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From Apollo to Artemis: Assessing US State Capacity through the Lunar Programmes

Introduction

Over the past thirty years, the concept of "state decline" has dominated academic and political debate on liberal democracies. Privatisation, outsourcing and cuts to direct public spending have often been interpreted as signs of a structural weakening of the state's capacity to govern. Yet, this development might not indicate retreat, as they could reflect a reconfiguration of how states exercise authority, shifting from direct provision toward

coordination, regulation, and partnership with private actors. The space sector, has since the 1960s, been a classic example of massive governmental spending in the United States of America (US). Of great importance are the former Apollo program and the current Artemis program.

The Apollo program, Initiated by US President Kennedy in 1961, was a state-led programme designed to demonstrate US technological and ideological superiority during the Cold War. Its main objective was to land the first humans on the Moon by 1970, effectively winning the Space Race against the Soviet Union (USSR).

Conversely, the Artemis program, established in 2017, continues the Apollo legacy and shifts the strategic focus from a moon-race to a permanent, sustainable presence on the lunar surface. While it operates in a new era of geopolitical competition with China, Artemis integrates international partners (e.g. ESA, JAXA) and private industry.

A comparison between the Apollo programme (1961-1972) and the Artemis programme (2017-present) offers a valuable comparative study for testing this thesis: does the transition from Apollo to the Artemis programme represent an adaptation of state capacity rather than its decline?

Advanced states do not lose their capacity to act strategically; they may reconfigure it in response to new fiscal constraints, new technological ecosystems and new forms of geopolitical competition. While Apollo demonstrated a hierarchical, mobilising capacity, Artemis demonstrates a capacity for coordination and market shaping.

Beyond the space sector, this argument may be applied to industrial policy, defence procurement, the governance of digital infrastructure, and the domains where the state interacts with complex technology industries.

Driven by Cold War imperatives, the Apollo Program (1960–1973) served as a primary instrument of US geopolitical strategy. To secure the first Moon landing, the US government mobilised extensive financial resources, with Apollo consuming over 50% of NASA's total budget between 1963 and 1969. This $25.8 billion ($300 billion today) investment reflects a period of the Space Race where success was of national priority. Although Apollo was mainly a publicly-funded project, it also relied on private industry, research institutions and universities, accounting for the majority of personnel working on Apollo. In addition, many major components of the spacecraft and launch vehicles were manufactured by private aerospace companies such as Lockheed and North American Aviation. The contract types differed from today's in that NASA primarily employed incentive and award-fee contracts.

However, the Artemis programme was developed in a different fiscal and industrial environment. Since 2017, NASA has spent an average of around $6 billion a year (in real terms) on Artemis-related projects. The programme is projected to spend $105 billion by its first landing in 2028, compared to Apollo's total of $300 billion. This quantitative difference reflects a structural difference. Artemis uses fixed-price, milestone-based contracts, such as SpaceX's Human Landing System (HLS) and the Commercial Lunar Pay-

load Services (CLPS), which transfer portions of the technical and financial risk to private companies. Public spending is used not to build capacity directly, but to stimulate markets and purchase services. This logic, reflecting Mazzuccato's definition of "entrepreneurial state", is not necessarily weaker than the logic of Apollo's programme and outlines how the state redefines the points where its financial and institutional capital creates the greatest leverage.

This transformation is not purely optimal or rational. In fact, Artemis's governance structure costs are represented by the fragmentation of responsibility among contractors, the dependence on commercial actors with their own incentives and uncertainty regarding manufacturing timelines. Apollo experienced this to a smaller extent thanks to its centralised structure.

Governance

The Apollo Program can be described as an example of a Legacy Space Program, where national sovereignty, as well as technological supremacy, were primary drivers, and the industrial sector was dominated by government-led initiatives. Another element is the full government ownership of the developed space infrastructure. Even though the US government and NASA relied on industry actors to produce the actual hardware, such as the service module, the research and development of the products was done by its own internal staff of scientists and engineers.

Therefore, the US government was accountable for the expenditure and functions of the Apollo missions. NASA, acting as the national space agency during the Kennedy administration, received the institutional objective of the moon landing and was responsible for launch and flight operations.

