrasting perspectives uncovers a fundamental paradox: autonomy operates not as a binary condition (present/absent) but as a structured and contingent capability. The utility and effect are not inherent characteristics but are

wholly contingent upon their arrangement within a larger ecosystem of parallel structures. Elevated formal legal autonomy, when implemented amid significant fiscal instability, fluctuating funding, and inadequate institutional governance, may paradoxically heighten vulnerability. The freedom to make risky financial decisions may be granted without the necessary tools—such as reserves, hedging instruments, or strategic advisory capacity—for effective risk management, which could lead to mission drift or financial instability (Hüther and Krücken, 2018). Consequently, the literature shifts the analytical focus from a simplistic measurement of autonomy to a nuanced examination of its type (e.g., academic vs. financial), substantive scope, and, most importantly, its functional coherence with the surrounding structures of accountability, support, and resource stability in which it is situated. This reconceptualisation frames the Regulatory-Institutional realm not as an isolated determinant but as a significant variable whose influence is shaped by its interaction with the Socio-Economic and Temporal-Political realms.

The socio-economic realm: Diversification as legitimacy navigation

The body of research on revenue diversification highlights a significant area in which institutional agency interacts with external socio-economic contexts. A common economic perspective characterises diversification as a technical portfolio strategy aimed at risk mitigation, emphasising the optimisation of state funding, tuition, grants, philanthropy, and commercial income. A critical interpretive reading that synthesises research on academic capitalism and institutional legitimacy reveals diversification as a deeply socio-political process (Slaughter, 1990). Diversification capacity is influenced not only by managerial initiative but also by structural factors within the broader socio-economic context. The national tax policies regarding philanthropy, the framework of research and innovation systems, and the organisation of graduate labour markets together form the "opportunity structure" for the generation of non-state revenue. Maassen and Olsen (2007) as well as Marginson (2011) argue that each revenue stream carries unique legitimacy claims and institutional logics. Excessive dependence on tuition fees instills market principles and consumerist attitudes, whereas reliance on specific corporate research funding may favour applied, short-term investigations at the expense of fundamental research. Diversification should not be viewed solely as a financial calculation; rather, it is a continuous process of navigating legitimacy across various, often conflicting, socio-economic logics. Sustainable systems, as illustrated in studies of resilient models, feature policy frameworks that actively influence the opportunity structure while establishing safeguards to preserve fundamental academic values from potentially damaging external influences (De Boer et al., 2015). This domain is inherently connected to the initial one: the successful application of financial autonomy (Regulatory-Institutional) depends on the navigable conditions established by the socio-economic environment.

The temporal-political realm: The foundational infrastructure of stability

The third realm, often insufficiently theorised, pertains to the temporal structures inherent in policy and politics. A notable contradiction in the literature exists between studies advocating for innovative policy design and those reporting widespread policy failure. The resolution of this contradiction fundamentally resides in the temporal dimension. Short political cycles, volatile annual budget allocations, and frequent top-

down reform initiatives-characteristic of systems where higher education is a significant political issue-are identified as primary drivers of systemic vulnerability (Turri, 2016; Dougherty and Natow, 2015). This volatility forces institutions into a reactive, short-term survival mode, undermining their ability to engage in long-term strategic planning and the necessary investments for developing diversification capabilities. The synthesis of cases illustrating relative stability-such as multi-annual performance agreements, institutionalised buffer mechanisms, or independent funding councils-highlights the significance of embedded temporal structures that separate core funding from immediate political and economic fluctuations. This domain asserts that sustainability is fundamentally linked to time. It necessitates frameworks that embed foresight and continuity, utilising mechanisms such as long-term agreements, incentives for endowment development, or rules for fiscal stabilisation. The Temporal-Political realm provides the necessary infrastructure of time that facilitates the effective execution of strategic actions, which are enabled by the Regulatory-Institutional realm, within a viable socio-economic landscape. The absence of this stability prevents the realisation of the potential in the other two realms.

