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COMPARATIVE ANALYSIS OF SOVEREIGN FUND MODELS: NORWAY, SINGAPORE, KAZAKHSTAN AND AZERBAIJAN — IMPLICATIONS FOR UZBEKISTAN

Inomjon Jumaniyazov Turayevich

PhD (Economics), Department of Finance,

Tashkent State University of Economics

49 Islam Karimov Str., Tashkent, 100066, Uzbekistan

jumaniyazov_inomjon@tsue.uz | ORCID ID: 0000-0003-0622-6601

Abstract. *Sovereign funds are discussed as a single institutional category, yet the four cases examined here — Norway's Government Pension Fund Global, Singapore's GIC and Temasek, Kazakhstan's National Fund with Samruk-Kazyna, and the State Oil Fund of Azerbaijan — pursue mandates that are not merely different in degree but incompatible in logic. The paper compares them along five dimensions: mandate, source of inflows, withdrawal rule, permitted domestic exposure, and governance and disclosure. It finds that the binding constraint on fund performance is rarely investment strategy; it is the rule governing withdrawals and the institutional separation between asset management and the state's development agenda. For Uzbekistan, whose Fund for Reconstruction and Development belongs to the development rather than the savings family, the analysis identifies which elements of each model are transferable, and proposes a sequencing in which a codified withdrawal rule and separated governance precede any expansion of the fund's mandate.*

Keywords: *sovereign wealth fund, comparative institutional analysis, fiscal rule, Government Pension Fund Global, Temasek, National Fund of Kazakhstan, SOFAZ, Uzbekistan Fund for Reconstruction and Development,*

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Santiago Principles, resource revenue management.

The question facing Uzbekistan is not whether to operate a sovereign fund — the Fund for Reconstruction and Development (UFRD) has existed since 2006 — but which institutional template it should converge on as managed assets grow. Performance cannot be read off returns alone, because the four funds compared here are not attempting the same task; measuring Norway's fund and Azerbaijan's against a common benchmark would misstate both.

Three observations motivate the comparison. First, mandates diverge at the origin: a savings fund converts an exhaustible resource into a permanent claim for future generations, a stabilisation fund smooths volatile revenue across the budget cycle, and a development fund deliberately accepts below-market returns in exchange for structural change — each implying a different allocation and a different definition of failure. Second, the countries differ in the variable that most shapes fund behaviour, the ratio of transfers to budget revenue: where it is low the fund invests on a long horizon, where it is high the fund becomes a fiscal instrument regardless of its statute. Third, Uzbekistan's position is intermediate — its resource base is substantial but less concentrated than Azerbaijan's oil dependence, and its fund already carries an explicit domestic development mandate that Norway's is statutorily forbidden to hold. The relevant question is which institutional components can be separated from their national context and which cannot.

The cases are compared along five dimensions, each observable in statute or annual reporting rather than inferred from outcomes. Mandate — the stated purpose, tested by what the fund is legally forbidden to do, which is more informative than what it may do. Source of inflows — an automatic share of resource revenue or a discretionary allocation; automatic rules insulate accumulation from the political cycle. Withdrawal rule — how much may leave

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in a given year and who decides; the decisive variable, since it determines the effective investment horizon. Domestic exposure — whether the fund may invest at home, creating a development channel but also a conflict between fiduciary duty and industrial policy. Governance and disclosure — the separation of owner, strategy-setter and operational manager, and public reporting assessed against the Santiago Principles.

The analysis is qualitative and institutional, drawing on statutes, annual reports, IMF and OECD assessments and the academic literature. Because asset values move with markets and exchange rates, figures are cited with their reference date and treated as orders of magnitude; no claim is made about relative investment skill, since returns under different mandates are not directly comparable.

Norway is the reference case for the savings model, and its scale makes the point: the fund stood at NOK 22,683 billion at 30 June 2026, roughly USD 2.2 trillion, the largest sovereign fund in the world. Its purpose is to support government saving for future expenditure and to sustain a long-term perspective on petroleum revenues. Decisively, it invests only abroad so that the Norwegian economy does not overheat — not a portfolio preference but the mechanism preventing Dutch-disease pressure on the non-oil tradable sector, which simultaneously removes any channel for domestic political direction of capital.

