
# From Reactive Oversight to Predictive Governance: Real-Time Fiscal Intelligence in Pakistan

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For decades Public Financial Management operated with a reactive logic. Auditors reviewed spreadsheets months after transactions, inspectors flagged issues long after funds were spent, and fraud detection became a post-mortem exercise that assigned blame but did not prevent leakage. In 2024, global public debt reached 102 trillion dollars, with developing countries carrying 31 trillion. These nations paid a record 921 billion dollars in interest, draining fiscal space and threatening essential public services. When every misplaced dollar adds to borrowing costs, waiting for an annual audit is no longer an option.

The International Monetary Fund has pointed to weak systems marked by poor data quality, outdated structures, and lack of real-time monitoring. Digital transformation is reshaping GovTech into core public infrastructure that influences resource allocation, contract oversight, and audit targeting. Yet digitalization alone does not ensure transparency. The 2025 GTMI report shows that while 193 countries have adopted Financial Management Information Systems, only 30 percent publish reliable data on system use, Treasury Single Account operations, or budget outcomes. Pakistan's GovTech Maturity Index (GTMI) score of 0.679 is above the global average of 0.589, showing progress but also exposing gaps in governance intelligence, as shown in Table 1.

The challenge lies in integration. Many systems remain fragmented, paper-based, or dependent on manual workarounds, creating islands of digitalization that record data but do not generate insight. The next frontier is intelligence. Systems must move beyond recording to anticipating risks, flagging anomalies in real time, and transforming oversight from reactive review to proactive fiscal governance.

## Fiscal Transparency

Fiscal transparency means openly publishing complete, reliable, and timely information on government revenues, expenditures, and financial obligations to strengthen accountability and support informed decisions. It is a cornerstone of sound public financial management, emphasizing clarity, timeliness, reliability, and accessibility of fiscal data. Transparency extends beyond financial reporting to include budgeting, fiscal risk management, and citizen access to information. In developing economies such as Pakistan, implementation remains uneven due to institutional limitations, technical capacity gaps, and weak enforcement.

## Current Fiscal Transparency Measures and Status

Pakistan's public financial management (PFM) landscape is currently characterized by a fundamental tension between growing digital adoption and persistent systemic fragmentation. Several initiatives demonstrate a commitment to modernization, but the underlying governance architecture remains largely reactive and retrospective.

**Table 1: GovTech Maturity Comparison: Pakistan vs. Global Average**

| Index | Pakistan 2022 | Global Avg 2022 | Pakistan 2025 | Global Avg 2025 |
|---|---|---|---|---|
| GovTech Maturity Index (GTMI) | 0.535 | 0.552 | 0.679 | 0.589 |
| Core Government Systems Index (CGSI) | 0.431 | 0.575 | 0.688 | 0.619 |
| Public Service Delivery Index (PSDI) | 0.823 | 0.649 | 0.832 | 0.657 |
| Digital Citizen Engagement Index (DCEI) | 0.361 | 0.449 | 0.51 | 0.474 |
| Government Technology Enablers Index (GTEI) | 0.524 | 0.536 | 0.686 | 0.607 |

## Table 2: Authoritative Definitions of Fiscal Transparency

| Institution | Documented Definition | Key Dimensions / Pillars |
|---|---|---|
| **International Monetary Fund (IMF)** | Fiscal transparency refers to the comprehensiveness, clarity, reliability, timeliness, and relevance of public fiscal reporting, and to the openness of governments in their fiscal policymaking process. (IMF Fiscal Transparency Code, 2019) | 1. Fiscal Reporting<br>2. Fiscal Forecasting & Budgeting<br>3. Fiscal Risk Analysis & Management<br>4. Resource Revenue Management |
| **World Bank/IBRD** | There is no formal definition by World Bank/IBRD; however, it describes it as "the disclosure of complete, reliable (accurate and robust), timely, relevant, and good quality information (in accordance with International Public Sector Accounting Standards (IPSAS)) about a country's public finances which contributes to government policy decisions." | 1. Complete<br>2. Reliable (accurate and robust)<br>3. Timely<br>4. Relevant<br>5. Good quality information |
| **OECD** | Budget transparency is defined as the full disclosure of all relevant fiscal information in a timely and systematic manner. (OECD, 2019) | 1. Clarity<br>2. Comprehensiveness<br>3. Reliability<br>4. Timeliness<br>5. Accessibility<br>6. Usability of public reporting |
| **Public Expenditure and Financial Accountability Framework (PEFA)** | Pillar two: Transparency of public finances. Transparency is defined as information on PFM that is comprehensive, consistent, and accessible to users, using six indicators. | 1. PI-4. Budget classification<br>2. PI-5. Budget documentation<br>3. PI-6. Central government operations outside financial reports<br>4. PI-7. Transfers to subnational government<br>5. PI-8. Performance information for service delivery<br>6. PI-9. Public access to fiscal information |
| **International Budget Partnership (IBP)** | Budget Transparency is considered "public access to information on how the central government raises and spends public resources. It assesses the online availability, timeliness, and comprehensiveness." | 1. Pre-Budget Statement<br>2. Executive's Budget Proposal<br>3. Enacted Budget<br>4. Citizens Budget<br>5. In-Year Reports<br>6. Mid-Year Review<br>7. Year-End Report<br>8. Audit Report |

