



Market-Shaping States: A new theory of public sector capacities and capabilities

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Abstract

This article advances a market-shaping theory of the public sector to address one of the most persistent tensions in public administration: how governments can be both stable and agile, while also steering complex socio-technical transformations. We argue that prevailing approaches—centred on market failure correction, efficiency, and managerial reform remain insufficient for guiding transitions in areas such as climate, care, digital infrastructure, and industrial renewal. Instead, we conceptualise the state as a proactive shaper of markets and co-creator of public value. We develop a three-layered framework of public sector capacities and capabilities that distinguishes among (1) structural capacities that enable governments to set and sustain direction; (2) organisational routines that translate direction into coordinated practice; and (3) dynamic capabilities that allow governments to experiment, learn, and reconfigure strategies under uncertainty. We show that public value emerges through the interaction of structural, routine, and dynamic elements, rather than any single attribute. This perspective reframes the state as an institutional system that is capable of shaping futures, not merely responding to failures.

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1. Introduction

Governments face an increasingly complex task of addressing socio-technical challenges such as climate change and inequality, while being limited by accountability frameworks developed over the past few centuries (Mazzucato, 2021). Jakob Burckhardt, one of the most prominent German 19th-century historians, famously remarked, “The state ... should be able to do everything, yet allowed to do nothing.” This paradoxical tension between agility and stability has become one of the most persistent challenges in public administration theory and practice (Kattel, Drechsler and Karo, 2022). Since the emergence of modern administrative states in the early 20th century, this tension has influenced how governments are organised, managed, and reformed. While the Weberian model stressed predictability, hierarchical control, and accountability, Weber (2002) famously warned against “creative” bureaucrats for their potential arbitrariness—reforms in the late 20th and early 21st centuries have increasingly shifted the balance towards agility. This change has dominated academic debates and significantly shaped the direction of public sector reform worldwide.

Vincent and Elinor Ostrom partially anticipated the focus on agility in their 1971 article on public choice, where they observed that “a system of public administration composed of a variety of multiorganisational arrangements and highly dependent on mobilising clientele support will come reasonably close to maintaining a high level of performance in promoting the public welfare.” In retrospect, this idea foresaw the rise of New Public Management (NPM) in the 1990s, which sought to introduce agility into the public sector through business management practices, particularly decentralisation, performance measurement, and the introduction of market-like mechanisms. Nonetheless, NPM reforms also brought about unintended outcomes: increasing transaction costs, an “audit explosion”, and greater complexity in coordinating across fragmented, quasi-autonomous agencies (Pollitt and Bouckaert, 2011).

Subsequent waves of reform—such as public sector innovation strategies, digital transformation efforts, and human-centred design initiatives—continued to emphasise agility. Ines Mergel's work on agile government exemplifies this trend, highlighting the spread of adaptive, user-focused practices into the public sector (see, e.g., Mergel, Ganapati and Whitford, 2020). Despite decades of reform, many governments now seem to suffer from a form of “agility paralysis.” Innovation labs often remain on the fringes of core bureaucratic functions. While digital agencies are effective at developing digital infrastructure and service interfaces, they rarely achieve systemic change. This paradox of ongoing reform efforts aimed at agility alongside persistent bureaucratic inertia has led to the emergence of hybrid models such as the neo-Weberian state, New Public Governance, digital-era governance, and more recently, public sector transformational capacities. These frameworks seek to combine agility-enhancing practices with the fundamental attributes of the Weberian state, advocating for incremental adaptations rather than complete redesign (Bouckaert, 2023; Borrás et al., 2024).

However, a question that remains underexplored in these debates is: What are the underlying economic and technological foundations of agility and stability?

In other words, what are agility and stability meant to enable in terms of economic outcomes, societal transformation, and innovation? Existing public administration theory has often remained passive on this issue, operating within a limited view of the state, where governments are mainly responsible for fixing market failures. This narrow division between “market” and “state” restricts the scope of what public organisations are considered capable of, and also fosters a reactive stance rather than one focused on shaping or co-creating markets (Mazzucato, 2018).

While Max Weber’s own writings on bureaucracy and the economy emphasised a collaborative relationship between legal-rational authority and capitalist development, he did not fully anticipate the rise of technology- and innovation-driven markets that characterise contemporary capitalism. Nor did subsequent public administration theories develop an adequate framework to understand how public organisations interact dynamically with technological frontiers and innovation ecosystems.

The present article introduces a new theoretical foundation for public administration, which we term the **market-shaping theory of the public sector**. Instead of viewing public organisations solely as market correctors or service providers, we argue they are proactive participants in steering the direction, pace, and composition of innovation and economic growth. This rethinking enables us to reconsider the agility-stability paradox not as a simple trade-off but as a set of interconnected capacities and capabilities designed to manage complex, uncertain, and evolving systems. Agility transforms into dynamic capabilities when public organisations and leaders experiment, adapt, and mobilise resources in response to new challenges, while stability is redefined as the structural capacities of institutional endurance and strategic direction that are necessary to support societal transformations over time.

While theories of dynamic capabilities have become fundamental in the study of private firms—starting with Penrose’s (1959) view of the firm as a collection of growth-enabling resources, and further developed by Teece and others in response to externally-oriented frameworks like Porter’s five forces (Teece and Pisano, 1994)—a similar theoretical foundation is notably lacking in public sector scholarship. We argue that one reason for this gap is the absence of an explicit *theory of value* that underpins most accounts of public sector capabilities. In the private sector, capabilities are important because firms are considered *value creators* that compete in and shape markets. This perspective requires internally developed, non-outsourcable capabilities, such as absorptive capacity, innovation skills, and learning routines.

