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Case Report

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Case study

Dating state-paid supplier settlements in JIRAMA's first-half 2026 report: company cash flows and direct state payments in Madagascar

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Abstract

Comparing utility disbursements with direct state settlements requires a common reporting period. This case study reconciles the cash-flow statement, supplier-payment summary and monthly annexes in JIRAMA's first-half 2026 report for Madagascar. The summary reports state settlements of 195.04 billion Malagasy ariary (MGA) by June. The annex columns total 195.03 billion: 130.89 billion in April–June and 64.14 billion in July. Across both payers, July-dated payments account for at least 17.44% of the 441.76 billion reported as settled. Mean monthly company net cash flow deteriorated by 56.25 billion MGA between January–April and May–June; payments for purchased electricity and petroleum accounted for 81.78% of this change. Under the specified accounting assumptions, combining first-half company energy payments of 434.00 billion with dated direct state payments gives at least 564.89 billion MGA and a conditional lower bound of 23.17% on the state share for these two supplier groups. The reconciliation shows how settlement dates change the measured distribution of supplier payments between a utility and the state within a semi-annual financial report.

***Keywords**:* Public utilities; State payments; Supplier settlement; Payment dating; Cash-flow decomposition; Madagascar

1. Introduction

Public support can finance an electricity utility's suppliers through transfers to the utility or direct payments from a state account. These routes appear in different financial records: transfers enter the utility's cash receipts, while direct state payments settle supplier obligations through a separate account. Comparing the routes requires aligning the invoice populations, settlement dates and stages of budget execution represented in each table.

JIRAMA, Madagascar's national electricity and water utility, reports semi-annually on its 2025–2028 financial recovery plan [1]. Its first-half 2026 report provides monthly cash flows, a supplier-payment summary by payer and annexes with monthly settlement columns. It also reports 246 billion Malagasy ariary (MGA) of public support received during the half-year. These records provide the basis for examining how the reporting period affects the measurement of supplier financing.

The central question is how reconciliation by settlement date changes the comparison of company and direct state payments. Two related questions follow: how much does each route contribute to payments to electricity producers and petroleum suppliers over a common period, and which disbursement categories account for the deterioration in company net cash flow? The analysis identifies July payments within the summary labelled as settled by June, decomposes the cash-flow change and combines the two payment routes to derive a conditional lower bound on the state share. The transcribed source values and calculations are available in the deposited data and code.

2. Background

Electricity-financing research links payment arrangements to service provision. McRae [2] examines how subsidy design affects incentives to improve infrastructure quality, while Burgess et al. [3] analyse the relationship between payment institutions and electricity supply. These studies motivate distinguishing the payer, the payment route and the terms of public assistance. The present case study measures the payment routes disclosed in JIRAMA's financial report.

Budget transfers to a utility and direct state payments to its suppliers occupy distinct positions in the financing process. Their accounting treatment depends on the receiving account, recognition date and obligation financed. Government finance statistics distinguish accrual, commitment, due-for-payment and cash recording [4]. JIRAMA's 2022 accounts illustrate the distinction between payment route and financing category: of 793.9 billion MGA in supplier debts paid by the state, 500 billion was classified as operating support and the remainder as loans [5]. This historical example establishes the relevance of identifying both the payer and the accounting classification.

An invoice-cohort settlement rate measures payments against a defined set of invoices. Calendar-period disbursements measure cash paid during specified months and can cover invoices from several cohorts. Comparing the two therefore requires both an invoice-period

definition and a payment-period definition. Separate treatment of electricity producers and petroleum suppliers preserves the differences in their invoicing and settlement schedules.

3. Data and methods

3.1 Source and date reconciliation

The source is JIRAMA's monitoring report issued in August 2026 [1]. The cash-flow statement in section 3.4, printed page 9, records monthly cash receipts and cash disbursements for January–June. The supplier summary in section 4.4, page 12, describes invoices received in January–May and payments made by the end of June for independent power producers and petroleum suppliers. It separates payments by JIRAMA, direct state payments and amounts awaiting validation. The annexes on printed pages 25 and 26 organise settlements by payer, JIRAMA or the state account (RGA), and by month under the heading "*Paiements effectués*" (payments made). These labels define the settlement dates used in the reconciliation.