Transfers to the budget are constrained by the fiscal guideline limiting the structural non-oil deficit to expected long-run real return. Applied to a multi-year average rather than a hard annual ceiling, it allows counter-cyclical flexibility without abandoning the constraint. Over 1998–2025 the average annual return was 6.6 percent, with a net real return of 4.3 percent after inflation and costs — the empirical basis of the spending rule. Governance separates three functions: the Ministry of Finance owns the fund and sets



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mandate and benchmark; Norges Bank, a separate legal entity, manages it; Parliament oversees through public reporting. Deviation is measurable — the fund returned 15.1 percent in 2025, 0.28 percentage point below benchmark — and publishing underperformance is an institutional choice most development-oriented funds avoid.

Two features travel well: the codified link between withdrawals and expected real return, and the separation of owner, mandate-setter and manager. The domestic investment prohibition does not travel; it is viable only where development financing needs are met from other sources, which is not Uzbekistan's position.

Singapore is instructive because it holds no significant resource endowment: its funds were capitalised from fiscal surpluses and state assets rather than commodity rents, making it the closest analogue to a state that must build fund capital deliberately. Its answer to the mandate problem is separation into two entities with different objectives. GIC was established in 1981 to manage foreign reserves, separating reserve management from the Monetary Authority of Singapore. Its mandate is narrow — to preserve and enhance the international purchasing power of the reserves — and it reports a single headline metric: for the twenty years to 31 March 2026 the annualised nominal US dollar return was 5.6 percent and the real return 3.4 percent. GIC invests exclusively outside Singapore, mirroring the Norwegian prohibition.

Temasek does what GIC may not. It is a commercial investment company holding stakes in operating businesses as an active shareholder, and it may own domestic companies. Its net portfolio value reached S\$518 billion at 31 March 2026, double its level a decade earlier, with a twenty-year total shareholder return of 6.8 percent and a ten-year return of 7.1 percent. It operates under a commercial mandate accountable for shareholder return — it is not a vehicle for subsidised lending — and its portfolio is continuously

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recycled: in the year to March 2026 it invested S\$51 billion and divested S\$31 billion.

Singapore's constitutional arrangement allows the budget to draw on investment returns rather than principal, through the Net Investment Returns Contribution, estimated at S\$28.5 billion for FY2026 — achieving Norway's end by a different legal route: the capital base is protected while the budget receives a predictable, rules-based flow. The separation of mandates into distinct legal entities is the central lesson, directly relevant to Uzbekistan, where one institution performs reserve management, concessional lending and equity investment simultaneously. Temasek also shows that state ownership and commercial discipline are compatible — but only where the shareholder abstains from directing individual investment decisions.

Kazakhstan is the most directly relevant comparator: a Central Asian resource exporter with a similar legal tradition and an architecture combining saving, stabilisation and development. The National Fund accumulates financial assets at long-term moderate risk and damps overheating during high commodity prices by channelling excess oil and gas tax revenue abroad; development functions sit with Samruk-Kazyna, which owns major state enterprises. The split resembles Singapore's, but the boundary is less firm in practice.

Kazakhstan has moved toward formal rules: the Public Finance Management Concept to 2030, approved in September 2022, established countercyclical limits on transfers, and the 2026–2028 budget fixes the guaranteed transfer at 2.77 trillion tenge (about USD 5.4 billion) annually, within limits calculated from an oil price cut-off. Declared policy is to replace National Fund transfers with own revenues, raising budget self-sufficiency from 63.7 percent in 2025 to 83.5 percent in 2028.

The implementation gap is the instructive part. The constraints are of

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two legal grades: the first is enshrined in the Budget Code and carries full legal force; the second, set out in the 2030 concept, is advisory, and its targets may go unmet in practice. The consequence is visible in outcomes — in 2025 the government complied with both key fiscal rules yet still withdrew more from the Fund than it deposited, leaving budget policy procyclical. Fitch has noted that the intention to increase transfers underscores the limitations of the fiscal rule, though it does not undermine the sovereign's buffers.

A rule that is formally satisfied while the fund shrinks in real terms is not functioning as a constraint. Two design conclusions follow: the rule must sit in binding legislation rather than a strategy document, and compliance must be measured against the fund's net position — deposits minus withdrawals — not only against a transfer ceiling. Kazakhstan's targeted infrastructure transfers show how a development channel can reopen a savings fund to discretionary drawdown once the precedent is set.