Synthesizing interdependence: The configurational logic in the literature

The analysis of discrete realms indicates a significant, recurring theme in the literature: their effects are interdependent. A developing configurational logic, in which the outcome of a condition in one domain depends on the state of another, is frequently suggested, albeit seldom organised, in various studies (Hüther and Krücken, 2018; Capano et al., 2017). This interdependence challenges linear and additive models of policy impact, indicating a more complex and systemic causality. The primary and extensively studied interdependence arises between autonomy (RI) and diversification (SE). Although autonomy is regarded as a crucial factor for generating entrepreneurial revenue, empirical research indicates that this relationship is significantly mediated. Effective utilisation of autonomy for diversification is contingent upon institutions functioning within a conducive socio-economic opportunity structure, which includes accessible venture capital, favourable tax incentives for philanthropy, and vibrant innovation ecosystems. Without such a structure, as observed in systems characterised by high autonomy but limited market or philanthropic development, institutional agency may result in negligible financial returns or lead to risky behaviour without sufficient protections in place.

The literature identifies the Temporal-Political realm (TP) as a crucial contextual modulator for both entities. Policy failure analyses consistently highlight political and fiscal volatility as the primary factor undermining the potential advantages of autonomy and making long-term diversification strategies excessively risky (Turri, 2016; Dougherty and Natow, 2015). In contrast, comparative case studies of resilient systems emphasise embedded stability as a crucial enabler, offering the predictable horizon essential for strategic planning, asset management, and relationship-building necessary for both meaningful autonomy and sustainable diversification (De Boer et al., 2015). This indicates a conditional or hierarchical interdependence, wherein TP stability serves as a necessary, albeit insufficient, foundation for the positive synergy between RI and SE. The literature is still at the threshold of a unified theory. The evidence presented demonstrates pairwise interactions and thoroughly documents contingent outcomes; however, it does not offer a comprehensive framework to elucidate how the simultaneous synergistic alignment or destructive misalignment of all three realms

results in emergent systemic properties of resilience or vulnerability. It identifies the nodes; however, it does not delineate the entire circuit of causality. The disparity between the documented reality of complex interdependence and the lack of an integrative configurational model delineates the specific theoretical space that this synthesis intends to fill and underscores the necessity for the framework presented in the subsequent section.

Materials and Methods

This study employed the CIS methodology (Dixon-Woods et al., 2006) to overcome the constraints of traditional systematic reviews in addressing complex, multi-disciplinary, and theoretically diverse literatures. CIS was chosen over aggregative or purely descriptive review methods because of its clear objective to generate theory. Systematic reviews aim to address specific questions by synthesising data from comparable studies, whereas scoping reviews focus on outlining the scope of a field. In contrast, CIS is intended to analyse and reconstruct literature from various paradigms to create a new integrative theoretical framework (Barnett-Page and Thomas, 2009). A method facilitating reciprocal translation and critical confrontation was considered essential due to the identified dualism between fiscal and governance scholarship.

Search strategy and iterative sampling

CIS adopts an iterative, purposive sampling strategy, moving away from a fixed, linear search protocol commonly found in positivist reviews, and is guided by the principle of theoretical saturation. A systematic search was performed in Scopus, Web of Science, and ERIC utilising broad conceptual terms (“higher education fund*,” “sustainability,” “financial resilience,” “governance,” “autonomy”) to identify foundational texts and delineate the conceptual landscape. The initial examination identified the fundamental divide between economic and political-sociological analyses. The sampling strategy evolved to become more purposive and theoretically informed based on the initial seed corpus. Citation chasing, both backward and forward, along with purposive searches for seminal authors, key theoretical frameworks (such as “resource dependence,” “historical institutionalism,” and “academic capitalism”), and established case studies of resilient or vulnerable systems were utilised. The iterative process, in which preliminary analysis guided further searches, persisted until the addition of new sources produced no substantial conceptual insights or challenges to the evolving framework, resulting in a condition of theoretical sufficiency (Toye et al., 2014). The final analytical corpus consisted of 92 sources, including peer-reviewed journal articles, scholarly books, and significant policy reports published from 2000 to 2024, chosen for their conceptual relevance and their impact on key debates.

Analytical engagement and synthesis process

The analysis involved a dynamic engagement with texts rather than a linear extraction of data, utilising three core, interwoven CIS techniques. Reciprocal Translational Analysis (RTA) entails the continuous comparison and translation of central concepts across different sources or disciplinary traditions. The governance concept of “autonomy” has been translated into its implications for “financial risk” and “strategic portfolio management,” as explored in economic literature. This process

