Power by Other Means

Pakistan and the New Dynamics of Military Capability

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IDEA IN BRIEF

THE PUZZLE

India spends 8× more on defence than Pakistan. Yet the 2025 Kashmir aerial exchange revealed competitive capability in the air — from a country in chronic fiscal distress with a defence budget of $10 billion against India's $86 billion.

THE EXPLANATION

Pakistan has built one of the most coherent mid-tier defence-industrial ecosystems in the world. The JF-17 programme is its visible expression: a platform that exists within a sovereign industrial metabolism of design, sustainment, and iterative upgrade. Military power is increasingly an *industrial* property: a function of systems integration, software control, and supply-chain resilience.

THE FRAMEWORK

Three models of defence industrialisation now coexist: the US model (competition for technical edge), the Chinese model (scale through state enterprises), and an emerging coordination model (disciplined alignment under constraint). Pakistan exemplifies the third.

THE IMPLICATION

The rise of coordinated mid-tier producers — Turkey, South Korea, Pakistan, UAE — is eroding the structural influence great powers have long exerted through arms-sales diplomacy. "Good enough" sovereign systems are reshaping regional balances worldwide.

When India and Pakistan engaged in a brief but consequential aerial exchange over Kashmir in early 2025, the immediate debate focused on a narrow tactical question: which aircraft had been lost. But the deeper strategic puzzle went almost entirely unexamined.

The real question was not which aircraft might have been downed, although this was debated endlessly, but how Pakistan — an economy in chronic fiscal distress, with a defence budget roughly one-tenth of India's — was able to contest the encounter at all.

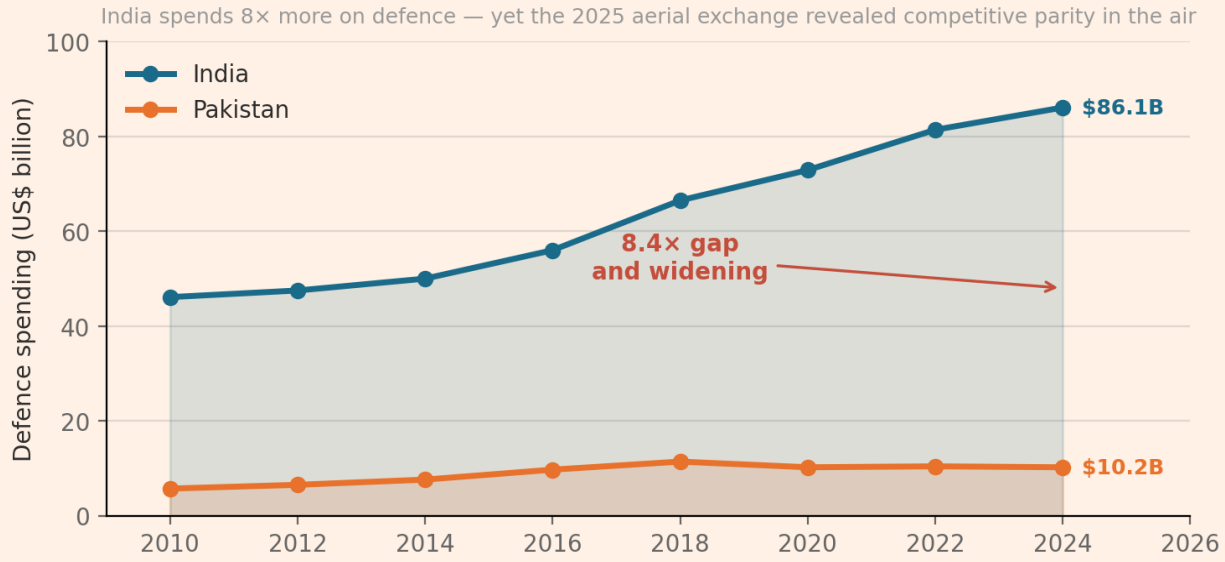
India deployed the Dassault Rafale, one of the most advanced fighters in service outside NATO, whereas Pakistan relied largely on the JF-17, a far cheaper single-engine platform co-developed with China and still widely dismissed as an economical compromise.