SOFAZ illustrates what happens when a savings mandate is written in the statute but the fund becomes the budget's principal revenue source in practice. Created by presidential decree in December 1999, it is an extra-budgetary fund separate in law from government and central bank, its stated mission intergenerational equity in the use of oil wealth. Its declared objectives, however, are plural: macroeconomic stability, reduced hydrocarbon dependence, intergenerational equity, and financing major social and infrastructure projects. The last conflicts with the first three, and the record shows which prevailed.

Assets stood at USD 73.5 billion at the start of 2026, while 6.4 billion manat was transferred to the state budget in the first half of 2026 alone; for the full year the approved transfer is 12.835 billion manat (about USD 7.55 billion) — roughly a tenth of assets withdrawn in a single year. The fund has also carried large domestic projects directly, including the Baku–Tbilisi–Kars

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railway, the Southern Gas Corridor, the STAR refinery complex and state education programmes abroad.

Azerbaijan has recognised the problem and legislated a glide path: transfers are projected to fall to 11.9 billion manat in 2027 and 9.35 billion by 2030, about 27.2 percent below the 2026 level, while non-oil and gas revenues rise over the same period. Governance is procedurally sound — a Supervisory Board headed by the Prime Minister, all expenditures except operating costs consolidated into the budget presented to Parliament, and execution limited to items provided for in the Fund’s budget. The gap is neither disclosure nor procedure, both comparatively strong; it is the absence of a ceiling tying annual withdrawals to expected real return. High-quality reporting and separate legal personality do not by themselves protect capital, and the correction — raising non-resource revenue to replace transfers — is slower and politically harder than establishing the ceiling at the outset.

Dimension	Norway (GPF)	Singapore (GIC / Temasek)	Kazakhstan (NFRK)	Azerbaijan (SOFAZ)
Primary mandate	Intergenerational saving	Reserve preservation / commercial returns	Saving and stabilisation	Saving stated; fiscal support in practice
Source of inflows	Petroleum revenue, automatic	Fiscal surpluses, transferred state assets	Oil and gas tax revenue above cut-off	Hydrocarbon revenue under PSAs
Withdrawal rule	Guideline tied to expected real return	Constitutional draw on	Guaranteed transfer at	Annual budget transfer, no

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		returns (NIRC)	legislated ceiling	return- linked ceiling
Domestic investment	Prohibited	Prohibited (GIC); permitted (Temasek)	Limited, with targeted transfers	Permitted; projects financed directly
Manager separate from owner	Yes (Norges Bank under mandate)	Yes (two separate companies)	Partial (development split to Samruk- Kazyna)	Partial (executive appointed by President)
Benchmark -based reporting	Yes, including underperformanc e	Yes (20-year real return; TSR)	Partial	Quarterly asset and flow reporting

Three patterns emerge. The withdrawal rule dominates. Funds that preserved and grew capital are those whose annual outflow is tied to expected return rather than budgetary need; where the link is absent or advisory, formal mandate has not prevented drawdown — Kazakhstan complied with its rules and still ran down the fund, while Azerbaijan's statute promises intergenerational equity as transfers approach a tenth of assets annually. Separation beats prohibition. Norway and GIC resolve the conflict between fiduciary management and development policy by forbidding domestic investment; Singapore shows a second route — permit it, but house it in a separate entity under a commercial mandate. The second route is the one available to countries that still need development financing, which is why Temasek, not GPFG, is the closer reference for Uzbekistan. Transparency is

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necessary but not sufficient. Azerbaijan reports frequently and in detail, yet reporting has not constrained withdrawals; disclosure disciplines conduct only when paired with a measurable rule it can reveal a breach of.

The UFRD differs from all four comparators in one respect that determines which lessons apply: its principal activity is domestic financing. It lends to and invests in projects inside the national economy, placing it in the Temasek and Samruk-Kazyna family rather than the GPFG and GIC family. Recommendations built on the Norwegian template therefore misfire — Uzbekistan cannot prohibit domestic investment without abolishing the fund's reason for existing. Five implications follow.

1. Legislate the withdrawal rule before expanding the mandate. A rule located in a strategy document rather than a code will not bind when fiscal pressure arrives. Uzbekistan should define in law a maximum annual outflow as a share of assets or of expected long-run real return, with a narrow, temporary escape clause for genuine macroeconomic shocks.

2. Measure the fund by its net position, not its disbursements. The relevant indicator is whether real value net of inflows and withdrawals is rising. Reporting disbursed volumes alone can show high activity while the capital base erodes.