Thirteen payment columns were transcribed from the annexes and reconciled with the summary totals. Columns whose entire labelled period ended by June were assigned to the first half; columns labelled July were assigned to the following period. JIRAMA's petroleum payment of 140.00 billion MGA, reported in a single February–July column, was retained as a separate cross-period amount. Calculations retain the printed amounts and record summary-to-annex discrepancies separately. All amounts are expressed in billions of MGA. Identifiers beginning with M or S, such as S02, in table and figure notes identify files in the deposited dataset.

Supplementary Information Tables S1–S8 provide reconciliation checks, all cash-flow partitions, intervals implied by the printed precision and payment-route tables.

3.2 Company cash-flow decomposition

Monthly cash receipts R and cash disbursements D define net cash flow as $N = R - D$. Mean monthly values were calculated for January–April and May–June to compare windows of four and two months. The deterioration in mean net flow equals the increase in mean disbursements plus the decline in mean receipts. Disbursements were then decomposed into the listed categories and the residual between their sum and the reported total. Petroleum was counted once, with gasoil and fuel oil treated as its components.

The January–April versus May–June comparison was selected after inspection of the monthly data to examine the change discussed in the report. The calculation was repeated for all five chronological partitions, with splits after January, February, March, April and May. For each partition, the combined increase in electricity and petroleum payments was divided by the deterioration in net flow to obtain their accounting contribution.

3.3 Combining the two payment routes

Company cash payments B comprise purchased electricity (117.00) and petroleum (317.00), giving $B = 434.00$. Direct state payments S cover settlements for the 2026 supplier cohorts dated within the first half, giving $S = 130.89$. The combined measure assumes that B is fixed and complete for the two supplier categories, that first-half company cohort settlements are included in B, and that state payments follow a distinct route. Under these assumptions, documented payments across both routes total $B + S = 564.89$.

Let $x \geq 0$ denote additional state payments to the same suppliers beyond those listed in the annexes. The state share is $(S + x)/(B + S + x)$, with derivative $B/(B + S + x)^2 > 0$. Thus, $S/(B + S)$ is a conditional lower bound on the state share within the two supplier categories.

4. Results

4.1 The supplier summary contains payments dated to July

The supplier summary assigns 195.04 billion MGA of direct state settlements to the period ending in June. The annex columns total 195.03 billion: 130.89 billion paid in April–June and 64.14 billion in July, a difference of 0.01 billion from the printed summary (Table 1, Fig. 1). July accounts for 32.89% of the reported state total, with a larger proportion for petroleum suppliers (48.04%) than for producers (14.49%). The monthly state payments are 48.41, 11.30, 15.60 and 12.76 for producers and 15.74, 10.41, 29.43 and 51.38 for petroleum suppliers in April, May, June and July, respectively.

JIRAMA's producer payments also extend into July: the annex lists 20.80 billion MGA in March, 33.01 in May and 40.01 in June, totalling 93.82, followed by 12.91 in July. Across both payers, explicitly July-dated settlements total 77.05 billion MGA (12.76 + 51.38 + 12.91). They represent at least 17.44% of the summary's 441.76 billion in payments against the reported invoice cohorts, comprising 194.80 billion for producers and 246.96 billion for petroleum suppliers. This minimum counts the columns explicitly dated to July and retains the pooled February–July petroleum entry separately.

Table 1 Supplier-summary payments reconciled with dated annex columns (billion MGA)

Payer and supplier group	Summary (p. 12)	Paid by 30 June	Paid in July	Crosses the June cut-off	Annex total
State: producers	88.08	75.31	12.76	–	88.07
State: petroleum suppliers	106.96	55.58	51.38	–	106.96
State: total	195.04	130.89	64.14	–	195.03
JIRAMA: producers	106.72	93.82	12.91	–	106.73
JIRAMA: petroleum suppliers	140.00	–	–	140.00	140.00
JIRAMA: total	246.72	93.82	12.91	140.00	246.73

Source: JIRAMA [1], printed pages 12, 25 and 26. The pooled JIRAMA petroleum entry covers February–July. Dataset files: M02, S08.