It creates a critical disconnect where increased data disclosure is not yet translating into improved institutional accountability or real-time fiscal oversight.

The current status of the Fiscal Transparency landscape shows

**1. Transparency vs. Accountability:** While there is a measurable strength in the increased publication of fiscal reports and asset disclosures, the landscape suffers from a weakness in prioritizing disclosure over actual accountability, further hampered by limited citizen-friendly reporting.

**2. Digital Fragmentation:** Although digital governance systems like e-PADS have expanded, the data remains trapped in "islands of digitalization" that lack integration, creating a significant gap for a centralized, AI-enabled, real-time fiscal data platform.

**3. Audit Inertia:** Despite broad institutional coverage, the audit function remains stuck in a cycle of delayed, retrospective reporting and poor implementation of recommendations, highlighting the absence of continuous auditing and AI-based anomaly detection.

**4. Predictive Deficiency:** While frameworks like the FRMF have been established to monitor PPP liabilities, reliance on periodic, manual risk analyses limits the government's predictive capacity and necessitates the urgent integration of AI-based early-warning systems.

Pakistan has made notable progress in fiscal transparency, publishing the Governance and Corruption Diagnostic and UNCAC review reports, mandating digital asset declarations, and expanding e procurement systems. In 2026, the Ministry of Finance introduced a Fiscal Risk Monitoring Framework for PPP projects, disclosing Rs. 472.3 billion in liabilities and guarantees, with plans for a national dashboard to strengthen oversight. However, gaps remain: no updated PEFA assessment since 2012, an Open Budget Index score stuck at 45/100 with missing citizen.

Focused documents and audit reports published with long delays, limited accessibility, and weak follow up, with only about 25 percent of recommendations implemented.

In the IMF's November 2025 Governance and Corruption Diagnostic Report, several issues were identified, including that weak audit and oversight structures place approximately Rs 40 trillion in federal public funds at significant fiduciary risk.

## Case Study: Pakistan's Public Sector Financial Management Challenges

Pakistan's public financial management landscape reveals recurring weaknesses in transparency, accountability, and institutional oversight. A striking example was the Rs. 376 trillion "typo" scandal, where the Auditor General of Pakistan initially reported irregularities amounting to more than three times the country's GDP. After public scrutiny, the figure was corrected to billions, exposing serious lapses in reporting accuracy.

Beyond errors, systemic irregularities persist. Audit findings highlighted Rs. 375 trillion in procurement mismanagement and delayed civil works, alongside Rs. 2.5 trillion in unrecovered receivables, underscoring deep inefficiencies in resource use. At the departmental level, cases such as the Sindh Auqaf Department's Rs. 423 million irregularities and Rawalpindi's healthcare audit of Rs. 161.85 million revealed mismanaged funds, fake records, and inflated procurements, often involving shell companies.

Structural weaknesses compound these issues. Nearly 75 percent of audit recommendations remain unimplemented, reflecting the absence of a centralized monitoring system. Meanwhile, circular debt in the power and gas sectors has ballooned to Rs. 5.2 trillion, driven by late payment surcharges despite tariff adjustments. Losses in state-owned enterprises surged to Rs. 122 billion in FY25, a 300 percent increase from the previous year, with entities like Pakistan Railways and power distribution companies among the worst performers.