Yet the encounter showed something the Western policy establishment has consistently overlooked: Military power does not emerge from the sticker price of a defense platform, it emerges from the industrial architecture that produces, sustains, and evolves that platform over time.

Beneath Pakistan's economic landscape of chronic fiscal shortfalls and repeated IMF bailouts sits one of the most tightly coordinated mid-tier defence-industrial ecosystems in the world.

The 2025 crisis did not demonstrate tactical parity, nor did it overturn the underlying balance of power. But it did expose something way more surprising: Pakistan's ability to compete in the air is rooted not in any single aircraft but in an industrial structure that has been carefully built over decades. Its competitiveness is structural, not circumstantial.

The Budget Gap That Should Have Decided Everything



Source: SIPRI Military Expenditure Database, 2025. Figures in constant 2023 US dollars. India's defence spending has nearly doubled since 2010; Pakistan's has been flat — yet the 2025 exchange revealed competitive capability.

FROM PLATFORMS TO ARCHITECTURE

A comparison of the aircraft themselves appears, at first glance, to settle the question outright of which has more military strength. India's Rafale carries a base price of €90–120 million that rises to roughly €200 million once training, weapons, spares, and maintenance contracts are included. Behind each airframe stands the accumulated expertise of European aerospace: Safran's engines, Thales' radars, and Dassault's design lineage. The Rafale is more than a jet; it is a flying embodiment of a continental industrial tradition!

Pakistan's JF-17, priced at roughly $25–30 million, emerged from a partnership with China at a time when Pakistan's domestic aerospace capacity consisted of modest overhaul depots. In a traditional procurement framework, the two platforms do not occupy even remotely the same competitive universe.

But comparing platforms in isolation obscures the real sources of each of their competitive advantages, because aircraft prices reflect only the visible portion of capability — not the architecture that enables it. The true measure of an air force is not what it buys on the tarmac but what it can do with its fleet *over time*:

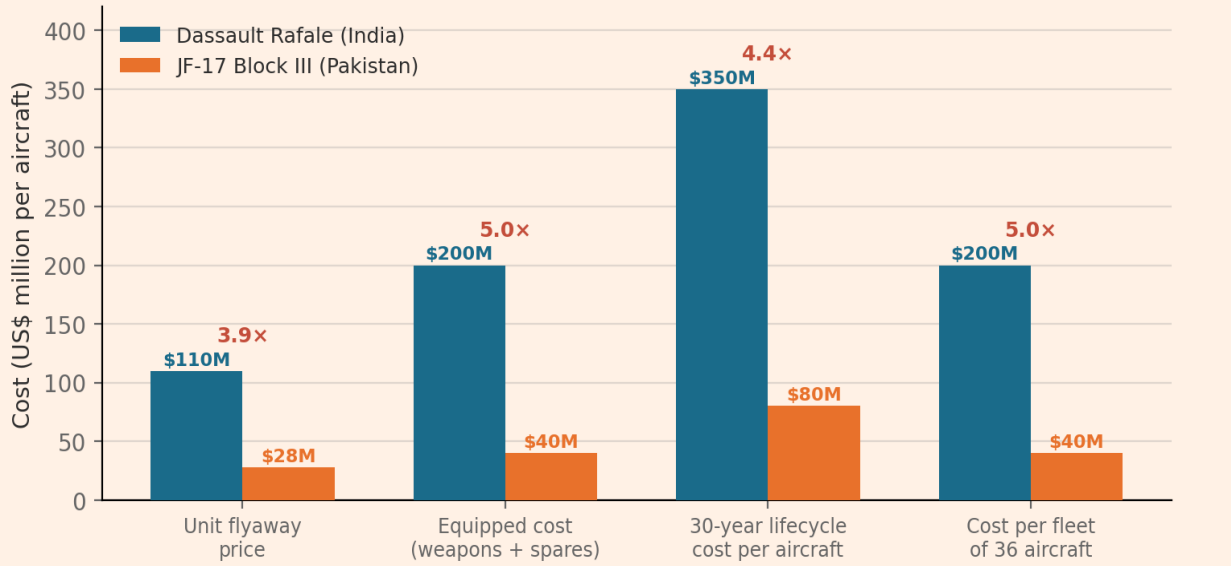
— How quickly it can integrate new sensors and weapons;
— How effectively it can sustain operations; and
— How reliably it can function when supply chains tighten.