In contrast, the public sector is often viewed mainly as a *value enabler* or *market fixer*, relying on baseline operational capacity, procedural routines, and regulatory tools. However, if the state is reconceptualised as a *value creator* and *market shaper* that actively co-constructs socio-technical systems, markets, and innovation trajectories then the need for a more sophisticated, dynamic theory of public sector capabilities becomes clear. Our work builds on and extends the Penrose-Teece tradition to argue that public sector capabilities should be understood not simply as administrative or managerial functions, but as essential societal capacities for co-creating public value in conditions of uncertainty.

The remainder of this article is structured as follows. First, we provide a comparative analysis of the dominant “market-fixing” paradigm in public sector theory versus the emerging “market-shaping” approach (Mazzucato, 2016; 2018). We argue that an understanding of the dynamics of technology and innovation is central to this reconceptualisation, and that traditional assumptions about public sector efficiency and neutrality are insufficient in a world of accelerating technological change. Second, we develop a multilayered framework of public sector capacities and capabilities grounded in a market-shaping perspective. Building on recent advances in mission-oriented innovation policy and dynamic capabilities theory, we argue that governments require a portfolio of capacities and capabilities that are distributed and orchestrated across policy levels, time horizons, and institutional domains. These capacities and capabilities are not static attributes but must be continually renewed and recombined to match the evolving landscape of societal challenges.

In brief, resolving the agility-stability paradox requires more than just institutional tinkering or managerial fixes. It calls for a fundamental rethinking of the purpose of public organisations and their potential in a rapidly changing world. By anchoring our analysis in a market-shaping theory of the public sector, we present a pathway to reimagine public sector capacities and capabilities not merely as passive guardians of order or efficiency, but as proactive architects of innovation-led, inclusive, and sustainable futures.

2. Old and new economic theories of the public sector: from the static state versus markets to dynamic interactions between state and technology

In this section, we advance three interlinked arguments that challenge the adequacy of the market failure framework as the dominant paradigm for understanding the role of the public sector.

First, we argue that market failure theory, which is founded on the goal of correcting inefficiencies, has become increasingly ill-suited to address the complex, interdependent, and urgent challenges of the 21st century. These include demographic ageing, climate emergencies, technological disruptions, and geopolitical fragmentation. Its underlying focus on static efficiency—optimizing existing resource allocations under conditions of presumed equilibrium—offers limited guidance in contexts characterised by uncertainty, path dependence, and non-linear change (Sharpe et al., 2021). Instead, addressing such challenges requires a conception of *dynamic efficiency*, oriented toward enabling structural transformation, experimentation, and learning within complex systems over time.

A key challenge in this shift has been persistent confusion between static and dynamic efficiency. Static efficiency refers to optimisation within a given institutional or economic structure, such as cost minimisation or allocative efficiency at a specific point in time, and has shaped many market-failure-based interventions and managerial reforms focused on downsizing, performance metrics, and short-term savings. Dynamic efficiency, by contrast, concerns the

capacity of systems to change their structure through sustained investment, capability building, and innovation (Sharpe et al., 2021). Therefore, reforms that prioritise static efficiency may undermine dynamic efficiency when they weaken training systems, institutional memory, or feedback mechanisms essential for learning and adaptation. From this perspective, contemporary societal challenges cannot be treated as isolated policy problems, but must be understood as features of interconnected socio-technical systems requiring coordinated, adaptive, and long-term public action.

Our second argument is that although there is a growing literature on systems transformation—particularly from scholars such as Frank Geels, Johan Schot, and others working in the field of socio-technical transitions—this body of work has largely overlooked a critical distinction: the difference between socio-technical systems such as mobility, energy, or food systems, on one hand, and public services such as education, health, and welfare, on the other. The former are often sites of visible innovation and transformation, supported by targeted public investments and innovation policies. The latter, by contrast, are typically framed through a logic of cost-efficiency and fiscal restraint, which leads to recurring waves of austerity and underinvestment. This bifurcation is paradoxical: while public spending is predominantly allocated to public services, public value creation is increasingly framed around socio-technical transformations. The consequence is a dual regime: investment-driven innovation in “technical” domains and efficiency-driven management in “social” services.

To address this divide, we draw on W. Brian Arthur’s theory of technology, which conceptualises technology as a solution–problem duality. Each technological innovation solves a problem but simultaneously creates new externalities or dependencies. For example, automobiles increase mobility while contributing to pollution, while electric vehicles reduce emissions but depend on rare earth minerals extracted under often exploitative conditions. Importantly, many public services, such as education, care, and mental health, are themselves developed as societal responses to externalities and disruptions generated by technological change. From this vantage point, public services and socio-technical systems are not distinct domains but mutually co-evolving arenas of problem-solving and value creation.

This holistic understanding of the dynamic interactions between technology and society enables a reconceptualisation of the public sector’s role, not as a residual fixer of market failures, but as a co-creator of public value across both socio-technical systems and public services. In this context, public value is not limited to allocative efficiency or service delivery performance; it includes the capacity to shape equitable, sustainable, and inclusive trajectories of societal development. Such value is necessarily created through collaboration across public, private, and civic sectors, and depends on institutional capacities that can navigate complexity, uncertainty, and long-term horizons.