created integrated constructs, such as “strategic financial agency,” that connect the identified dualism. Refutational synthesis involved the active identification and analysis of contradictions within the literature, which were regarded as essential data. The debate on performance-based funding illustrates contrasting perspectives; some literature advocates for its role in enhancing efficiency (Jongbloed, 2020), while other sources critically argue that it promotes gaming and short-termism (Dougherty and Natow, 2015). The analysis examined this contradiction to reveal the contextual and structural conditions, such as policy stability and institutional capacity, that may account for these divergent outcomes, thus enhancing the developing framework. Synthesis of Lines of Argument (LOA): A "line of argument" was constructed based on the integrative concepts developed through RTA and insights gained from resolving refutations. This LOA integrates the literature at an advanced level, deriving an explanatory model that clarifies the relationships among the translated concepts. The Structural Coherence for Sustainability (SCS) Framework, which posits three realms and their configurational logic, was inductively generated through LOA synthesis to elucidate the patterns and paradoxes present in the entire corpus.

Rigor and reflexivity

Due to CIS's dismissal of standardised quality checklists, rigour was maintained by systematically documenting the iterative process and engaging conceptually. The evaluation of a source's "quality" was based on its conceptual influence, its participation in foundational debates, and its usefulness in constructing the synthetic argument, rather than solely on its methodological design. Additionally, a reflexive approach was upheld, recognising that the synthesis serves as an interpretive construction intended to be persuasive and practical, rather than a positivist assertion of fact. This methodological approach guarantees that the resulting framework is a novel theoretical construct, developed through a critical and integrative examination of the field rather than a mere combination of existing ideas.

Theory building: The Structural Coherence for Sustainability (SCS) framework

A comprehensive synthesis of the constituent realms requires a theoretical progression that transcends simple identification. Sustainability outcomes should not be assessed in isolation within a single domain; therefore, the main theoretical objective is to model their interactions. The Structural Coherence for Sustainability (SCS) Framework is proposed, building on the arguments developed from the synthesis. This framework suggests that a system's trajectory, whether towards resilience or vulnerability, is dynamically influenced by the level of configurational coherence or structural dissonance present in the Regulatory-Institutional (RI), Socio-Economic (SE), and Temporal-Political (TP) domains (*Figure 1*).

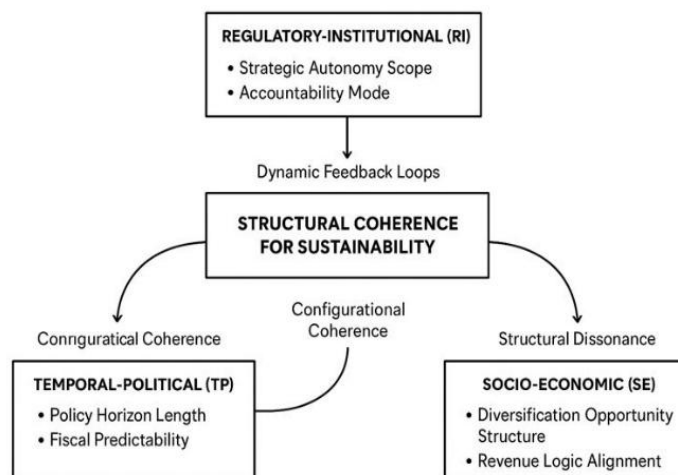


Figure 1. The Structural Coherence for Sustainability (SCS) framework.

Axiomatic foundations: Configurational causality and realm interdependence

The Structural Coherence for Sustainability (SCS) Framework is based on the principle of configurational causality, representing a shift from the linear, additive models prevalent in higher education policy analysis. This axiom is based on set-theoretic logic, which analyses the outcomes produced by various combinations of conditions (Ragin, 2009), and neo-institutional theories of systemic interdependence, which highlight the co-evolution of organisational fields and institutional logics in complex, non-linear manners (Crouch, 2020; Greenwood et al., 2014). The primary argument is that the impact of any individual structural condition-whether a high level of autonomy or a particular funding mechanism-is not intrinsic but rather dependent on contextual factors. The effect is influenced, enhanced, reduced, or potentially inverted by the particular combination of conditions found in the other structural realms. This principle extends beyond recognising basic interaction effects to suggest a framework of causal asymmetry. A high degree of financial autonomy, as a condition within the Regulatory-Institutional realm, is not universally advantageous. The outcome is causally dependent on its configuration with conditions in other realms. In a coherent configuration, autonomy can foster strategic entrepreneurship and innovative revenue generation, provided it exists alongside a stable, multi-annual policy horizon that facilitates long-term planning, as well as within a dynamic socio-economic environment characterised by accessible venture capital, a robust culture of philanthropy, and effective technology transfer offices. In this particular context, autonomy serves as a significant facilitator.

