



Article

Measuring the Information Capacity of Public-Sector Financial Reporting: A Form-Level Diagnosis from Public Medical Organisations

Kuliboyev Azamat Shonazarovich¹

1. Professor at Tashkent State University of Economics, Tashkent, Uzbekistan.

* Correspondence: azamatkuliboyev@gmail.com

Abstract: Assessments of public-sector reporting quality are normally conducted at the level of a jurisdiction and expressed as the proportion of standards formally adopted. This paper works one level down, at the individual budgetary organisation, and asks what its financial statements are actually capable of telling a reader. We develop three instruments and apply them to the complete 2019-2025 statutory reporting archive of four Uzbek public medical organisations: an index of the structural completeness of the report set, a battery of inter-form articulation tests, and a three-dimensional index of the diagnostic power of analytical indicators. Four results follow. Structural completeness averages 56.3 per cent and ranges from 40.0 to 65.0 across the objects; three criteria score zero everywhere, because the cash-flow statement, the statement of changes in net assets and the notes are not contemplated in the national report set at all. Second, the reliability of a statement depends more on the design of the form than on the competence of the accounting service: the mean absolute relative residual of the internal articulation test fell from 1.798 per cent under the old redaction to 0.0006 per cent under the 2024 redaction, with the same staff, the same registers and the same software. Third, when two forms are populated automatically from a single source their agreement conveys no assurance, and an impossible value of 148,217.2 mn UZS propagated between them unchecked; we call this the automation paradox. Fourth, mean computability of the ten analytical indicators tested is 47.9 per cent, and diagnostic power ranges from 56.0 to 88.1, with the strongest indicators drawn from the balance sheet and the weakest from the expenditure statements. We conclude that arithmetic correctness and economic reliability are distinct properties, and that every material deviation we identified survived seven years of reporting while preserving the accounting equation.

Keywords: financial reporting quality; public sector accounting; articulation tests; reporting completeness index; data quality; diagnostic power; healthcare organisations; Uzbekistan

Citation: Shonazarovich K. A. Measuring the Information Capacity of Public-Sector Financial Reporting: A Form-Level Diagnosis from Public Medical Organisations. Central Asian Journal of Innovations on Tourism Management and Finance 2026, 7(4), 447-459.

Received: 10th Jan 2026
Revised: 11th Mar 2026
Accepted: 24th Jun 2026
Published: 21th Sep 2026



Copyright: © 2026 by the authors. Submitted for open access publication under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>)

1. Introduction

How good is the financial reporting of a public medical organisation? Asking it is easy; answering it is surprisingly hard, because the instruments normally used operate at the wrong level. PEFA assesses a public financial management system; the IFAC accountability index counts the standards a jurisdiction has adopted. Neither tells us whether the statements filed by a particular hospital last year can answer a question its director needs answered.[1][2]

This paper builds instruments for that level and applies them. We take as our object the output of the accounting system rather than the system itself: the set of statements a

budgetary organisation files, the internal consistency of those statements, and the analytical work they will support.[3]

Three findings shape the argument that follows, and we state them here so that the reader can judge the evidence against them. Reliability turns out to depend on the design of the reporting form more than on the competence of the people completing it. Agreement between two statements populated from a common source conveys no assurance whatever, and can propagate an error rather than catch it. And arithmetic correctness, which the system achieves without exception, is a different property from economic reliability, which it does not.[4][5]

Our setting is Uzbekistan, where budgetary accounting has been under active reform. A unified chart of accounts took effect in 2021; from 2024 the balance sheet was rebuilt on the liquidity principle and net assets became a reported category. A reform of this scope creates a natural experiment, since the same organisations, staff and software produced statements under two different form designs within one archive. We exploit that.[6]

Sections follow the usual order. Section 2 reviews the literature on reporting quality and data quality. Section 3 sets out the three instruments and the archive. Section 4 reports results. Section 5 discusses what follows for practice and for the measurement of reform, and Section 6 concludes.[7]

Two literatures meet in this paper and have rarely been brought together. One measures the financial condition of public entities through ratio systems. Groves, Godsey and Shulman (1981) established the tradition; Brown (1993) reduced it to a ten-point test for small cities; Wang, Dennis and Tu (2007) applied it to US states; Zafra-Gomez and colleagues (2009) added controls for the socio-economic environment; Ritonga, Clark and Wickremasinghe (2012) extended it to Indonesia. Jones and Walker (2007) test which indicators actually explain distress. In healthcare specifically, Chu and co-authors (1991) and Zeller, Stanko and Cleverley (1996) examined the stability of hospital ratio groups.[8]

Studies in that tradition assume the ratios can be computed. In a modified cash environment many cannot, and the question of which ones survive has not been asked. That is the first gap we address.[9]

A second literature treats information as a product with measurable quality. Wang and Strong (1996) supplied the dimensional framework; Redman (1998) estimated the cost of poor quality to the enterprise; Debreceeny and colleagues (2010) applied automated consistency checks to regulatory filings and detected error rates that manual review had missed. Their finding is the closest antecedent to ours, though they examine corporate filings in a jurisdiction with mature validation and do not consider what happens when cross-checks run on data of common origin.