Modern airpower, like much of military capability, is defined by *systems*: electronic warfare suites, data links, mission computers, and maintenance cycles. The effectiveness of a fighter today relies less on its original configuration than on the speed and sovereignty with which a state can modify it. A state that can update avionics in months, integrate weapons without external permission, or perform major airframe work domestically holds advantages that no specification sheet can capture.

In this way, India's procurement strength translates into a surprising vulnerability: modernization of its air fleet slows when suppliers slow, and operational readiness erodes when external support becomes uncertain. Its Rafales must be sustained through French supply chains; its Russian-origin aircraft depend on increasingly unreliable Russian support; its Israeli systems require periodic political consent. Pakistan faces no such friction.

The Price of Airpower: Rafale vs JF-17

Red numbers show cost ratio. The platforms exist in different economic universes — but competed in the same sky.



Sources: Dassault Aviation; India Ministry of Defence procurement disclosures; PAC Kamra; author estimates for lifecycle costs. The platforms exist in different economic universes — but competed in the same sky.

THREE MODELS OF DEFENCE INDUSTRIALIZATION

For decades, analysts treated the United States and China as the two dominant templates.

The American model places *competitive contracting* at its core: a small number of powerful primes dominate each domain, and the state orchestrates legally regulated competition among them. Innovation flows through a procurement system that is procedurally rigorous and deemed structurally too conservative: development timelines stretch into decades and cost overruns become routine. The United States produces technology of extraordinary sophistication, but at a pace and price only a superpower can sustain.

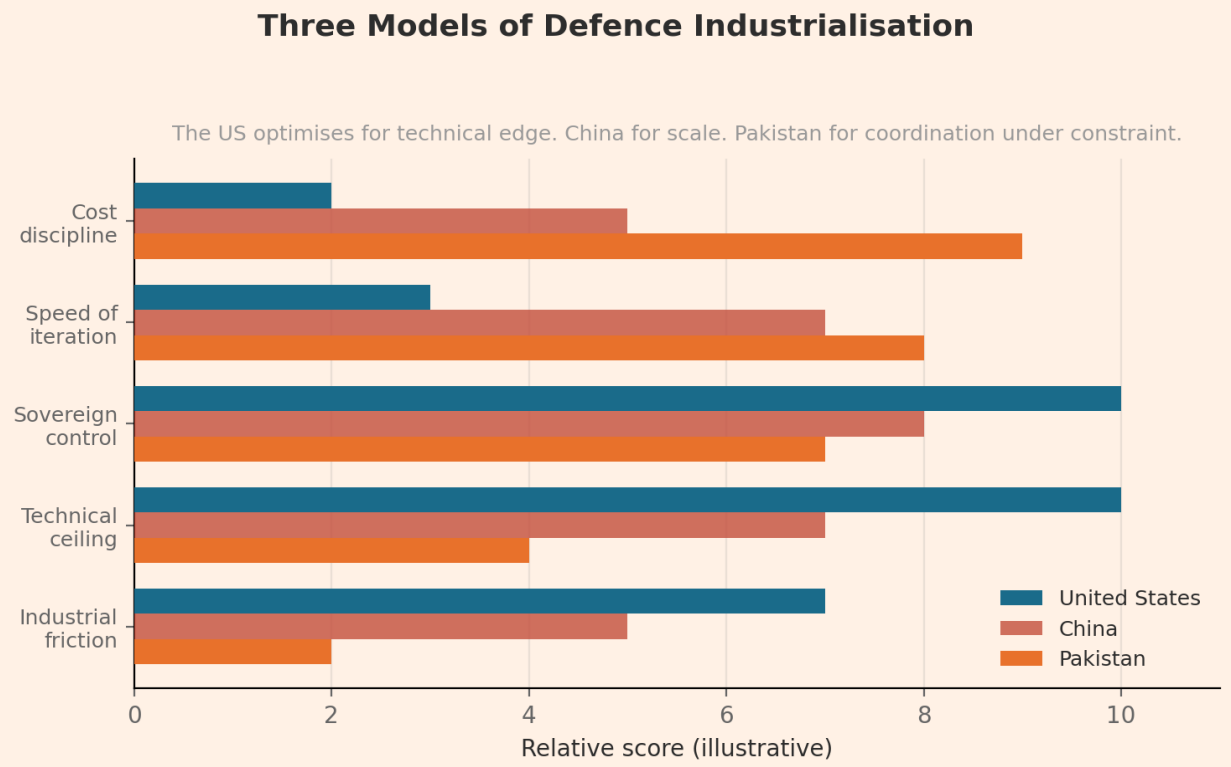
The Chinese model stands at the opposite end: focusing on *scale*, which is achieved through state-owned enterprises, centrally directed programmes, and manufacturing capacity deployed with speed no market-based system could contemplate. China advances by pursuing multiple versions in parallel, absorbing failures through sheer mass and leveraging an enormous industrial base to compress development cycles.