In contrast, within a dissonant configuration, a high degree of autonomy may turn into a liability. When exercised in an environment of acute policy and budgetary volatility and a limited opportunity structure for alternative revenue-marked by weak research commercialisation, restrictive philanthropic tax laws, or saturated student markets-it may lead to precarious risk-taking, mission drift, and financial instability. The autonomy remains unchanged; however, its causal effect is reversed by the configuration in which it is situated. This configurational logic effectively addresses contradictions in the existing literature, where identical policy instruments (e.g., performance funding, tuition deregulation) demonstrate success in one context and failure in another. The framework indicates that these instances are not simply

implementation failures but rather the expected outcome of varying causal recipes-the particular combinations of RI, SE, and TP conditions that are essential and collectively sufficient to yield a specific result, such as resilience or vulnerability (Pinheiro and Young, 2017; Schneider and Wagemann, 2012). The SCS Framework, by eschewing the pursuit of universal "best practices" and focussing on context-specific causal configurations, provides a more refined and effective explanatory model for the varied trajectories seen in global higher education systems.

The SCS framework: Dimensions and dynamic interaction

The framework implements every domain via essential, adjustable dimensions obtained from the synthesis. (1) Regulatory-Institutional (RI): Scope of Strategic Autonomy (financial, organisational) and Mode of Accountability (procedural vs. strategic). (2) Socio-Economic (SE): Structure of Diversification Opportunities (breadth/depth) and Alignment of Revenue Logic (compatibility with academic core). (3) Temporal-Political (TP): Duration of Policy Horizon and Predictability of Fiscal Outcomes. Sustainability is conceptualised as an emergent property arising from the dynamic feedback loops among these dimensions across various realms. The framework transitions from a static typology of realms to a dynamic model of systemic interaction (*Figure 1*).

Proposition 1: The pathway to resilience via configurational coherence

Resilient funding systems demonstrate a configuration in which the dimensions across the three realms are positively aligned, thereby establishing self-reinforcing, virtuous cycles. This condition is referred to as configurational coherence. The Coherent Feedback Loop: This configuration allows broad strategic autonomy (RI) to empower institutions. The effectiveness of this empowerment is attributed to the presence of long policy horizons and high fiscal predictability (TP), which together create a stable foundation for strategic action. A robust structure for diversification, characterised by aligned incentives, offers legitimate avenues for the effective deployment of autonomy. Diversification enhances institutional legitimacy and political support, thereby stabilising the policy environment and potentially increasing autonomy. This synergistic alignment creates a positive feedback loop of adaptive capacity, allowing the system to absorb shocks, learn, and evolve without significant degradation (Folke et al., 2021). Proposition 1a (P1a): Increased configurational coherence among the RI, SE, and TP realms correlates with enhanced systemic capacity for financial adaptation and resilience.

Proposition 2: The pathology of vulnerability via structural dissonance

In contrast, vulnerable systems exhibit structural dissonance, which refers to a configuration where the dimensions of various realms are in conflict. This conflict generates negative feedback loops, resulting in the system being ensnared in a suboptimal equilibrium, similar to punctuated path dependence (Mahoney and Thelen, 2015). The Dissonant Feedback Loop: The typical configuration features limited or "mock" autonomy (RI) in conjunction with significant policy volatility and low fiscal predictability (TP). This integrates strategic limitations with environmental volatility. The situation is exacerbated by a restrictive or punitive opportunity structure (SE) that penalises entrepreneurial activity, such as surplus claw-back rules. The domains operate

at cross-purposes: volatility necessitates adaptive responses, yet regulatory constraints and insufficient socio-economic support fundamentally inhibit such adaptations. This cycle undermines institutional capacity, heightens reliance on the state, and perpetuates a political narrative of institutional failure that justifies increased micromanagement and instability, thereby exacerbating the dependency trap. Proposition 2a (P2a): An elevated level of structural dissonance among the RI, SE, and TP domains correlates with heightened systemic financial vulnerability and a path-dependent dependence on unstable resource flows.