A third line of work concerns what reporting is for. IPSASB's Conceptual Framework (2023) sets the qualitative characteristics; RPG 3 (2015) addresses service performance information, which in our setting is absent from the financial report set. Cohen and Karatzimas (2015) argue for popular reporting; Bertot, Jaeger and Grimes (2010) connect transparency to information technology; Steccolini (2019) presses the case that public-sector accounting answers to an accountability of its own. Van Helden and Reichard (2019) and Kidholm and colleagues (2015) document what users actually need.[10]

Missing from all of this is an instrument applicable to one organisation, from its own filed statements, without additional data collection. Assessments that require a survey, an interview or a register extract cannot be run at scale by a ministry or an audit body. The three instruments developed below were constrained from the outset to use nothing but the statements themselves.[11]

2. Materials and Methods

2.1. Archive. Our archive comprises the complete statutory reporting of four public medical organisations for 2019-2025: a national rehabilitation and prosthetics centre serving as the main object, a haematology centre, a mental health centre and a regional somatic hospital. More than 250 primary filings were processed, 73 of them for the main object across eight form families. Values were read directly from the filed files, and each change of form redaction was mapped line by line before any inter-period series was constructed.[12]

2.2. Instrument 1: the financial statement completeness index. Instrument 1 measures the structural completeness of the report set. Ten criteria were selected, seven from the composition of the national mandatory set and three from the components an IPSAS-based set would contain. Each criterion is scored 1 where the statement is present and complete, 0.5 where present but incomplete, and 0 where not envisaged. The index is the ratio of the score obtained to the maximum:

$$FSCI = (\sum s_i) / 10 \times 100 \%, \quad s_i \in \{0, 0.5, 1\}$$

2.3. Instrument 2: the articulation battery. Instrument 2 tests whether the statements agree with one another. Six tests were specified; five are reported here and the sixth, on inventory consumption, belongs to the fourth paper. Each test compares two quantities that must be equal if the statements are internally consistent, and each is evaluated against a materiality threshold of 0.5 per cent of the relevant aggregate.[13]

T1. Closing gross carrying amount in the asset movement statement equals the corresponding balance sheet line.

T2. Closing balance of year t equals opening balance of year $t+1$, for every aggregate line.

T3. Internal identity of the asset movement statement: opening balance plus additions minus disposals equals closing balance.

T4. Expenditure block of the network and staffing report equals the corresponding total in the expenditure estimate execution report.

T5. Total payables in the receivables and payables statement equals the corresponding balance sheet aggregate.

We express the residual of test T3 both absolutely and relative to the closing balance:

$$\varepsilon = |B_{open} + A - D - B_{close}|, \quad \varepsilon_{rel} = \varepsilon / B_{close} \times 100 \%$$

2.4. Instrument 3: the diagnostic power index. Instrument 3 evaluates analytical indicators rather than statements. Ten indicators were formulated for a modified cash environment, each tied to identified lines of existing forms. Each indicator is then scored on three dimensions: computability h , the share of object-year cells in which it can actually be calculated; variability v , whether its dispersion across the panel is sufficient to discriminate; and interpretability t , whether a movement in it admits an unambiguous economic reading. The index combines the three:

$$DPI = (h + 25 \cdot v + 25 \cdot t) / 1.5, \quad \text{where } h \in [0, 100], v, t \in \{0.5, 1\}$$

Weighting places computability first, and deliberately so. An indicator that cannot be computed has no diagnostic value whatever the elegance of its construction, and in the environment studied computability is the binding constraint.[14][15]

3. Results

4.1. Structural completeness of the report set. Figure 1 presents the completeness assessment. Values average 56.3 per cent and range from 40.0 per cent at the mental health centre to 65.0 per cent at the main object.