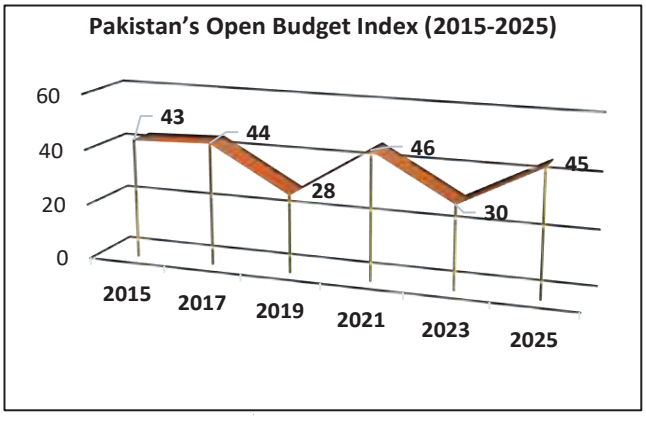
Development spending has also faltered. Only 9.2 percent of the Rs. 1 trillion PSDP allocation was utilized in the first five months of FY25, reflecting severe under-utilization of resources. Finally, the absence of updated PEFA assessments since 2012 leaves policymakers without credible benchmarks for evaluating fiscal transparency and performance.

It is therefore unsurprising that cases of financial irregularities, embezzlement, and corruption, running into trillions of rupees, continue to surface year after year.

Pakistan's public financial management failures are systemic rather than isolated. The Rs. 376 trillion "typo" scandal exposed the absence of a unified fiscal data architecture, while massive procurement irregularities and healthcare audit fraud revealed weak cost-control systems. Audit enforcement remains ineffective, with 75 percent of recommendations unimplemented due to the lack of real-time oversight. This gap contributes to mounting losses in state-owned enterprises and the unchecked growth of circular debt, now at Rs. 5.2 trillion. Development spending is also chronically underutilized, reflecting manual and fragmented monitoring. Collectively, these cases show that Pakistan's core fiscal challenge is the absence of integrated, real-time intelligence, underscoring the need to shift from retrospective auditing toward AI-driven continuous fiscal governance.

## Pakistan's Performance in AI Readiness and Fiscal Transparency

Pakistan's Open Budget Index (OBI) score rose from 30 to 45 between 2023 and 2025, marking meaningful progress in fiscal transparency. However, this score remains low in absolute terms, meaning most budget information is still not fully public or machine-readable.



For AI-driven financial management, this means the foundational data is still fragm ented, and audit processes would need to operate in a weak oversight environment.

Regional comparison also shows divergent trends, with countries like Pakistan and Sri Lanka having successfully enhanced budget transparency (OBI) while simultaneously experiencing significant declines in institutional and audit oversight mechanisms. While nations like Bangladesh and China exhibit relative stagnation across all governance metrics, others are grappling with the trade-offs between increased public information and weakening internal accountability structures.

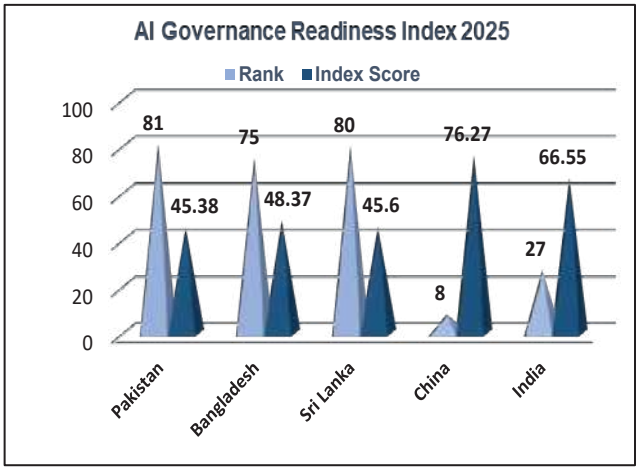



**Table 3: Regional Comparison of Fiscal Transparency**

| Countries | OBI | | Legislative Oversight | | SAI Oversight | | Overall Oversight | | Public Participation | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2023 | 2025 | 2023 | 2025 | 2023 | 2025 | 2023 | 2025 | 2023 | 2025 |
| **Pakistan** | 30 | 45 | 28 | 28 | 61 | 50 | 39 | 35 | 15 | 22 |
| **Bangladesh** | 37 | 37 | 33 | 33 | 45 | 45 | 37 | 37 | 11 | 11 |
| **China** | 20 | 19 | 17 | 17 | 56 | 56 | 30 | 30 | 0 | 0 |
| **India** | 51 | 44 | 58 | 47 | 67 | 67 | 61 | 54 | 6 | 6 |
| **Sri Lanka** | 37 | 43 | 56 | 50 | 78 | 67 | 63 | 56 | 7 | 9 |