Pakistan fits neither pattern, as it lacks the fiscal latitude for American-style procurement and the industrial mass for Chinese-style parallel development. Instead, it has built a third model defined not by competition or scale but by *coordination*.

Pakistan's ecosystem functions as a tightly aligned cluster in which requirements are set centrally by the air force, and integration flows through the Pakistan Aeronautical Complex, which has grown from an assembly facility into the country's integrator of airpower. Research is concentrated through the National Aerospace Science and Technology Park, feeding sensors, software, and electronic warfare technologies directly into operational needs. The supplier base is curated through the National Aerospace Development Consortium, preventing fragmentation.

In structural terms, Pakistan has achieved something invaluable that many larger states struggle to maintain: *low industrial friction*. Each element — requirements-setting, integration,

research, supply — reinforces the others. Modernisation is a continuous process rather than a series of fiscal shocks.



Illustrative comparison across five dimensions of defence-industrial performance. The US optimises for technical edge. China for scale. Pakistan for coordination under constraint. Author's assessment.

THE JF-17 AS INDUSTRIAL ARCHITECTURE

The JF-17 programme illustrates how this architecture matured in practice. The early stages depended heavily on Chinese collaboration; an industrial irony, given that China was long viewed as being the original technology "copycat". What the partnership provided was not only technical assistance but the mentorship through which Pakistan could build its own capabilities. Over time, Pakistan moved from pure assembly to systems integration; again from parts integration to avionics development; and from avionics development to the routine iteration of mission computers and electronic warfare suites.

This evolution was enabled by Pakistan's mastery of the unglamorous but very essential domain of reverse engineering. The Mirage Rebuild Factory gave generations of engineers hands-on experience disassembling foreign aircraft, mapping their internal engineering, and reconstructing them with locally produced parts. What began as a necessity — sustaining fleets after suppliers moved on — became a school in design literacy.

Pakistan today treats the JF-17 as a living platform: Block upgrades occur regularly, software increments reflect national needs, not foreign production schedules, and the aircraft evolves through a cycle closer to commercial aerospace than to traditional military procurement.

The JF-17 does not need to match the Rafale in absolute terms to demonstrate its advantages; it needs only to grant Pakistan a credible, affordable, and upgradeable means of contesting its airspace — one that can be sustained under the fiscal pressures that repeatedly reshape its political economy.

Pakistan has built a fighter that exists within its own industrial metabolism. It is not the best aircraft in the region, but it may be the aircraft most intimately matched to its operator's economic and strategic constraints.