Score per criterion: 1 = present and complete, 0.5 = present but incomplete, 0 = not envisaged

Balance sheet	1	1	1	1	1
Expenditure estimate execution	1	1	1	1	1
Development Fund cash flow	1	1	0.5	1	1
Other extrabudgetary resources	0.5	0.5	0	0.5	1
Statement of financial results	1	1	0	1	0.5
Movement of non-financial assets	1	1	1	1	1
Receivables and payables	0.5	0.5	0	0.5	0.5
Cash-flow statement (IPSAS 2)	0	0	0	0	0
Changes in net assets	0	0	0	0	0
Accounting policy and notes	0	0	0	0	0
	6.5 / 10 FSCI = 65.0%	6.0 / 10 FSCI = 60.0%	4.0 / 10 FSCI = 40.0%	6.0 / 10 FSCI = 60.0%	
	National Centre	Haematology centre	Mental health centre	Somatic hospital	

Figure 1. Financial statement completeness index by criterion and by organisation, 2023

Three criteria score zero in every organisation. A cash-flow statement in the sense of IPSAS 2 is not part of the national set; a statement of changes in net assets does not exist, although the net assets figure itself entered the balance sheet in 2024; and neither an accounting policy statement nor notes are contemplated. None of this is a failure of the organisations. All three are properties of the reporting framework, and no effort at institutional level can remedy them.[16]

Dispersion across the objects arises entirely from the middle criteria, where organisations differ in what they file and how completely. The mental health centre files neither a statement of financial results nor a receivables and payables statement, which alone accounts for its position at the foot of the ranking.[17]

One further property of the completeness index deserves comment, since it bears on how the instrument should be used. Scores cluster: three objects fall within five points of one another and the fourth sits fifteen points below. That distribution is what we would expect from an index driven mainly by a common framework, with institutional variation entering only at the margin. Used as a ranking device the index would therefore mislead, since the differences between the top three are within the judgement error of the scoring. Used as a diagnostic it performs well, because it identifies precisely which criteria are missing and whether the cause lies inside or outside the organisation.

4.2. Form design and the reliability of statements. Redaction of the forms in 2024 permits a comparison that is rare in this literature: the same organisations, the same accounting staff, the same registers and the same software, reporting under two form designs. Table 1 and Figure 2 report the outcome of test T3.

Table 1. Internal articulation test T3 of the statement of movement of non-financial assets, main research object, 2019–2025, mn UZS

Year	Opening balance	Additions	Disposals	Closing balance	Residual ε	Relative residual, %	Form redaction
2019	19 190.8	2 564.8	442.4	21 377.6	64.5	0.302	old
2020	21 377.6	2 836.4	0.0	24 655.1	441.1	1.789	old
2021	24 655.1	1 610.1	305.6	27 082.4	1 122.8	4.146	old
2022	27 082.4	4 702.5	101.1	30 844.5	839.3	2.721	old
2023	30 844.5	4 274.3	174.2	34 932.9	11.7	0.033	old
2024	33 818.9	19 978.8	1 205.3	52 592.4	0.6	0.001	new
2025	52 592.4	6 036.9	415.2	58 214.0	0.0	0.000	new
Mean, old redaction	—	—	—	—	495.9	1.798	—
Mean, new redaction	—	—	—	—	0.3	0.0006	—

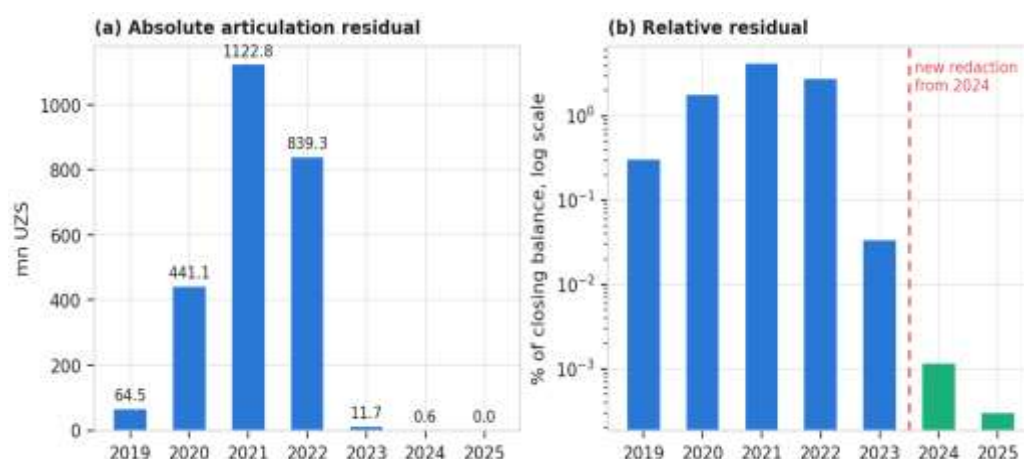


Figure 2. Absolute and relative residual of the internal articulation test before and after the 2024 change of form redaction, main research object