Third, we propose a synthesis that we term the **market-shaping theory of the public sector**. This theoretical approach integrates insights from evolutionary economics, systems theory, and human development perspectives to articulate a more ambitious role for public organisations.

The approach rests on two pillars:

1. Recognition of the deep uncertainty and path dependence that characterize socio-technical transitions; and
2. A normative foundation grounded in human capabilities and rights-based approaches, as exemplified in the work of scholars and practitioners such as Hilary Cottam.

This market-shaping theory positions the public sector not simply as a regulator or service provider, but as a shaper of societal futures that are able to steer complex systems toward outcomes that are economically viable and also socially just and environmentally sustainable.

2.1 The failures of market failure theory

Market failure theory (MFT) justifies public intervention in the economy only if it is geared towards fixing situations in which markets fail to efficiently allocate resources (Arrow, 1951). The market failure approach suggests that governments must intervene to fix markets by investing in areas characterised by positive or negative externalities. For instance, public goods, which are conceptualised as being non-rivalrous and non-excludable, can produce positive externalities that are characterised by underinvestment by the private sector, thereby requiring public investment. This is the justification for public investment in basic research, which generates significant spillovers that make it difficult for private actors to appropriate returns (and thus often receives inadequate private investment). Negative externalities (such as pollution) are thought to require policy interventions that ensure the private sector internalises the costs (such as through a carbon tax) (Mazzucato, 2016).

While MFT provides interesting insights about certain anecdotal examples like basic research, it is, at best, useful for describing a steady-state scenario in which policy aims to patch existing trajectories that are primarily shaped and driven by markets. MFT becomes less useful when policy is needed to create and shape new markets; that is, to transform an economy or drive a green transition. This means MFT is problematic for addressing innovation and societal challenges because it cannot explain the kinds of transformative, catalytic, mission-oriented public investments that have occurred in the past to create new technologies and sectors and that are required today in the face of challenges like the climate crisis (Mazzucato, 2013; 2016; 2021; Mazzucato and Penna, 2015; Foray et al, 2012; Nelson, 1977).

In other words, any policy framework that concentrates solely on rectifying problems within markets, especially market failures, will not include any clear justification for the type of market creation and mission-oriented approach that was necessary for historical innovations like the Internet and is essential for addressing today's societal challenges (Mazzucato, 2013). By failing to view the state as a lead investor and market creator, traditional policy ideas based on failure-focused methods will fail to offer insights into the kind and organisation of the public sector needed to support high-risk (and potentially high-reward) public investments, as policy will be viewed only as an intervention rather than a vital part of the process of shaping and creating markets (Mazzucato, 2016).

Rooted in the theoretical foundations of MFT, new public management (NPM) reforms focused on market-failure based approaches and coalesced in the 1990s around the 'Washington Consensus' policies that focused on deregulation, opening up domestic markets, and relying on foreign direct investments and exports to drive economic expansion (Williamson, 2002; Wade, 2003; Kattel, Kregel and Reinert, 2012). These practices diminished the idea of state autonomy distinctly, and the concept of state capacity shrank with it. Thus, the public sector innovation capacity discussions with which we engage later in this paper can be conceptualised as a response to NPM reforms and their consequences (Kattel, 2022).

NPM reforms first aimed to increase the managerial autonomy of public agencies and thus facilitated the privatisation of state-owned companies and support the creation of peripheral agencies, among other things. However, the NPM reforms also brought focus to short-term efficiencies in the form of performance management practices based on strict measurements of inputs and outputs, benchmarking and an overall heightened focus on governance metrics (Kattel, 2022; Kattel et al, 2014; Dooren, Bouckaert and Halligan, 2015; Drechsler, 2019). The NPM reform waves on the 1980s and 1990s focused on "visible performance" of lower-level activities — "frog view" (Bouckaert and Peters, 2002) — and not on higher-level (such as cross-organisational) policy fields. This frog view manifests itself today in the concern about precision-targeting government support on the project level and increasingly complex and mostly market failure-driven policy evaluation tools to understand the impact of such support, mostly with mixed success (Kattel and Mazzucato, 2018; Edler et al., 2016).

NPM reforms have frequently targeted public services such as health care since this is often a large, cost-driving branch of the public sector that has some similarities to private services, such as the production of individual services, and a certain scope for standardisation and quantitative monitoring of production (Mazzucato and Kattel, 2020). However, there is no evidence that such reforms have led to improved outcomes (Simonet, 2011). Instead, they have led to a more transactional view of public services that focus on the ease and efficiency of delivery rather than on satisfying substantive needs or developing human capabilities (Cottam, 2018).

Given the focus on large, machine-like public sector organisations and their perceived inefficiencies, a common NPM strategy was to contract out, franchise or privatise government services. The aim was to address the so-called 'principle-agent problem'. Unlike shareholders who can (supposedly) hold corporate managers accountable, citizens have limited means of holding public-sector bureaucrats accountable. Voting was conceptualised as being a poor substitute for the discipline of the profit motive by which shareholders can judge corporate managers. This led to the view that government should focus on technical interventions to correct market failures, like building codes, to minimise the risk of government failure and improve public-sector efficiency by introducing market discipline (Mazzucato and Kattel, 2020; Lane, 2002).

Another consequence of NPM reforms is that the consulting industry and its employees have been able to profit for decades off public administrations that have not had the political credit or funding to function autonomously (Mazzucato and Collington, 2023; Collington and Mazzucato, 2024).