Results and Discussion

The Critical Interpretive Synthesis and the resultant Structural Coherence for Sustainability (SCS) Framework produce a collection of interrelated, advanced ideas that fundamentally reframe the issue of financing sustainability. The analysis progresses beyond identifying distinct structural domains to reveal three crucial interpretive discoveries that challenge fundamental assumptions in the area. It indicates that the connection between realms is not additive but rather configurational and dynamic, regulated by feedback loops that shape systemic trajectories. Secondly, it asserts the indispensable dominance of the Temporal-Political domain, framing temporal stability not as a mere background factor but as the fundamental foundational prerequisite for any enduring financial framework. Third, and most significantly, it requires a fundamental redefinition of autonomy and diversification. These are not inherent institutional "goods" to be optimised in isolation; rather, they are essentially relational capacities whose value and effectiveness depend entirely on their alignment with conditions in other structural domains. These studies collectively assert that sustainability is not solely a result of financial management but rather an emergent characteristic of a purposefully designed structural ecosystem.

The primacy of the temporal-political realm: Stability as enabling infrastructure

A crucial and transformative discovery of this synthesis is the essential, non-negotiable role of the Temporal-Political (TP) domain. The Regulatory-Institutional (RI) domain offers formal mechanisms of agency (e.g., legal autonomy, governance frameworks), while the Socio-Economic (SE) domain presents avenues for action (e.g., revenue sources, collaborations); however, the Temporal (TP) domain serves as the fundamental infrastructure of time upon which all strategic actions rely. The analysis indicates that policy instability, transient political cycles, and erratic fiscal allocations function not only as external limitations but also as significant contextual factors. Instead, they serve as a potent structural nullifier. Chronic instability systematically undermines the potential effectiveness of even the most resilient formal autonomy (RI) by compelling decision-making into a reactive, short-term survival mode, so obstructing the long-term investment and planning essential for meaningful self-governance. Concurrently, it renders strategic engagement with intricate diversification opportunities (SE)-such as constructing endowment portfolios, fostering major donor relationships, or negotiating extensive research partnerships-exceedingly perilous, as the institutional foundation upon which such long-term endeavours are predicated remains perpetually uncertain (Turri, 2016; Dougherty and Natow, 2015).

This analysis demonstrates that temporal stability is the primary prerequisite for systemic resilience. It is a prerequisite, rather than a supplementary element. Progress

towards sustainability can only be achieved when a foundation of predictability is established through institutional structures that separate fundamental educational and research financing from the volatility of political and economic changes. These methods encompass legally established multi-annual budget frameworks, bipartisan political agreements on higher education funding, autonomous reserve funds, and governance structures (such as arms-length funding committees) intended to absorb and alleviate volatility. This discovery requires a comprehensive reassessment of reform agendas and academic evaluation. It asserts that interventions aimed exclusively at improving autonomy (RI) or promoting diversification (SE), without first or simultaneously establishing the Temporal-Political infrastructure, are not only suboptimal but also likely to be structurally incoherent and ultimately ineffective, as they endeavour to develop dynamic capabilities on an unstable foundation.

Autonomy and diversification recast: From attributes to relational functions

The synthesis significantly redefines the essential principles of autonomy and diversification. They do not constitute independent institutional "attributes" to be optimised. They are relational functions whose value and impact are contingent upon their arrangement with other domains. **Autonomy as Structured Enablement:** The analysis reveals that autonomy (RI) is not intrinsically emancipatory. The form-whether strategic (facilitating long-term asset management) or procedural (limited to annual budget execution)-dictates its functionality. Moreover, its impact is conditional. Significant strategic autonomy combined with temporal unpredictability can be detrimental, whereas moderate autonomy within a stable, supportive environment can be immensely beneficial. The principal conclusion is that the significance of autonomy is determined not by its extent but by its congruence with the temporal context and socio-economic environment in which it is enacted (Capano et al., 2017). **Diversification as Legitimacy Navigation Rather than Revenue Generation:** The literature distinctly shifts from perceiving diversification just as a financial hedging tactic. The synthesis conclusion is that each revenue source (tuition, grants, philanthropy, industrial contracts) signifies a unique socio-political agreement with external stakeholders, incorporating particular logics and accountability requirements (Marginson, 2011; Slaughter, 1990). Consequently, promoting diversity is not a neutral financial endeavour but a multifaceted process of legitimacy navigation and institutional identity negotiation. A resilient system is one in which the policy architecture (RI, SE) facilitates diversification routes that are consistent with the institution's fundamental academic goal, rather than only focussing on revenue maximisation.

