

White Paper

Algorithmic Settlement Mechanism (ASM)

Section 134B of the Income Tax Ordinance, 2001
Proposed to be inserted through Finance Bill, 2026

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Algorithmic Settlement Mechanism (ASM) in Taxation

It has been proposed through Finance Bill, 2026 to insert new Section 134B of the Income Tax Ordinance, 2001 which introduces a digital Algorithmic Settlement Mechanism. It enables the FBR | Federal Board of Revenue to generate computed settlement proposals to resolve tax discrepancies before formal assessment orders are passed.

What Is Algorithmic Settlement Mechanism (ASM), How It Works and Its Implementation Around the World:

An **Algorithmic Settlement Mechanism (ASM)** is a technology-driven system that uses predefined rules, artificial intelligence (AI), machine learning, and data analytics to automatically determine or recommend the settlement of tax disputes, tax assessments, or tax liabilities with minimal human intervention.

Its primary objectives are:

- Reducing litigation.
- Increasing consistency in tax administration.
- Eliminating subjective decision-making.
- Speeding up dispute resolution.
- Improving tax compliance.

How an Algorithmic Settlement Mechanism Works

Step 1: Data Collection

The system gathers information from multiple sources:

- Tax returns
- Financial statements
- Banking records
- Customs data
- VAT/GST invoices
- Employer reports
- Third-party information
- Previous tax history

Example:

Source	Data Collected
Income Tax Return	Declared income
Bank	Deposits
Employer	Salary
Customs	Import values
Property Registry	Real estate purchases

Step 2: Risk Scoring

The algorithm assigns a risk score based on predefined parameters.

Example:

Indicator	Weight
Late filing	15
Cash deposits exceed income	40
Unexplained wealth	30
Prior audit adjustments	15

Total Score:

- 0-30 = Low Risk
- 31-60 = Medium Risk
- 61-100 = High Risk

Step 3: Liability Calculation

The algorithm compares:

Declared Income

versus

Estimated Income based on available data

Example:

Declared Income: PKR 5,000,000

Bank deposits indicate: PKR 8,500,000

Difference:

PKR 3,500,000

The system may propose:

- Additional taxable income
- Tax due
- Default surcharge
- Penalties

Step 4: Settlement Recommendation

Instead of immediately issuing a tax demand, the algorithm may generate settlement options.

Example:

Option	Amount
Full liability	PKR 1,500,000
Voluntary settlement	PKR 1,050,000
Immediate payment discount	PKR 950,000

The taxpayer can:

- Accept,
- Reject, or
- Request manual review.

International Implementations

1. OECD (Organization for Economic Co-operation and Development)

The OECD promotes:

- Risk-based compliance
- Cooperative compliance
- Digital tax administration
- Automated dispute prevention

Rather than replacing tax officers, algorithms prioritize cases and suggest resolutions.

Features:

- Data matching
- Predictive analytics
- Risk profiling
- Early intervention

2. Australia

The tax administration uses sophisticated analytics to:

- Match employer reports
- Compare bank information
- Identify discrepancies
- Automatically notify taxpayers before audits

Many disputes are resolved through online amendments instead of litigation.

3. United Kingdom

The tax authority employs:

- Connect Data Analytics
- Cross-government data matching
- AI-assisted fraud detection

The system identifies inconsistencies and often invites voluntary correction before formal enforcement.

4. Estonia

Estonia operates one of the world's most digital tax systems.

Characteristics:

- Pre-filled tax returns
- Automated calculations
- Minimal human intervention
- Rapid refunds

Most individual tax returns require only confirmation by the taxpayer.

5. Singapore

Singapore's tax administration integrates:

- Employer payroll data
- Banking information
- Property transactions

Many individual taxpayers receive pre-populated returns, reducing disputes significantly.

AI and Machine Learning Components

An advanced Algorithmic Settlement Mechanism typically includes:

Classification Models

Determine whether a taxpayer is:

- Compliant
- Medium risk
- High risk

Anomaly Detection

Identifies unusual transactions:

Example:

Expected business turnover:

PKR 10 million

Actual bank deposits:

PKR 80 million

The system flags the case for review.

Predictive Models

Estimate:

- Probability of tax evasion
- Probability of successful appeal
- Expected recoverable revenue

This allows authorities to prioritize cases efficiently.

Advantages

For Tax Authorities

- Faster assessments
- Reduced administrative costs
- Consistent decisions
- Better resource allocation
- Increased revenue collection

For Taxpayers

- Faster dispute resolution
- Greater transparency
- Reduced litigation costs
- Predictable outcomes
- Opportunity for voluntary compliance

Challenges

Algorithmic Bias

Poorly designed models may unfairly target particular industries, income groups, or regions.

Lack of Transparency

Taxpayers may not understand how the settlement amount was calculated, raising due process concerns.

Data Quality

Incorrect or outdated third-party information can produce inaccurate assessments.

Privacy Concerns

The use of extensive personal and financial data requires robust safeguards and compliance with data protection laws.

International Best Practices

Most international organizations recommend that an Algorithmic Settlement Mechanism should incorporate:

1. **Human oversight** before final adverse decisions.
2. **Explainable algorithms**, allowing taxpayers to understand the basis of the proposed settlement.
3. **A right to challenge or appeal** algorithmic outcomes.
4. **Regular audits** of algorithmic models for accuracy and fairness.
5. **Transparent governance**, including publication of general risk criteria without compromising enforcement effectiveness.

Applicability to Pakistan

Under Pakistan's current tax framework, particularly the Income Tax Ordinance, 2001, Sales Tax Act, 1990, and Federal Excise Act, any algorithmic settlement mechanism would need to operate consistently with principles of **natural justice**, including the issuance of notices, an opportunity to be heard, and reasoned orders subject to appeal. An algorithm could assist in identifying discrepancies or proposing settlements, but a legally sustainable system would generally require human review and preserve the taxpayer's statutory rights to objection and appeal before tax authorities and appellate forums.

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June 27, 2026