MFT and the resulting NPM reforms were foundational to the industry's success because they justified the outsourcing of state functions and capacity to private consulting firms in the first place. As a result, a parasitic relationship developed between public administrations and an industry that had an incentive to help them function on their own. Over time, the outsourcing of critical functions has resulted in a loss of in-house skills and institutional memory, a loss that is acutely felt by governments during crises such as pandemics (Mazzucato and Kattel, 2020).

2.2 Not all systems are the same: socio-technical system vs public service logics

The contemporary landscape of innovation and governance is increasingly shaped by two distinct yet interrelated paradigms: the socio-technical systems approach, which has largely emerged from science and technology studies (STS) and evolutionary economics; and the public service logic, as articulated by scholars such as Stephen Osborne (2020) but also broadly practised in user-centred design approaches to public service delivery. While both frameworks engage with the processes through which societies generate and deliver value, and broadly agree that change must be understood and driven as a systemic change, they have evolved along parallel tracks, each with its own assumptions, priorities and policy implications. Thus, for instance, the concepts of innovation and system are understood and practised differently in socio-technical systems and public services. This divergence has created a conceptual and institutional bifurcation: science, technology and innovation logics based on dynamic market and technological change on one hand, and public service logics governed by user needs and co-creation on the other.

Socio-technical systems such as energy, mobility, food and digital infrastructures are understood as large-scale configurations of technology, institutions, behaviours and markets that co-evolve over time. Drawing on evolutionary economics and transition theory (Geels, 2005; Schot & Steinmueller, 2018), these systems change through processes of niche innovation, regime destabilisation and landscape pressures. Markets play a central role in this evolutionary dynamic: uneven competition fosters experimentation, incentivises firms to innovate, and creates windows of opportunity for policy interventions. Public authorities often act as enablers of change by supporting emerging technologies, investing in infrastructure, and crowding in private investment.

A prominent example is the transition to electric vehicles (EVs). This shift has not only required significant public and private investment in battery technology and vehicle design, but also extensive public support for infrastructure such as charging networks and regulatory standards. In this way, governments do not merely correct market failures but actively participate in shaping new markets and guiding systemic transitions. However, even in these innovation-led transformations, the public sector is often positioned as a facilitator or investor of last resort, with public value narrowly understood in terms of technological diffusion or carbon reduction metrics.

By contrast, the logic of public services operates according to a different set of norms and drivers. Public service-dominant logic, as developed by Osborne (2010; 2018), emphasises the co-production of services, the relational and processual nature of value creation, and the unique characteristics of public service delivery compared to private goods.

Two core dynamics underpin this logic. First, public services often emerge and evolve in response to the externalities or structural changes generated by socio-technical transformations. For example, urbanisation prompted the development of clean water systems and public health infrastructure. Second, public services are anchored in normative commitments to social justice, human rights, and universal access, and these normative goals emerge from political contestation processes and remain often contested for long periods. At their core, however, such rights-based goals aim to develop capabilities of individuals to participate in society and the economy through such means as mandatory schooling, healthcare entitlements or social insurance systems.

In sum, innovation and system change logics are interlinked yet clearly different in socio-technical systems and in public services. However, in contrast to the investment-intensive approach adopted for socio-technical transitions, public services have increasingly been subjected to managerialist reforms aimed at efficiency, cost reduction, and output measurement, best exemplified by the NPM reforms described above. This has led to a paradoxical situation: although public expenditure is disproportionately allocated to education, health and social protection, the dominant narratives of public value and innovation remain tethered to the techno-economic domains such as energy or mobility.

This bifurcation has significant implications. On one side, we see targeted, investment-led strategies aimed at fast-tracking transformation in “technical” systems, often centred around green growth, digital leadership or industrial competitiveness. On the other side, we see “social” systems undergoing incremental reforms focused on budget management and bureaucratic efficiency. The outcome is a dual regime: innovation and experimentation in socio-technical systems, and risk aversion along with underinvestment in public services. This division not only distorts public discourse about value creation but also diminishes the state’s ability to guide long-term development.

To bridge this divide, we suggest redefining public value as a unifying perspective that connects socio-technical systems and public services. Using W. Brian Arthur’s (2009) concept of technology as a duality of solutions and problems, we see each technological innovation as simultaneously addressing existing issues and creating new externalities. The automobile increased personal mobility but also caused pollution and led to car-dependent urban design. Electric vehicles reduce emissions but heighten reliance on rare earth minerals, which are often extracted under poor labour conditions. According to this view, public services such as education, mental health, or long-term care are not just welfare measures and solutions to market failures but institutional responses to societal disruptions caused by technological and economic shifts that help society adapt and build resilience.

This perspective integrates public services and socio-technical systems as interconnected features of the same ecosystem, serving as mutually reinforcing arenas of problem-solving and value negotiation. For example, education systems are enablers of individual capability but also fundamental to the successful dissemination of new technologies and industrial transitions.

Similarly, care infrastructures play a vital role in ensuring that socio-technical transitions are fair and inclusive. Therefore, the concept of co-evolution, which is often used to describe interactions among firms, technologies, and institutions within STS, can be expanded to encompass public service systems as active agents in guiding the pathways and outcomes of socio-technical change.