Mean relative residual falls from 1.798 per cent to 0.0006 per cent, a reduction of more than three thousand times, and nothing else changed. A new redaction embeds the identity in the form itself, so that a violation cannot be filed; the old one left the identity implicit and unverified.[18]

We treat this as the central empirical result of the paper. Reliability of reporting is customarily explained by the qualification of staff and the state of internal control. Our evidence adds a third factor that acts independently of both, and in this instance dominates them: the structure of the form.[19]

4.3. The automation paradox. Our second result concerns what happens when two statements are cross-checked without being independent. Test T4 compares the expenditure block of the network and staffing report with the corresponding total in the expenditure estimate execution report. Table 2 records the outcome.[20]

Table 2. Articulation test T4 between the network and staffing report and the expenditure estimate execution report, haematology centre, 2019-2025, mn UZS

Year	Network and staffing report, expenditure block	Estimate execution report, total	Difference	Test outcome	Population method
2019	30 283.7	30 283.7	0.0	Exact	Manual entry
2020	20 973.4	20 973.4	0.0	Exact	Manual entry
2021	22 678.7	22 678.7	0.0	Exact	Automatic population
2022	—	26 071.4	—	Not testable	All cells zero Plan
2023	—	31 624.8	—	Not testable	column only
2024	148 217.2	37 321.9	+110 895.3	Impossible value	Automatic population
2025	—	3 420.0	—	Not testable	Form migrated

In 2021 and 2024 the two statements agree to the last decimal because the second is populated automatically from the first. Agreement of that kind is not a test. It is a copy, and in 2024 it copied a value that cannot be true: 148 217.2 mn UZS of institutional maintenance expenditure against a total estimate of 37 321.9 mn. The impossible figure passed into the second statement without obstruction, was filed, and was never queried.

We name this the automation paradox. Value in a control lies in the independence of the sources it compares, not in the sophistication of the comparison. Automating the population of one statement from another converts a potential check into a mechanism for propagating error. For audit planning the corollary is uncomfortable: exact agreement between two statements should raise a question about their independence before it is taken as assurance.[21]

4.4. What the actual expenditure column contains. Our third result concerns the economic content of a reported figure rather than its arithmetic, and Figure 3 sets out the medicines line of the haematology centre.

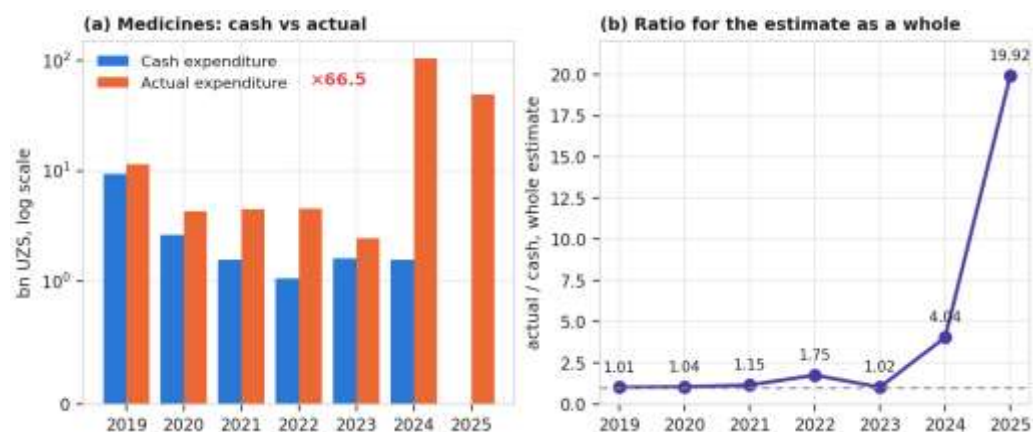


Figure 3. Cash and actual expenditure on medicines and the ratio of actual to cash expenditure for the estimate as a whole, haematology centre, 2019-2025

In 2024 cash expenditure on medicines was 1 563.8 mn UZS and actual expenditure 103 923.3 mn, a ratio of 66.5. We found no error behind it. Values supplied in kind under centralised procurement are charged to the actual expenditure column although no payment ever leaves the treasury account. Both figures are correct within their own conventions; what is absent is any line distinguishing the two flows.

Consequences for analysis are severe. An organisation whose real resource flow is dominated by in-kind supply reports a cash flow that describes a small fraction of its activity, and no reader of the statements can tell which is which. For the whole estimate the ratio of actual to cash expenditure reached 4.04 in 2024 and 19.92 in 2025.