STRATEGIC IMPLICATIONS FOR SOUTH ASIA

For decades, analysts assumed India's material advantages would translate into widening coercive leverage, as its larger economy could finance more advanced aircraft, giving India growing freedom of action during crises. The 2025 exchange suggested this assumption no longer holds, as what mattered at the time was not India's superior inventory but Pakistan's ability to keep its fleet ready, adaptive, and operational under pressure.

Pakistan, it seems, does not need parity to alter India's calculus — it needs only to field a force that can absorb geopolitical shocks, maintain readiness, and impose uncertainty on enemy planners. The architecture Pakistan has built delivers precisely that: resilience that raises the potential costs of coercion and that limits the utility of India's high-end platforms.

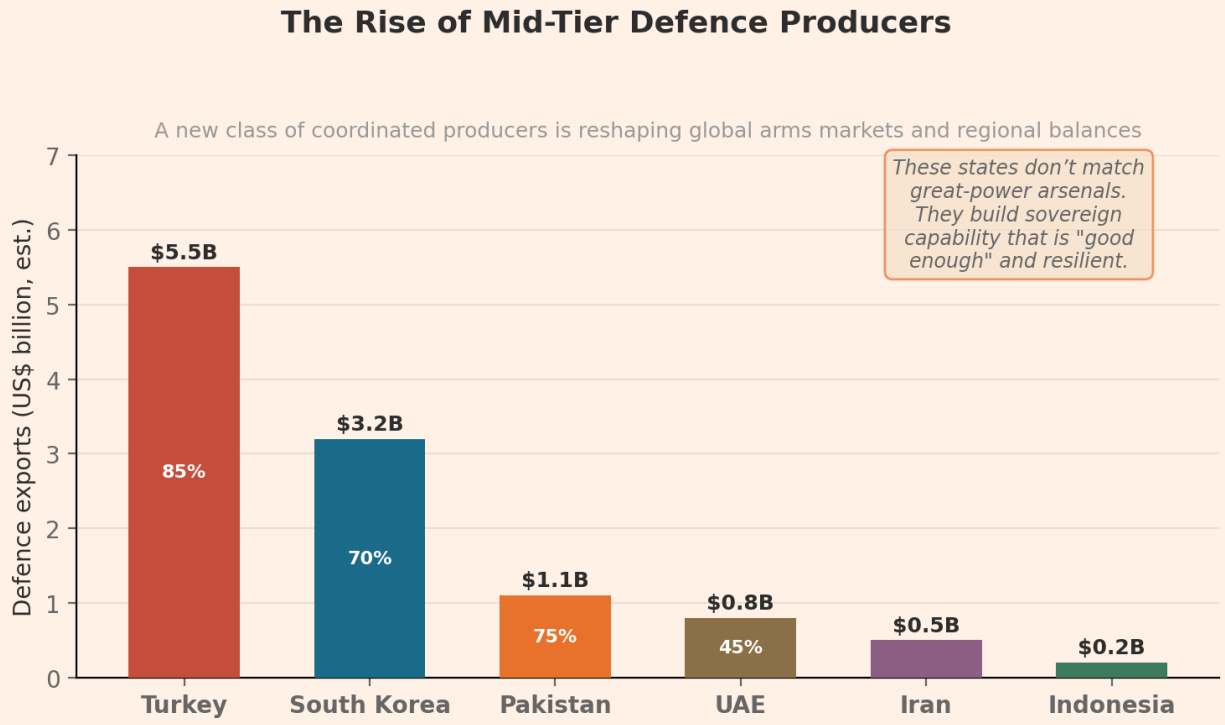
Unsurprisingly, the assumption that India could rapidly dominate the air domain has underpinned much of the region's crisis thinking since the late 1990s. However, Pakistan's ability to sustain and upgrade its fleet domestically erodes that assumption. In a fast-moving confrontation, India faces supply-chain frictions that Pakistan does not, meaning that rapid escalation becomes less predictable than many policymakers have long believed.