A theory of public value creation that incorporates these insights goes beyond the simple division of market and state. Instead, it adopts the idea of market shaping as a strategic activity where public, private and civic actors work together to influence the direction, speed and inclusiveness of societal transitions (Mazzucato, 2021). In this view, public value is generated not only by fixing market inefficiencies but also by shaping both the inputs and outcomes of economic activity. Examples include the deployment of EV infrastructure or public procurement for green technologies as input shaping. Meanwhile, universal education or public health systems influence the outcomes by providing fair access to the benefits of these transitions.

This broader concept of public value requires a different approach to public sector organisations. It calls for states to act not just as efficient administrators but as adaptable, learning entities capable of managing complex transitions, balancing tensions between competing goals, and maintaining legitimacy amid uncertainty. It also involves reframing STI policies to explicitly include social objectives, equity issues and long-term resilience—beyond mere productivity and competitiveness. In other words, we need a market-shaping theory for the public sector.

2.3 Market shaping theory of the public sector

The view of the state as a market shaper rather than a market fixer (Mazzucato, 2013; 2016; 2018) is rooted in a Polanyian view of the market, which understands that markets are outcomes of the interactions between both public and private actors, as well as actors from external sectors (like philanthropy) and civil society. As Polanyi aptly put it, “the road to the free market was opened and kept open by an enormous increase in continuous, centrally organised and controlled interventionism” (Polanyi, 1944, p. 144). Polanyi’s contribution debunks the notion of state actions as ‘interventions’; rather, markets are seen as being deeply embedded in social and political institutions, with markets themselves being outcomes of social and political processes (Mazzucato, 2022; Evans, 1995).

There are six broad areas in which we can contrast market fixing and market shaping theories of the public sector: how they justify the role of government, theory of value creation, justification of public services, assumptions about systems change, focus of policy evaluation and appraisal, and approach to risk in the public sector.

Justification for the Role of Government

In the market-fixing view, government intervention is justified only when clearly identifiable failures, such as public goods, negative externalities, or information asymmetries, prevent markets from functioning efficiently. This assumes the existence of “natural” markets that can be corrected without altering their underlying structure.

In contrast, the market-shaping approach starts from the recognition that markets are not neutral or self-organising and are instead co-created by public, private and third sectors. Therefore, the state's role is constitutive: to actively shape markets so they align with public purposes as expressed through political processes, rather than passively correcting them when they fail. This shifts the normative basis of public policy from efficiency toward directionality and legitimacy.

Theory of Value

Conventional frameworks associate value with market exchange and entrepreneurial activity, which often reduces the role of the public sector to an enabler of private value creation.

The market-shaping perspective challenges this assumption by positing that value is co-produced across sectors through ongoing processes of innovation, coordination, and public investment. The fact that value is made through collective action rather than discovered by marketing highlights the entrepreneurial role of the state in creating new technological and institutional possibilities (Mazzucato, 2018).

Justification of Public Services

In a market-fixing logic, public services are justified as non-rivalrous goods or as mechanisms to mitigate negative externalities. The market-shaping view sees public services as embedded in socio-technical ecosystems. These services are not merely redistributive or palliative but play an active role in shaping citizens' capabilities and structuring long-term trajectories of innovation and welfare (Cottam, 2018).

Underlying Assumptions of System Change

Traditional models assume that the future can be predicted with sufficient precision through probabilistic risk assessments and discounting. The system is presumed to operate near equilibrium, with marginal interventions yielding proportional results. Instead, market shaping is premised on radical uncertainty, non-linear feedback, and the potential for structural and non-marginal change. This epistemological shift aligns with complexity economics and evolutionary theory, which acknowledges the endogenous and path-dependent nature of economic systems (Sharpe et al., 2020).

Policy Appraisal and Evaluation

In the market-fixing paradigm, policy appraisal relies heavily on ex-ante cost-benefit analysis and minimisation of government failure. The focus is on short-term allocative efficiency and technical neutrality. In a market-shaping framework, policy evaluation is inherently reflexive and iterative. It asks not just whether policies are efficient, but whether they are reconfiguring systems in line with societal goals such as decarbonisation, inclusion or resilience. Thus, evaluation incorporates dynamic efficiency, spillovers, and long-term public value creation (Kattel et al, 2018).

Approach to Risk

The conventional approach treats risk as a quantifiable variable to be mitigated, often assuming an optimism bias that must be corrected through caution and procedural rigour.

Market shaping, by contrast, treats risk as intrinsic to innovation and transformation. Rather than avoiding risk, the state must embrace experimentalism and build institutional capacities for learning, adaptation and scaling.

The contrasting views are summarised in Table 1 below.

Table 1. Contrasting market fixing and market shaping theories of the public sector.

	Market-fixing approach	Market shaping approach
Justification for the role of government	Market or coordination failures: <ul style="list-style-type: none"> ▪ Public goods ▪ Negative externalities ▪ Imperfect competition/information 	All markets and institutions are co-created by public, private and third sectors. The role of government is to ensure that markets support public purposes
Theory of value	Value is created through entrepreneurialism and market dynamics	Value is created through collaboration, competition and coordination between public, private and third sectors
Justification of public services	Public services are public goods, mitigate negative externalities	Public services form dynamic socio-technical ecosystems with technology systems
Underlying assumptions of system change	Possible to estimate reliable future value using discounting/monetisation of externalities/risk assessment; the system is characterised by equilibrium behaviour	Future is uncertain because of potential for novelty and non-marginal change; the system is characterised by complex behaviour
Policy appraisal and evaluation	Focus on ex-ante cost-benefit analysis and solving specific market failure and avoidance of government failure	Focus on dynamic efficiency (including innovation, spillover effects and systemic change) and ongoing and reflexive evaluation of whether the system is moving in the direction of the desired socio-political goals
Approach to risk	Highly risk-averse; optimism bias assumed	Focus on iterative learning and experimentalism

Source: Adopted and substantially further developed from Kattel et al. (2018).