The generative mechanism: Feedback loops as the engine of path creation

The fundamental explanatory discovery of the SCS Framework is the recognition of self-reinforcing feedback loops as the generative mechanism that entraps systems in paths of resilience or vulnerability. (1) This is a dynamic model of path generation rather than a static typology. **The Virtuous Cycle of Coherence:** In a cohesive arrangement, positive reinforcement expedites adaptation. For instance, stability (TP) facilitates the efficient use of autonomy (RI) to capitalise on a socio-economic opportunity (SE), such as a long-term industry relationship. The success of this cooperation enhances institutional reputation, which cultivates political trust, resulting in increased stability (TP) and potentially greater autonomy (RI). This cycle produces

escalating returns to coordinated action, enhancing systemic adaptive capacity (Folke et al., 2021). (2) The Pernicious Cycle of Dissonance: Conversely, dissonance produces adverse feedback that reinforces dysfunction. Volatility (TP) compels short-term thinking, inhibiting the application of autonomy (RI) for long-term diversification (SE). The resultant financial fragility is subsequently referenced as a rationale for heightened state control (diminishing RI) and additional erratic intervention (augmenting TP), hence exacerbating reliance. This loop establishes a competency trap, wherein the system excels solely in crisis management, neglecting strategic pursuits (Mahoney and Thelen, 2015). The essential analytical conclusion is that the direction and intensity of these feedback loops, dictated by initial configurational alignment, elucidate diverse system outcomes more effectively than any static assessment of funding levels or policy design.

Diagnostic utility: Identifying points of maximum leverage

A key analytical contribution of this synthesis, implemented via the SCS Framework, is its ability to substantially shift diagnostic practice from an emphasis on symptomatic outcomes to a forensic examination of configurational interfaces. This reframes the fundamental inquiry for policymakers, institutional leaders, and scholars from "What is the deficit?"-whether in funding, autonomy, or diversification-to a more specific and practical question: "Where exists the critical structural misalignment?" The framework offers a blueprint to pinpoint the precise fault lines where the logics and outcomes of several domains clash, producing the negative feedback that sustains systemic dysfunction. Is the fundamental pathology situated at the intersection of devolved financial responsibility (RI) and short-term, annualised budgeting cycles (TP), a discrepancy that ensures strategic paralysis? Alternatively, does it lie in the mismatch between legislative incentives for university commercial engagement (SE) and restrictive, risk-averse conflict-of-interest laws (RI), which collectively penalise the entrepreneurial conduct they purportedly promote? Is the critical mismatch located between a political culture that requires swift, measurable returns on investment (TP) and the gradual, trust-oriented temporal logic of charitable development (SE)? By facilitating the exact identification of these particular interfaces of structural dissonance, the framework advances professional and political discourse beyond vague and frequently ineffective calls for "increased funding" or "enhanced autonomy." It enables focused, high-impact intervention aimed at readjusting the fundamental feedback mechanisms of the system. The most effective and sustainable reforms, it contends, are not merely those that augment resources or loosen regulations in a single domain, but rather those that intentionally restructure these essential interfaces. This entails formulating policies and governance modifications that convert conflict zones into areas of synergy-such as aligning multi-year strategic budgets (TP) with decentralised financial authority (RI), or establishing efficient, principle-driven regulatory frameworks (RI) for initiatives promoted by innovation policy (SE). The primary aim is to intervene at architectural intersections where minor, targeted modifications might transform the system from a detrimental cycle of dissonance to a beneficial cycle of coherence, thus changing its essential path towards resilience.

Implications and future research

The ramifications of the SCS Framework, based on the analytical conclusions of configurational causality and the predominance of feedback loops, extend into tangible scientific and policy areas. These implications are not generic but are direct consequences of the framework's fundamental logic.

Scholarly implications: A configurational and dynamic research imperative

The SCS Framework requires a fundamental transformation in research design in higher education finance. The discipline must progress beyond investigations that examine isolated variables (e.g., "the impact of performance funding on graduation rates") to research that encompasses configurational causality and temporal dynamics. **Paradigmatic Transition:** Prevalent linear regression models, designed to isolate net effects, are inadequate for capturing the conjunctural, interdependent interactions proposed by the framework. Set-theoretic approaches, such as Qualitative Comparative Analysis (QCA), are crucial for determining the required and sufficient combinations of RI, SE, and TP circumstances that result in resilience or vulnerability (Schneider and Wagemann, 2012; Ragin, 2009). Simultaneously, longitudinal and process-tracing investigations are necessary to delineate the activation and progression of the virtuous and vicious feedback loops found in the analysis. **Theoretical Integration:** The results encourage a more profound integration with related theories. The notion of structural coherence serves as a connection to sociological research on institutional logics, providing a structural elucidation of how various logics are actualised and administered. The emphasis on temporal patterns is strongly linked to historical institutionalism, offering a mechanism-feedback loops-to elucidate phases of path stability and instances of potential change.