The breaking down of yesterday's global order shows us that states that produce and sustain their own systems behave differently from states that rely on external support. As such, Pakistan can signal military ambition at lower cost, mobilize capability without revealing dependences on other nations, and more easily absorb periods of diplomatic isolation without seeing its air force degrade. India, on the other hand, must constantly balance domestic signalling with the expectations and constraints of its suppliers.

THE RISE OF MID-TIER DEFENCE POWERS

Pakistan's trajectory is not without precedent. Turkey demonstrated how a mid-tier state long reliant on foreign suppliers can become a consequential producer through disciplined institutional coordination. The Baykar TB2 drone emerged from an ecosystem in which requirements, design, production, and supply were strongly aligned behind a coherent national strategy.

A growing number of mid-tier states — Turkey, South Korea, the UAE, and increasingly Iran — have built vertically integrated ecosystems that field "good enough" systems at sustainable cost. These producers seek to create an internal, national capability that is heavily insulated from political conditionality, sanctions risk, and supply-chain fragility. Their equipment therefore appeals to countries wanting reliable autonomy rather than global alignment — embodying the dynamic Clayton Christensen identified: lower-cost technologies displacing premium incumbents by being better suited to users' constraints.



Sources: SIPRI Arms Transfers Database; national defence ministry disclosures; author estimates for sovereign maintenance capacity. A new class of coordinated producers is reshaping global arms markets.

IMPLICATIONS FOR GREAT POWERS

For the United States and Europe, sovereign mid-tier producers signal a new but growing erosion of the structural influence long exerted through arms-sales diplomacy. Western exports traditionally lock clients into decades of dependency through training pipelines, maintenance contracts, and political conditionality. But as more states acquire integration and sustainment capacity, Washington and Brussels face a world in which their military industrial leverage weakens.

For China, the challenge is subtler. Beijing has dominated the low-cost end of global arms markets, so competitors like Turkey and Pakistan — capable of delivering sovereign capability without the political strings accompanying Chinese systems — threaten to undercut China's value proposition in places it once viewed as secure—namely in Africa and the Middle East.

For smaller states managing contested borders or delicate diplomatic positions, the proliferation of mid-tier producers widens the menu of credible alternatives that don't come with stringent Western or Chinese conditions. In buying from mid-tier suppliers such as Pakistan, these states gain access to equipment they can afford, sustain, and upgrade without triggering geopolitical entanglements — a form of strategic autonomy that allows them to hedge more effectively between rival powers.

RETHINKING WHAT POWER LOOKS LIKE

The 2025 confrontation did not alter the fundamental balance of power in South Asia, although what it did reveal was a shift in the underlying dynamics of military capability, away from platform supremacy and toward industrial strategy.

Capability is an emergent property of complex systems alignment, not of technological prestige, which arises from the interaction of institutions, suppliers, research networks, and strategic doctrine — not from the price tag attached to a single aircraft.

India retains overwhelming economic and material advantages, of course, but it now faces a neighbour whose airpower is optimized for endurance and adaptability rather than procurement-led superiority. Airpower in the region will depend as much on the

governance of industrial ecosystems as on the acquisition of marquee platforms.

If analysts continue to focus on platforms rather than the systems that sustain them, these transformations will remain obscured until moments of crisis render them unavoidable. Thus, the lesson of 2025 is not that Pakistan has surpassed India in technology, but that Pakistan has surpassed expectations in industrial alignment.

In a world where military capability is increasingly an industrial property, that forces a reconsideration of where power resides — and how it is built.

Modern airpower is less a matter of what a state buys than of what it can sustain, integrate, and improve under pressure. On that metric, Pakistan's position is far stronger than its economic indicators would suggest.

This article draws on two formal frameworks: coordination architectures and adaptive bandwidth (from "Institutions as Coordination Architectures") and architecture lag and premature markets (from "Market Formation as a Systems Engineering Problem"). Contact: s@sinead.co