The market-shaping theory of the public sector demands a fundamental reassessment of how we understand and develop public sector capacities and capabilities. First, we need to systematise these capacities and capabilities from the perspective of market-shaping theory, identifying the structural, organisational, and dynamic elements that enable the state to co-create markets and steer innovation towards public purpose. Second, we need to expand existing frameworks beyond the traditional focus on efficiency and delivery to encompass capacities for direction-setting, sectoral coordination, experimentation under uncertainty and the creation of long-term public value.

3. A new theory of public sector capacities and capabilities

The theoretical shift to market shaping exposes key limitations in the prevailing literature and policy discourse on public sector capacity. First, existing approaches often fail to explain interactions between short-term operational capabilities (such as responding to a crisis like COVID-19), day-to-day routine activities (such as stockpiling resources to respond to future crises), and long-term capacities (for example, investing in R&D activities and institutions that might be relevant for future challenges) (Kattel, 2022; Mazzucato and Kattel, 2020). Second, capacity is frequently inferred through outcome-based proxies—for example, low crime rates are taken as evidence of police effectiveness—without adequate attention to the underlying processes, institutional settings or temporal dynamics (Kattel et al, 2024). Third, the empirical basis for assessing public sector capabilities remains predominantly retrospective and case study-driven, offering limited insights into real-time functioning or future-oriented problem-solving under conditions of uncertainty (Kattel et al, 2025).

To address these challenges, we propose building on two key assumptions. First, we differentiate between *capacities* and *capabilities*. Capacities involve the structural and enabling conditions embedded in broader institutional frameworks, while capabilities refer to organisational routines that steer the daily activities of public sector organisations. Second, inspired by Nelson and Winter's classic account of organisational routines (1982), we suggest viewing these routines as the connective tissue that links structural capacities to dynamic capabilities.

These two assumptions allow us to propose a layered framework of public sector capacities and capabilities that reflects the multidimensional and dynamic nature of the state as market shaper. Specifically, we identify three interdependent layers. The first is *structural capacity*, which encompasses the institutional and legal architecture, resource base and broader governance environment within which public organisations operate. Structural capacities **refer to the institutional architecture, resource base and political authorising environment** that enable public organisations to act beyond short-term administrative maintenance. This includes legal mandates, financing mechanisms, coordination bodies, professional civil service systems, and long-term planning instruments. Crucially, structural capacity expresses a polity's ability to set direction, sustain commitment, and absorb risk. For example, the US Department of Defense's long-standing procurement and R&D infrastructure enabled decades-long investment in early-stage technologies such as computing and semiconductors, providing structural stability for highly uncertain innovation trajectories. The DoD's ecosystem of research laboratories (DARPA, for example), procurement agencies, and long-term contracting arrangements provided the infrastructure for cultivating experimentation, portfolio management, and feedback learning (Mazzucato, 2013; Block and Keller, 2015). Another example is Estonia's digital transformation, which was possible because core legal foundations—particularly digital identity and interoperability mandates—created system-wide alignment and continuity despite limited fiscal resources (Kattel and Mergel, 2019).

The second layer comprises *organisational routines and practices*, referring to the day-to-day administrative, managerial, and professional processes that enable policy implementation and service delivery. Organisational routines are the repetitive, professionalised and socially embedded practices through which the public sector carries out its work. They are neither simply bureaucratic procedures nor neutral processes of administration; they embody the tacit ways in which problems are defined, priorities are negotiated, and value is produced. Routines also mediate how structural capacities are translated into everyday action. They can either enable experimentation or reinforce stasis. Returning to the US defense innovation system example used above, we can argue that DARPA's rotating programme manager model and milestone-based portfolio evaluation are examples of routines that embed experimentation, cross-boundary collaboration, and learning-by-doing into daily practice. Erica Fuchs has shown how DARPA's approach created pathways for scaling such early-stage technologies as semiconductors, computing, and advanced materials by embedding iterative learning and feedback loops within the defence procurement system. Importantly, these routines were not limited to technical evaluation but also involved shaping entire industrial ecosystems. DARPA deliberately cultivated supplier networks, supported technology standards, and ensured that defence-driven innovations could spill over into civilian markets (Fuchs, 2010).

The third and most dynamic layer involves *dynamic capabilities*, which refer to the ability of public organisations to engage in experimentation, learning, coordination across silos and adaptive problem-solving. Dynamic capabilities refer to the ability of public organisations to sense emerging opportunities and risks, experiment with new forms of coordination and reconfigure structures and strategies over time (building on Penrose 1959; Nelson & Winter 1982; Teece & Pisano 1994). Here, sensing includes not only technological or economic foresight, but also the capability to listen to citizens, frontline workers, and affected communities, and to integrate empathy and lived experience into policy learning and adaptation. This dimension moves beyond stable delivery and routines. It concerns whether governments can:

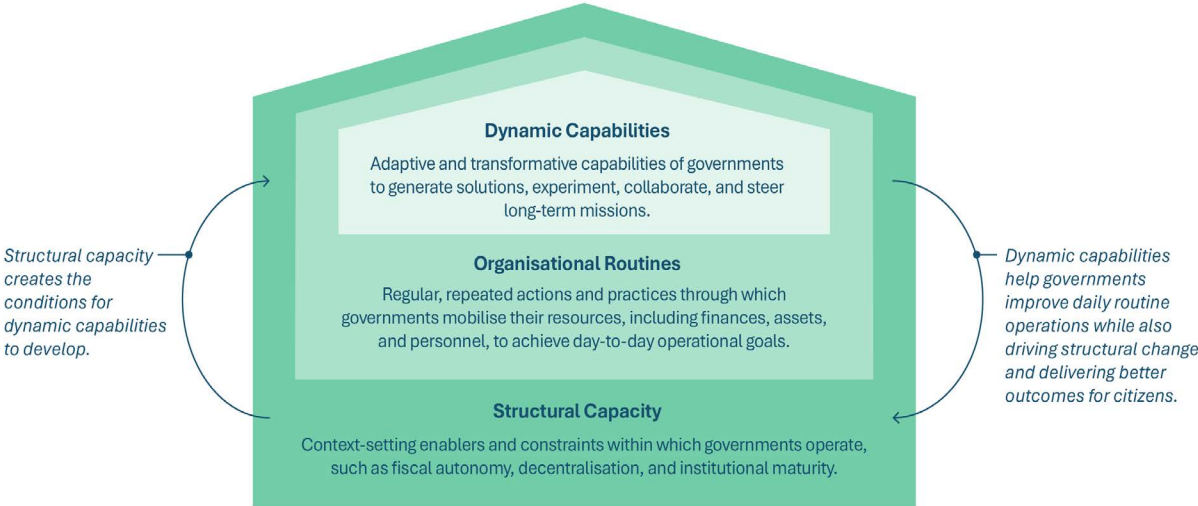
- Mobilise and redirect resources under uncertainty
- Experiment with new forms of governance and coordination
- Revise strategies when confronted with failure or new information
- Sustain coalitions that link social, economic, and technological transformation.

Collington and Mazzucato (2024) analysed the modern state's diminishing role in public value creation by showing that dynamic capabilities depend critically on being embedded in the operational aspects of service delivery. Drawing on evolutionary and institutional theories of organisational learning, their argument aligns with Herbert Simon's (1991) long-standing insight that stable routines are a precondition for learning and improvement. If organisations are constantly changing what they do, they cannot learn from doing it. In the public sector, frequent reorganisations, shifting performance metrics, and policy churn disrupt routines and sever feedback loops, making cumulative learning impossible.

Disintermediation through outsourcing further weakens dynamic capabilities by removing core activities from public organisations, displacing learning-by-doing and hollowing out cumulative expertise. As the state shifts from producer to commissioner, managerial attention becomes overly focused on contractual oversight, reducing institutional space for innovation, experimentation and iterative improvement (Mazzucato and Collington, 2023). Re-embedding the state in the production of public value is not merely a technical necessity but a political-economic imperative. Rebuilding dynamic capabilities requires reinvesting in internal operational capacity, retaining domain-specific expertise, and developing organisational routines that enable learning and responsiveness over time. This reframing positions the state not as a passive market-fixer but as an active, mission-oriented agent capable of shaping and co-creating public value in the face of complex societal challenges. According to this view, dynamic capabilities emerge not from abstract policy tools alone, but from the state’s capacity to engage directly with the systems it seeks to transform.

The framework is summarised in Figure 1 below. Within each layer, there could be considerably more detailed discussions; however, this paper primarily focuses on introducing and testing the overall framework (see, for instance, Kattel et al., 2025a and 2025b, for further in-depth discussions). By situating public sector capacities and capabilities within this multi-layered framework, we can begin to unpack how a market-shaping policy and public organisation work in detail and on a daily basis.

Figure 1: Structural capacities, organisational routines and dynamic capabilities of the public sector³



While structural capacities, organisational routines and dynamic capabilities are analytically distinct, their significance lies in how they interact over time. Capacities can be understood as stocks: fiscal space, human resources, institutional mandates and professional expertise that make public action possible. Capabilities, by contrast, are flows, comprising the ability to deploy these resources through routines, learn from their use, and reconfigure them under changing conditions.

³ This is based on our work in the Public Sector Capabilities Index, for further details and research, see <https://www.ucl.ac.uk/bartlett/publications/2025/oct/assessing-dynamic-capabilities-city-governments-creating-public-sector-capabilities-index>.

Structural capacities provide the authorising environment in which routines can stabilise cooperation and enable experimentation, while routines determine whether structural mandates are translated into coordinated action or remain symbolic and fragmented.

Dynamic capabilities depend on both. They draw on structural stability to preserve direction under uncertainty and rely on routines that produce feedback loops and normalise learning. These interactions also run in reverse. When experimentation generates new knowledge or coalitions, dynamic capabilities can prompt revisions to routines and, in some cases, to structural mandates themselves. Conversely, when budgets, staffing or investment erode, routines weaken and learning becomes episodic, producing cumulative capacity loss. The result is not merely a smaller state, but one that is less able to learn, adapt and respond when transformation or crisis demands it.

Thus, capabilities are cumulative and reversible: they are built through iterative alignment across layers and decay when alignment breaks down. Table 2 summarises these interactions with simple examples.