On the other hand, Pakistan ranks 81st out of 195 countries in the 2025 Government AI Readiness Index, placing it in the lower tier globally. Pakistan is among nations making progress, but it lacks the dedicated AI funding, compute infrastructure, and cross-sector coordination seen in top-ranked countries. Without parallel improvements in data quality and institutional oversight, AI will remain a technical add-on rather than a transformative tool for financial accountability. Furthermore, in terms of government readiness towards AI, South Asian peers India and China score far higher, indicating stronger fiscal governance systems, whereas Pakistan, Bangladesh, and Sri Lanka cluster at the bottom with scores between 45–48.

## Pakistan's Performance Gap Indentified

- Without synchronized improvements in legislative and audit oversight
- Gains in transparency alone may be insufficient to foster long-term institutional accountability.
- Wide gap in Governance Readiness Index between Pakistan and leading Asian countries
- Deficiencies in transparency, audit mechanisms, or governance frameworks
- Need for structural reforms.

## Quantifying the Cost of Fiscal Risk and Implementation Gap

The Statement of Fiscal Risks FY2026-27 quantifies major fiscal risks that could collectively widen Pakistan's fiscal deficit by up to 4.3% to 5.8% of GDP. However, these risks are currently monitored through periodic reporting and retrospective oversight rather than integrated real-time systems. This analysis demonstrates how real-time AI-driven fiscal governance directly addresses each identified risk by enabling continuous monitoring, early warning, and proactive mitigation.

The comparative fiscal risk statements for 2025-26 and 2026-27 show a worsening risk profile, with tax expenditures rising from 0.16% to 1.30% of GDP, refinancing risk from 0.04% to 0.80%, and oil price vulnerability doubling to 0.80%. Together, these risks represent potential losses of over 4–5% of GDP. While government strategies—tax base broadening, expenditure efficiency, debt management, SOE reforms, and tighter guarantee oversight—are sound in principle, they remain periodic and reactive, relying on annual cycles and post-facto audits. Real-time AI-driven fiscal governance offers a transformative alternative, embedding continuous intelligence into revenue forecasting, debt monitoring, SOE oversight, and risk modeling.

**Table 4: Fiscal Risks and Impacts**

| Risk Description | Impact (Annual Budget Statement 2025-26) | Impact (Annual Budget Statement 2026-27) |
|---|---|---|
| **Revenue Risk-Tax Revenue Shortfall (10% lower)** | 0.40% of GDP | 0.70% of GDP |
| **Revenue Risk-SBP Profit Decline (30% decline)** | 0.32% of GDP | 0.30% of GDP |
| **Revenue Risk- Petroleum Levy Shortfall (20% shortfall)** | 0.20% of GDP | 0.20% of GDP |
| **Revenue Risk-Tax Expenditures Expansion** | 0.16% of GDP | 1.30% of GDP |
| **Debt Risks -Interest Rate Increase (200 bps domestic + 100 bps external)** | 0.42% of GDP | 0.40% of GDP |
| **Debt Risks - Refinancing Risk** | 0.04% of GDP | 0.80% of GDP |
| **SOR Risk- SOE Dividend Shortfall (6-6.1% decline)** | 0.02% of GDP | 0.02% of GDP |
| **SOE Risk-Government Financial Support to SOEs (1.5% of GDP)** | 0.40% of GDP | 0.40% of GDP |
| **SOE Risk- Energy Sector Reforms/Transition Costs** | 0.15% of GDP | Not separately quantified |
| **OTHER FISCAL RISKS** | | |
| **Government Guarantees (25% actualization)** | 0.11% of GDP | 0.10% of GDP |
| **Global Oil Price Shock** | 0.37% of GDP ($20/bbl increase) | 0.80% of GDP ($40/bbl increase) |
| **Outstanding Guarantees** | Rs 3,448 billion | Rs 4,322 billion |

This shift from retrospective auditing to proactive prevention requires integrated fiscal data systems capable of instant anomaly detection and predictive alerts, ensuring risks are addressed before they escalate into crises.