Policy and leadership implications: From symptomatic fixes to systemic realignment

It is essential to move away from the use of isolated "best practices" and instead adopt a methodical approach to architectural design. The framework offers a diagnostic map for this task. **For System Architects (Ministries, Legislatures):** Policy design should be redefined as ecosystem engineering. The main objective is not to enhance individual funding instruments but to guarantee their configurational coherence. Any reform in one domain must be assessed for its effects on the others. Introducing tuition fees necessitates the implementation of strong student aid systems, clear institutional accountability for student success, and secure long-term funding for core educational missions to avoid mission distortion. The most effective intervention typically occurs in the Temporal-Political domain, specifically through the establishment of protective governance structures, such as independent funding councils and multi-year compacts, which create the necessary stability for all subsequent strategic actions. **For Institutional Strategists:** The framework offers a robust perspective for strategic positioning and advocacy. University leadership must evaluate the unique structural configuration of their institution. Is the main constraint volatile state appropriations, restrictive procurement rules, or a weak regional innovation ecosystem? Strategic plans must prioritise the development of internal capacities, including advanced financial forecasting, government relations, and industry liaison offices, tailored to manage the institution's interactions with its most limiting environment. Advocacy efforts must transition from broad funding requests to targeted proposals for structural realignments,

including the promotion of matching fund schemes that effectively connect state objectives (RI/TP) with philanthropic opportunities (SE).

Limitations and future research

The SCS Framework offers an integrative model, yet its conceptual nature establishes distinct boundaries and research trajectories. The proposed dimensions within each realm, such as Strategic Autonomy Scope and Policy Horizon Length, necessitate thorough operationalisation and measurement. Future research should establish standardised metrics, potentially incorporating policy text analysis, financial volatility indices, and governance audits, to facilitate comparative fsQCA testing of the framework's core propositions across a global sample of systems. Agency and power are examined within specific configurations, highlighting the significance of structure. The next essential step involves theorising and examining the influence of agentic power on shaping configurations. What strategies do political coalitions, entrepreneurial leaders, or faculty unions employ to establish coherence or leverage dissonance in order to facilitate structural change? This necessitates qualitative, actor-centered research within the configurational context delineated by the framework. The synthesis relies significantly on OECD national systems within sub-systemic and non-Western contexts. Research should evaluate and enhance the framework within sub-national contexts, such as state systems in federal countries, and in the Global South, where the socio-economic realm and state capacity exhibit significant differences. This will evaluate the framework's generalisability and likely uncover new, essential dimensions of structural configuration.

Conclusion

This Critical Interpretive Synthesis commenced in a field characterised by a persistent dualism between fiscal and governance analyses, a division that obscured the essential drivers of systemic financial outcomes. The analysis has arrived at a significant integrative thesis through a systematic process of reciprocal translation and refutational synthesis: the sustainability of higher education funding is not dictated by any single policy but emerges from the interplay of three interdependent structural realms. The Structural Coherence for Sustainability (SCS) Framework offers a dynamic model of this configuration. It suggests that resilience emerges from a synergistic alignment of the Regulatory-Institutional, Socio-Economic, and Temporal-Political domains, creating virtuous cycles of adaptive capacity. Vulnerability represents a pathological condition characterised by structural dissonance, wherein misaligned domains confine systems within detrimental cycles of dependence and reactive crisis management. The framework redefines core concepts such as autonomy and diversification as relational functions and identifies temporal stability as a foundational enabling condition, thereby offering a novel diagnostic grammar for the field. This analysis posits that the persistent "crisis" in higher education funding fundamentally stems from issues related to structural design. The solution resides not in seeking a singular funding instrument but in the intentional and coherent design of policy-institutional ecosystems. The SCS Framework serves as a blueprint for this critical task, presenting scholars with a novel configurational research agenda and supplying policymakers and leaders with conceptual tools to develop financially resilient universities that can achieve their societal missions amid ongoing change.

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Conflict of interest

The authors confirm that there is no conflict of interest involve with any parties in this research study.

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