Table 2. How the capacities, routines and dynamic capabilities interact

Relationship	Reinforcing mechanism (capability building)	Eroding mechanism (capability loss)
Structural capacities -> Organisational routines	Clear missions, dedicated budgets, and coordinating bodies enable routines that support collaboration and iterative problem-solving.	Mandates exist only on paper; routines revert to compliance, risk aversion or siloed delivery.
Organisational routines -> Dynamic capabilities	Feedback loops, milestone-based review and shared learning repertoires normalise adaptation and re-evaluation of strategies.	Learning remains episodic ("pilotitis"); experimentation occurs at the periphery rather than in core delivery.
Dynamic capabilities -> Structural capacities	Successful experimentation is codified into policy instruments, regulatory reforms or redesigned organisational structures.	Experimental results remain uncoded; lessons are lost with turnover; strategic direction fragments over time.

This interactional perspective moves beyond the dichotomy between *stable bureaucracy* and *agile network organisation*. It highlights that stability and adaptability are not opposing values; instead, they are emergent properties of how structural authorisation, routine coordination and dynamic learning reinforce one another through practice.

4. Conclusion: Where do we go from here?

This paper has argued that the market-shaping theory of the public sector offers a novel perspective for understanding the role of governments in tackling 21st-century challenges. By moving beyond the usual dichotomies of stability versus agility, efficiency versus innovation, or state versus market, we have demonstrated how public organisations can be seen as layered systems comprising **structural capacities, organisational routines, and dynamic capabilities**. This framework enables us to analyse the state not just as a passive resolver of market failures or as an efficient service provider but as an active co-creator of markets and public value.

One of the central contributions of this approach is to show that the long-standing tension between **stability and agility** does not need to be understood as a zero-sum trade-off. Public administration debates have often tended to veer toward one side or the other: either emphasising the virtues of stability (hierarchy, predictability, control, accountability) or highlighting the importance of agility (experimentation, flexibility, responsiveness). However, both orientations, taken in isolation, have limitations. Excessive stability risks ossification and inaction, while excessive agility risks volatility and the “move fast and break things” ethos that may undermine legitimacy and long-term coherence. Our framework provides a way to transcend this dilemma. By conceptualising structural capacities, organisational routines, and dynamic capabilities as interconnected and mutually reinforcing layers, we suggest that governments can build organisations that are **both stable and agile**—capable of providing legitimacy and continuity while simultaneously experimenting and adapting in response to uncertainty.

Taken together, these cases suggest that the **interactions between layers** matter more than any individual layer alone. Strong structural capacities are insufficient without organisational routines that connect them to the practice of public policy. Organisational routines become transformative only when linked to dynamic capabilities for experimentation and coordination. Dynamic capabilities can only be sustained when anchored in coherent institutional frameworks: structural capacities. Public value emerges through these interactions, when stability and agility reinforce one another rather than cancel each other out.

This perspective also offers a basis for comparative research and measurement. Much of the existing literature on public sector capacity and capabilities relies either on outcome-based proxies (such as GDP growth, service performance indicators, or crisis management success) or on fragmented case studies. Our framework, by contrast, provides a systematic way to measure capacities and capabilities across contexts and policy areas. By examining the configuration of structural, organisational, and dynamic elements, it becomes possible to identify strengths and weaknesses in different systems, to compare across countries or sectors, and to track change over time. Initiatives such as the **Public Sector Capabilities Index (PSCI)**,⁴ which we and colleagues are developing, illustrate the potential of this approach.

4 For further details, see <https://www.ucl.ac.uk/bartlett/research-projects/2024/feb/public-sector-capabilities-index>.

The PSCI seeks to assess municipal and national governments not only in terms of their resources but in terms of their ability to mobilise, learn, adapt and shape markets in pursuit of public value. Early results from this project suggest that governments themselves find the framework meaningful, as it resonates with their own perceptions of how capabilities link to outcomes.

Beyond measurement, the framework has normative implications. If public organisations are to be market shapers and value creators, then investments in capacity and capability building must extend beyond managerial reforms or efficiency-driven modernisation. Building structural capacity requires not only adequate funding and institutional autonomy, but also legal frameworks that empower governments to take risks and set direction. To strengthen organisational routines it is necessary to embed practices of coordination, co-production and iterative evaluation into everyday bureaucratic work. Cultivating dynamic capabilities means creating spaces for experimentation, cross-sector collaboration, and learning from failure rather than penalising it. In short, the task is not simply to design better institutions but to nurture organisations that can operate as living systems of capabilities.

Finally, we believe that adopting a market-shaping perspective reorients the purpose of public administration itself. Instead of asking how governments can avoid failure, the question becomes how they can shape the future in line with societal goals of inclusion, sustainability and resilience. This is especially important in an era of accelerating technological change, climate emergency, and geopolitical uncertainty. Only by embracing their role as proactive architects of public value—and by systematically cultivating the layered capacities and capabilities to fulfil that role—can governments rise to the challenges of our time.

In conclusion, the framework we have proposed is both theoretical and practical. It deepens our understanding of how governments create and sustain public value, and it provides tools for comparing and measuring capacities and capabilities across contexts. It highlights the importance of interactions across layers, showing how stability and agility can be integrated rather than opposed. And it points to new pathways for research and policy, including the further development of comparative indices like the PSCI. By moving beyond market-fixing to market-shaping, and beyond static measures of capacity to dynamic configurations of capabilities, we offer a way to reimagine the state as an institution not of constraint, but of possibility. Therefore, the challenge is not to make government more efficient, but to cultivate the structural, organisational and dynamic capabilities required to shape just, sustainable and purpose-driven futures.

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