3. Separate the concessional and commercial functions. Subsidised infrastructure lending and equity investment require different risk tolerances, success criteria and accountability. The commercial equity portfolio belongs in a separate entity with a return mandate, while concessional lending remains an explicitly budgeted quasi-fiscal activity.

4. Make the subsidy element explicit. Below-market lending is a fiscal transfer regardless of accounting treatment. Recording the discounted value of the interest differential allows the true cost of development lending to be compared with alternative uses of the same money.

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5. Report against a benchmark and publish deviations. Benchmarks differ by segment: a market index for liquid assets, and for development lending, ex-post realised economic returns against appraisal forecasts. Publishing forecast-versus-realised outcomes makes project appraisal quality observable over time.

Sequencing matters. Mandate expansion before rule codification produced the difficulties visible in Kazakhstan and Azerbaijan; rule codification before mandate expansion preserved capital in Norway and Singapore.

Conclusion

The comparison runs against the usual framing of sovereign fund policy, which centres on asset allocation; the evidence here suggests allocation is second-order. What separates funds that accumulate capital from funds that dissipate it is the rule governing withdrawals and the institutional distance between the fund's manager and the state's spending priorities. Norway and Singapore constrain outflows by rule and separate management from ownership; Kazakhstan and Azerbaijan have strong reporting and formally separate entities but weak or absent return-linked ceilings, and both are now reducing transfer dependence at a cost prevention would have avoided.

For Uzbekistan the conclusion is narrow and actionable. The UFRD should not attempt to become a Norwegian-style savings fund, since its development mandate is genuine and necessary; it should borrow the two components decisive in every successful case — a withdrawal ceiling fixed in binding law and linked to expected real return, and a governance structure in which the body setting the mandate is not the body executing investments. Adopting these before broadening the fund's activities costs little; adopting them afterwards is considerably harder. The paper compares institutional design, not investment performance; a natural extension would test, across a

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panel of resource-based funds, whether the legal grade of the fiscal rule — binding statute versus advisory concept — predicts real capital preservation after controlling for commodity price cycles.

REFERENCES

1. Norges Bank Investment Management. Government Pension Fund Global: Half-year report 2026; Annual report 2025; investment mandate and portfolio. Oslo.
2. GIC. Our portfolio: twenty-year rate of return; FAQs: Net Investment Returns Contribution. Singapore.
3. Temasek. Net Portfolio Value results and portfolio performance, financial year ended 31 March 2026. Singapore.
4. Ministry of National Economy of the Republic of Kazakhstan. Budget self-sufficiency and National Fund parameters, 2026–2028. Astana.
5. The Astana Times. Three-year national budget law and the guaranteed transfer from the National Fund. Astana, December 2025.
6. The Astana Times. Experts raise concerns over transfers from Kazakhstan's National Fund. October 2024.
7. Kursiv Media. Kazakhstan's sovereign wealth fund is spending more than it earns. May 2026.
8. Interfax-Kazakhstan. Fitch Ratings on National Fund transfers and fiscal rule limitations. 2026.
9. State Oil Fund of the Republic of Azerbaijan. Rules on budget preparation and execution; Recent figures: financed projects and programmes. Baku.
10. International Forum of Sovereign Wealth Funds. Member profile: State Oil Fund of the Republic of Azerbaijan.
11. Trend.az. Projected reduction of SOFAZ transfers to the state budget, 2027–2030. September 2026.

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international scientific conference

12. innews.az. SOFAZ revenue and expenditure statement, January–June 2026; SOFAZ assets in the first quarter of 2026.
13. Universal Asset Owners. Temasek and GIC: a comparison of mandates and accountability structures. June 2026.
14. International Forum of Sovereign Wealth Funds. Santiago Principles: Generally Accepted Principles and Practices.
15. Al-Hassan A., Papaioannou M., Skancke M., Sung C.C. Sovereign Wealth Funds: Aspects of Governance Structures and Investment Management. IMF Working Paper.
16. Megginson W.L., Fotak V. Rise of the Fiduciary State: A Survey of Sovereign Wealth Fund Research. Journal of Economic Surveys.
17. Bernstein S., Lerner J., Schoar A. The Investment Strategies of Sovereign Wealth Funds. Journal of Economic Perspectives.
18. Truman E.M. Sovereign Wealth Funds: Threat or Salvation? Peterson Institute for International Economics.
19. International Monetary Fund. Fiscal rules and resource revenue management: country reports for Kazakhstan, Azerbaijan and Uzbekistan.