4.5. Factor decomposition of asset dynamics. Nominal growth in the asset base is routinely read as investment. Figure 4 and Table 3 decompose it.

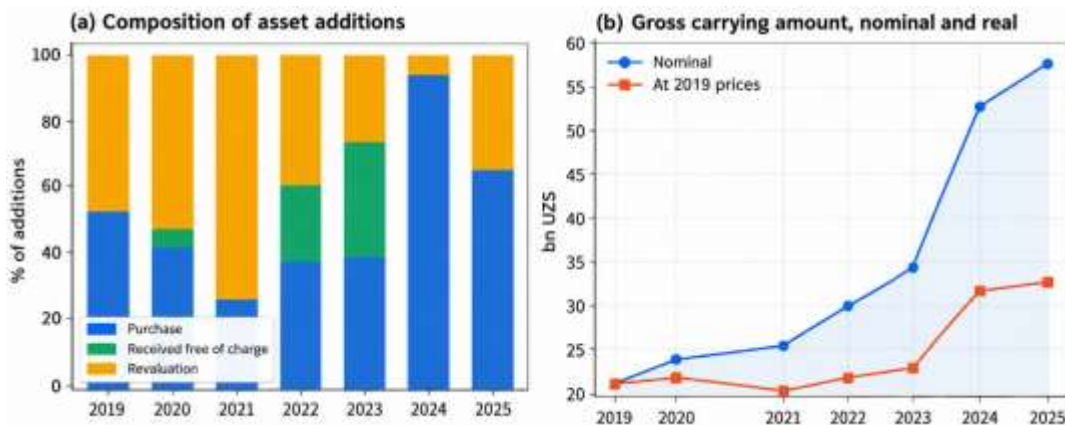


Figure 4. Composition of additions to non-financial assets and the gross carrying amount in nominal and constant prices, main research object, 2019-2025

Table 3. Decomposition of the growth in non-financial assets by factor, main research object, 2019-2025

Year	Gross carrying amount, nominal, mn UZS	At 2019 prices, mn UZS	Real index, 2019 = 100	Purchase, % of additions	Free of charge, %	Revaluation, %
2019	20 976.4	20 976.4	100.0	51.9	0.1	48.0
2020	23 812.8	21 433.7	102.2	40.1	5.1	54.7
2021	25 117.3	20 552.6	98.0	24.7	0.7	74.6
2022	29 718.7	21 654.2	103.2	8.3	54.0	37.6
2023	33 818.9	22 648.8	108.0	37.4	36.8	25.8
2024	52 592.4	32 077.9	152.9	92.5	0.0	7.5
2025	58 214.0	33 091.0	157.8	64.7	0.0	35.3

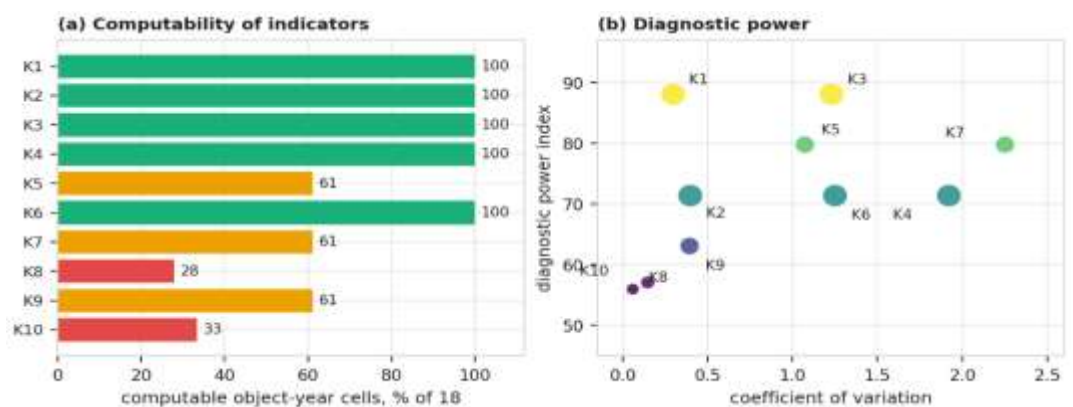
Over 2019-2023 the gross carrying amount grew by 61.2 per cent in nominal terms. In constant prices the increase is 8.0 per cent. Between a quarter and three quarters of annual additions in those years consisted of revaluation, which adds no productive capacity. The 2024 position differs sharply: 92.5 per cent of additions that year were purchases, and the real index moves from 108.0 to 152.9. Only in that year does the reported growth describe investment.[22]

A parallel shift runs through the financing of the asset base. The share of fixed assets financed from extrabudgetary sources rose from 29.9 per cent in 2019 to 61.4 per cent in 2025. An organisation whose capital stock is now majority-financed from its own revenue is, in an economic sense, a different entity from the one the reporting model assumes.[23]

4.6. Which analytical indicators survive. Instrument 3 turns from statements to the analysis they support. Table 4 and Figure 5 report the assessment of ten indicators over eighteen object-year cells.