## Global Standing and Practices by Frontier Leaders

Global AI adoption rankings highlight the urgency of Pakistan's fiscal transformation. Leaders like the UAE and Singapore achieved 63–70% adoption through centralized strategies, interoperable data systems, and direct integration of AI into financial management. Pakistan, ranked 92nd with only 11.4% adoption, must prioritize foundational integration and real-time fiscal intelligence before advanced analytics. The experience of smaller agile economies shows that strategic coordination, not higher spending alone, is the decisive factor for AI-driven fiscal governance.

## Conclusion

Pakistan's progress in the GovTech Maturity Index and Open Budget Index confirms that reform momentum is already underway.

The central policy question is no longer whether Pakistan should adopt AI in public financial management, but how rapidly it can integrate AI-driven intelligence into its existing reform agenda.

**Table 5: Top Ten Countries in AI Adoption (2026)**

| Rank | Country | Q1 2026 | H1 2025 |
|---|---|---|---|
| **1** | UAE | 70.10% | 59.40% |
| **2** | Singapore | 63.40% | 58.60% |
| **3** | Norway | 48.60% | 45.30% |
| **4** | Ireland | 48.40% | 41.70% |
| **5** | France | 47.80% | 40.90% |
| **6** | Spain | 44.20% | 39.70% |
| **7** | New Zealand | 43.00% | 37.60% |
| **8** | UK | 42.20% | 36.40% |
| **9** | Netherlands | 42.10% | 36.30% |
| **10** | Qatar | 41.80% | 35.70% |
| **92** | **Pakistan** | **11.40%** | **9.70%** |

## Case Study: Frontier Transformation in AI Driven Fiscal Governance

While the demand for real time fiscal intelligence is universal, no country has achieved fully autonomous fiscal governance. Instead, global leaders are undergoing a Frontier Transformation—a hybrid approach where targeted, high impact AI applications augment strong digital foundations. This evolution balances technical innovation with institutional oversight, showing that modular, domain specific systems can serve as a blueprint for developing economies like Pakistan.

**Global Practices:**

- **South Korea's dBrain+** demonstrates the value of a unified fiscal backbone that integrates budgeting, treasury, accounting, and reporting.
- **Estonia's X Road** highlights secure interoperability across government systems without centralization.
- **Singapore's GovTech and AGO analytics** show the shift from sample based audits to continuous, population level assurance.
- **Australia's ANAO framework** embeds algorithm accountability into audit processes.
- **Greece's myDATA** enforces real time legal reporting.
- **EU's ARACHNE and Brazil's GRAS** use predictive analytics to detect fraud and fiscal leakage before funds are lost.
- **France's AI enabled warning system** identifies municipalities at risk and supports corrective measures.

**Lessons for Pakistan:** These experiences reveal that successful fiscal governance reform is not primarily a technology challenge but a governance and integration challenge. Leaders achieved results by first establishing interoperable fiscal data architectures, standardized reporting frameworks, real time information flows, and strong accountability mechanisms. AI then functions as an enabling layer—transforming oversight into proactive risk management.

For Pakistan, the implication is clear: without integrated data systems and institutional reforms, AI risks automating inefficiencies rather than improving accountability. The recurring issues of procurement irregularities, audit failures, circular debt, and SOE losses should be seen as symptoms of a broader fiscal intelligence gap. Bridging this gap requires moving beyond digitization toward intelligence—embedding AI into fiscal workflows only after governance foundations are secured.

International success in AI-enabled governance stems from integrating data, institutions, and decision-making rather than higher spending alone. Since Pakistan already possesses the necessary legal and technological building blocks, the remaining challenge is one of execution and coordination rather than legislation. Real-time AI is not a luxury; it is a practical tool for improving fiscal discipline, reducing leakage, and strengthening accountability. By embedding AI into current initiatives, Pakistan can transform its system from one that reacts to problems into one that anticipates risks before they escalate into fiscal crises.

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