Conversely, Artemis has a networked governance structure. Instead of designing every subsystem in-house, NASA keeps a manager role by defining the mission outcomes and procedures capabilities for external suppliers. SpaceX, Blue Origin, Lockheed Martin and other players possess their own engineering capabilities, investment strategies and commercial incentives. This form of governance requires a distinct type of state capacity, as the main task is not directly commanding production but managing interdependencies.

For this reason, Artemis' governance presents more internal tensions than Apollo, as highlighted by the delays and cost overruns produced by the manufacturing of the rocket and the main capsule, the Space Launch System (SLS) and Orion components, which are being built by Boeing and Northrop Grumman through traditional contracts. Artemis is fundamentally a hybrid programme: commercial in the HLS and CLPS, traditional at its architectural core. This suggests that state capacity adapts selectively.

Geopolitics

The Apollo mission is inevitably tied to the Cold War. The moon landing was designed to demonstrate the superiority of the American political and economic system over the USSR, meaning that speed mattered more than sustainability. The programme's success delivered extraordinary symbolic value by proving that the US could achieve technologically demanding missions on a national scale. However, without a structural rival to justify continuing with the funding and the effort, political support dried up, and the Apollo programme was discontinued.

Conversely, the Artemis programme was developed in a more complex geopolitical context, where the US's rivalry with China is the key driver of competition, particularly as Beijing sides with Russia in this new moon race. Modern rivalry concerns, technological standards, supply chains, diplomatic influence and coalition-building, explaining the importance of Artemis Accords, which the US uses as a basis towards institutionalised norms for civil space cooperation, resource utilisation and responsible behaviour. As of April 2026, 63 nations have signed the Accords. Unlike Apollo, when prestige was primarily earned through unilateral achievement, Artemis combines technological competition with alliance management. Modern state capacity, therefore, includes the ability to incorporate national objectives within frameworks of international governance.

Moreover, the strategic logic of Artemis rests on the assumption that Chinese lunar ambitions are substantive rather than declaratory. The Chang'e programme has made systemic progress, intending to land on the Moon by 2030. Unlike the rivalry with the USSR, which operated within similar technological parameters, China combines centralised state capabilities with growing excellence in commercial space engineering. The American approach of open coalitions and shared norms could be read as a form of asymmetric power that capitalises on the appeal of multilateralism. However, this interpretation strongly depends on whether Artemis delivers the underlying capability because a coalition of norms carries less weight if the Moon landing itself is delayed or ceded.

Narrative

The public narrative of the Apollo programme was based on national prestige, scientific progress and victory in the Space Race. President Kennedy's pledge to put a man on the Moon by the end of the decade provided a clear deadline and a measurable goal. Once that goal had been achieved, however, political support rapidly waned, showing how the campaign was tied to the geopolitical circumstances that had given rise to it.

Artemis adopts a border and potentially more enduring narrative, since it is framed as the foundation for a sustained lunar presence, scientific discovery, commercial development and eventual mission to Mars. NASA

also emphasises diversity, presenting Artemis as the programme that will take the first woman and the first person of colour to the Moon.

In Artemis' case, this broader narrative mirrors modern politics, which require multiple constituencies: industry, allies, Congress, scientific communities and the general public. Legitimacy must be maintained continuously rather than secured through a single dramatic victory. Paradoxically, this need for distributed legitimacy can make the programme more resilient to political fluctuations, though more vulnerable to the fragmentation of objectives.

Conclusion

The shift from Apollo to Artemis reveals the reconfiguration of American state capacity. During the Apollo era, the US demonstrated the ability to concentrate money, talent and industrial production under centralised federal leadership. During the Artemis era, it aims to demonstrate the ability to shape markets, coordinate private innovation and build international coalitions around strategic objectives.

This evolution deserves to be read more as a general case study. In the advanced democracies of the 21st century, state capacity is increasingly exercised through the setting of standards, the structuring of incentives and the management of interdependencies rather than through direct production. States that master these forms of governance are not necessarily weaker than those that once dominated through centralised control. They are strong in a different way.

The Apollo-Artemis comparison highlights that a state's ability to adapt its form of intervention to changed conditions (fiscal, technological and geopolitical) is itself an expression of state capacity. When investigating what the US is doing differently now and what its new strategy is, the question remains open because Artemis is still ongoing, its internal tensions are real, and a comparison with the centralised Chinese model raises questions on the relative effectiveness of the two approaches. However, the comparison with Apollo still demonstrates that state capacity does not disappear but rather transforms.