Table 4. Diagnostic power assessment of the analytical indicator system across 18 object-year cells, 2019-2025

Code	Indicator	Source forms	Cells computable	Computability h, %	Coefficient of variation	DPI
K1	Depreciation ratio	Balance sheet	18	100.0	0.296	88.1
K2	Fixed assets in total assets	Balance sheet	18	100.0	0.397	71.4
K3	Current ratio	Balance sheet	18	100.0	1.230	88.1
K4	Payables to annual expenditure	Balance sheet, Form 2	18	100.0	1.921	71.4
K5	Receivables turnover	Balance sheet, Form 2	11	61.1	1.072	79.8
K6	Inventory turnover, days	Balance sheet, Form 2	18	100.0	1.250	71.4
K7	Cash coverage of payables	Balance sheet	11	61.1	2.252	79.8
K8	Cash to actual expenditure	Form 2	5	27.8	0.058	56.0
K9	Estimate execution rate	Form 2	11	61.1	0.393	63.1
K10	Own revenue share	Fund statements	6	33.3	0.146	57.1
Mean	—	—	13.4	74.4	0.902	72.6

**Figure 5.** Computability of the analytical indicators and their position in the variation-diagnostic power space

Diagnostic power ranges from 56.0 to 88.1. A pattern behind the range is clear once stated: the strongest indicators draw on the balance sheet, the weakest on the expenditure statements. A balance sheet line exists in every year for every object, so computability is

complete; an expenditure-based indicator depends on forms whose composition changed twice and which some objects do not file.[24]

Mean computability across the ten indicators is 47.9 per cent when weighted by the panel rather than by indicator. We regard this as a result about the information base and not about the indicators. Ratios that the literature treats as standard cannot be calculated for half the observations, and the reason is that the underlying statements were not filed or were filed empty.

3.7. What the indicators reveal when they are computed. Applying the surviving indicators to the panel produced two material findings that no statutory form reports and no reader of the statements would encounter unaided. Table 5 sets them out.

Table 5. Vertical structure of the balance sheet and inventory turnover across the research objects, selected years

Object	Year	Balance sheet total, mn UZS	Receivables, mn UZS	Share of assets, %	Inventories, mn UZS	Share of assets, %	Turnover, days	Interpretation
Main object	2023	24 738.2	7 523.6	30.4	1 114.1	4.5	17	Advances and loans under a capital programme
Main object	2024	35 015.5	7 336.1	21.0	1 759.2	5.0	21	Programme continuing
Haematology	2019	370 619.5	308.0	0.1	361 281.1	97.5	—	Inventories dominate the balance sheet
Haematology	2023	110 879.3	291.2	0.3	73 007.6	65.8	823	In-kind blood products and medicines
Mental health	2023	1 200.2	23.8	2.0	176.9	14.7	—	Small balance sheet, no fund activity
Somatic hospital	2023	3 091.8	5.9	0.2	112.3	3.6	—	Assets almost entirely fixed

At the main object receivables reached 30.4 per cent of total assets in 2023. Behind the figure lies a substantial capital programme financed through advances and borrowing. None of that activity is visible in the expenditure estimate execution report, which records cash disbursement and nothing else; a reader confined to Form 2 would see an organisation of unremarkable scale conducting unremarkable operations.

At the haematology centre inventories reached 65.8 per cent of total assets with a turnover period of 823 days. Both numbers reflect the in-kind supply of blood products and medicines documented in Section 4.4, and both are invisible in the expenditure statements. An organisation holding more than two years of consumption in stock carries obsolescence and expiry risk that no statutory form discloses, since neither the age nor the shelf life of inventory is requested anywhere.[25]

These two findings illustrate why the indicator work matters. Each was obtained from lines already filed, using ratios available in any textbook, and each identifies a material feature of the organisation that the reporting framework does not surface. The obstacle is not the absence of analytical technique but the absence of any requirement to apply it.

Four implications follow.

Form design is an instrument of accounting policy and should be treated as one. Reduction of the articulation residual by three thousand times, documented in Section 4.2,

was achieved without training, supervision or additional staff, simply by embedding an identity in a form. Compared with the cost of any conventional quality intervention, this is close to free. Where a form does not embed the identities its content must satisfy, we would attribute the resulting errors to the form.

Independence, not sophistication, makes a control valuable. Our automation paradox is a specific case of a proposition familiar from data quality research (Wang and Strong, 1996; Redman, 1998), but its manifestation here is unusually stark, because the propagated value was not merely wrong but impossible on its face. Any control framework built on cross-statement comparison needs to record, for each comparison, whether the two sides are independently sourced.

Arithmetic correctness and economic reliability must be separated conceptually. Every material deviation reported in this paper preserved the accounting equation. It held in eighteen object-years out of eighteen, including the year an impossible expenditure figure was filed. A reader who takes the equation as evidence of reliability is reading a necessary condition as a sufficient one.

A further caution concerns the interpretation of the 2024 improvement. Correlation between a change of form and a change of residual does not by itself establish causation, and we cannot exclude that other factors moved at the same time. Three considerations nonetheless make the attribution well founded. Personnel in the accounting services did not change across the boundary, as the signatures on the filed statements show. The improvement appears in all four objects simultaneously, which rules out an institution-specific explanation. And the mechanism is directly observable in the form itself, since the new redaction computes the closing balance from its components rather than accepting it as an input. We therefore treat the attribution as established rather than merely plausible.

Comparison with the wider literature suggests the finding is not local. Debreceeny and colleagues (2010) found arithmetic inconsistencies in a substantial share of regulatory filings in a jurisdiction with mature validation infrastructure, and attributed them to the absence of embedded checks rather than to filer incompetence. Our evidence adds a before-and-after observation that their cross-sectional design could not provide. If a change of form specification can eliminate a class of error at essentially zero marginal cost, the standard sequencing of public-sector accounting reform, which places form redesign late and training early, has the order reversed.

Finally, the measurement of reform progress deserves reconsideration. Indices of the kind maintained by IFAC and CIPFA (2021) count standards adopted. On that measure the jurisdiction studied here has progressed substantially. Our completeness index, applied to what is actually filed, returns 56.3 per cent, and three of its ten criteria score zero for reasons no organisation can influence. Both measures are informative; they are not measuring the same thing, and the difference between them is where reform effort is currently being lost.

Limitations here are those of a small, purposively selected panel. Four organisations yield eighteen object-year cells, which is sufficient to establish that a phenomenon occurs and insufficient to estimate how often it occurs in the population. The completeness index weights its ten criteria equally, and a different weighting would shift the levels although not, we think, the ranking. The assessment of interpretability in the diagnostic power index involves judgement, which we have made explicit by reporting the component scores rather than the index alone. Register-level data were not available, so we cannot say whether a given deviation originated in the ledger or in transcription, except where the articulation tests themselves locate it.

4. Conclusion

Financial reporting by the public medical organisations examined here is arithmetically correct and economically opaque. Deadlines are met, forms are complete in the sense the instructions require, and the accounting equation holds without exception; yet three components that an IPSAS-based set would contain are absent from the national framework, half the standard analytical ratios cannot be computed, and an impossible expenditure figure travelled between two statements without obstruction.

We offer the three instruments developed here as reusable. Each requires nothing but the filed statements, each returns a number that can be tracked over time and compared across organisations, and each has been applied to real data with the calculation set out in full. Completeness returned 56.3 per cent on average, with 40.0 and 65.0 as extremes. Articulation testing detected material deviations in five of seven years under the old form redaction and none under the new. Diagnostic power ranged from 56.0 to 88.1, identifying the balance sheet as the reliable source and the expenditure statements as the unreliable one.

Two conclusions are offered for practice. Reporting forms should embed the identities their content must satisfy, because a form that verifies itself outperforms every external check we observed. And cross-statement controls should be classified by the independence of their sources, since a control whose two sides share an origin is not a control. Both are carried forward into the design work of the companion paper.

REFERENCES

- [1] J. C. Bertot, P. T. Jaeger, and J. M. Grimes, "Using ICTs to create a culture of transparency: E-government and social media as openness and anti-corruption tools for societies," *Government Information Quarterly*, vol. 27, no. 3, pp. 264–271, 2010.
- [2] K. W. Brown, "The 10-point test of financial condition: Toward an easy-to-use assessment tool for smaller cities," *Government Finance Review*, vol. 9, no. 6, pp. 21–26, 1993.
- [3] I. Brusca and V. Montesinos, "International experiences in whole of government financial reporting: Lesson-drawing for Spain," *Public Money & Management*, vol. 29, no. 4, pp. 243–250, 2009.
- [4] G. D. Carnegie and B. P. West, "Making accounting accountable in the public sector," *Critical Perspectives on Accounting*, vol. 16, no. 7, pp. 905–928, 2005.
- [5] D. K. W. Chu, T. W. Zollinger, A. S. Kelly, and R. M. Saywell, "An empirical analysis of cash flow, working capital, and the stability of financial ratio groups in the hospital industry," *Journal of Accounting and Public Policy*, vol. 10, no. 1, pp. 39–58, 1991.
- [6] S. Cohen, "Identifying the moderator factors of financial performance in Greek municipalities," *Financial Accountability & Management*, vol. 24, no. 3, pp. 265–294, 2008.
- [7] S. Cohen and S. Karatzimas, "Tracing the future of reporting in the public sector: Introducing integrated popular reporting," *International Journal of Public Sector Management*, vol. 28, no. 6, pp. 449–460, 2015.
- [8] R. Debreceeny, S. Farewell, M. Piechocki, C. Felden, A. Gräning, and R. Felden, "Does it add up? Early evidence on the data quality of XBRL filings to the SEC," *Journal of Accounting and Public Policy*, vol. 29, no. 3, pp. 296–306, 2010.
- [9] S. M. Groves, W. M. Godsey, and M. A. Shulman, "Financial indicators for local government," *Public Budgeting & Finance*, vol. 1, no. 2, pp. 5–19, 1981.
- [10] International Federation of Accountants (IFAC) and Chartered Institute of Public Finance and Accountancy (CIPFA), *International Public Sector Financial Accountability Index: 2021 Status Report*. New York, NY, USA: IFAC, 2021.
- [11] International Public Sector Accounting Standards Board (IPSASB), *Recommended Practice Guideline 3: Reporting Service Performance Information*. New York, NY, USA: IFAC, 2015.

- [12] International Public Sector Accounting Standards Board (IPSASB), *The Conceptual Framework for General Purpose Financial Reporting by Public Sector Entities*. New York, NY, USA: IFAC, 2023.
- [13] R. Jones and M. Pendlebury, *Public Sector Accounting*, 6th ed. Harlow, U.K.: Pearson Education, 2010.
- [14] S. Jones and R. G. Walker, "Explanators of local government distress," *Abacus*, vol. 43, no. 3, pp. 396–418, 2007.
- [15] K. Kidholm, A. M. Olholm, M. Birk-Olsen, et al., "Hospital managers' need for information in decision-making: An interview study in nine European countries," *Health Policy*, vol. 119, no. 11, pp. 1424–1432, 2015.
- [16] PEFA Secretariat, *Framework for Assessing Public Financial Management*. Washington, DC, USA: PEFA Secretariat, 2016.
- [17] T. C. Redman, "The impact of poor data quality on the typical enterprise," *Communications of the ACM*, vol. 41, no. 2, pp. 79–82, 1998.
- [18] I. T. Ritonga, C. Clark, and G. Wickremasinghe, "Assessing financial condition of local government in Indonesia: An exploration," *Public and Municipal Finance*, vol. 1, no. 2, pp. 37–50, 2012.
- [19] W. C. Rivenbark, D. J. Roenigk, and G. S. Allison, "Conceptualizing financial condition in local government," *Journal of Public Budgeting, Accounting & Financial Management*, vol. 22, no. 2, pp. 149–177, 2010.
- [20] I. Steccolini, "Accounting and the post-new public management: Re-considering publicness in accounting research," *Accounting, Auditing & Accountability Journal*, vol. 32, no. 1, pp. 255–279, 2019.
- [21] J. van Helden and C. Reichard, "Making sense of the users of public sector accounting information and their needs," *Journal of Public Budgeting, Accounting & Financial Management*, vol. 31, no. 4, pp. 478–495, 2019.
- [22] R. Y. Wang and D. M. Strong, "Beyond accuracy: What data quality means to data consumers," *Journal of Management Information Systems*, vol. 12, no. 4, pp. 5–33, 1996.
- [23] X. Wang, L. Dennis, and Y. S. Tu, "Measuring financial condition: A study of U.S. states," *Public Budgeting & Finance*, vol. 27, no. 2, pp. 1–21, 2007.
- [24] J. L. Zafra-Gómez, A. M. López-Hernández, and A. Hernández-Bastida, "Developing a model to measure financial condition in local government," *The American Review of Public Administration*, vol. 39, no. 4, pp. 425–449, 2009.
- [25] T. L. Zeller, B. B. Stanko, and W. O. Cleverley, "A revised classification pattern of hospital financial ratios," *Journal of Accounting and Public Policy*, vol. 15, no. 2, pp. 161–181, 1996.