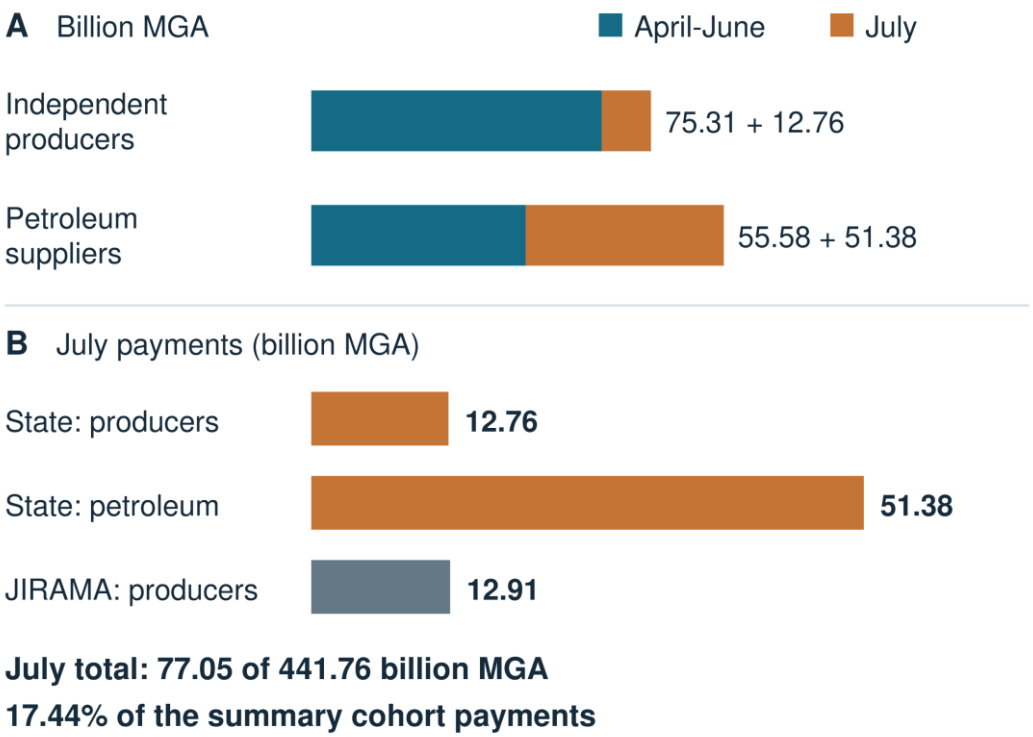


Fig. 1 July-dated settlements included in the first-half supplier summary. A State settlements by payment period. B Explicitly July-dated settlements across both payers as a minimum share of the summary total

4.2 Energy payments account for most of the deterioration in net cash flow

Mean monthly net cash flow fell from 18.25 to −38.00 billion MGA between January–April and May–June, a deterioration of 56.25 billion (Table 2, Fig. 2). Cash receipts remained close to 91 billion per month, while cash disbursements rose from 73.25 to 129.00 billion.

Electricity and petroleum payments together contributed 46.00 billion, or 81.78%, of the deterioration. Other cash disbursements increased from 7.50 to 16.50 billion per month, contributing a further 16.00%. Personnel payments and lower receipts accounted for the remainder, with a zero contribution from the aggregation residual.

The deterioration ranges from 5.40 to 56.25 billion MGA per month across the five chronological partitions (Table 3), reaching its maximum for the split after April. Energy payments account for at least 80% of the deterioration for every split from February through May: 90.99%, 80.41%, 81.78% and 112.82%, respectively. The January split combines falling electricity payments with rising petroleum payments. Contributions above 100% arise when changes in the remaining components offset part of the increase in energy payments.

Table 2 Decomposition of the change in mean monthly net cash flow, January–April versus May–June 2026 (billion MGA per month)

Component	Mean Jan–Apr	Mean May–Jun	Contribution	Share (%)
Purchased electricity	11.00	36.50	25.50	45.33
Petroleum	46.00	66.50	20.50	36.44
Other outflows	7.50	16.50	9.00	16.00
Personnel	8.25	9.00	0.75	1.33
Transport	1.00	1.00	0.00	0.00
Aggregation residual	−0.50	−0.50	0.00	0.00
Decline in receipts	91.50	91.00	0.50	0.89
Deterioration of net flow	**18.25**	**−38.00**	**56.25**	**100.00**

Source: JIRAMA [1], printed page 9; dataset file M01. Generator rentals and payroll tax are zero in both windows. The final row reports mean net cash flow and its deterioration.

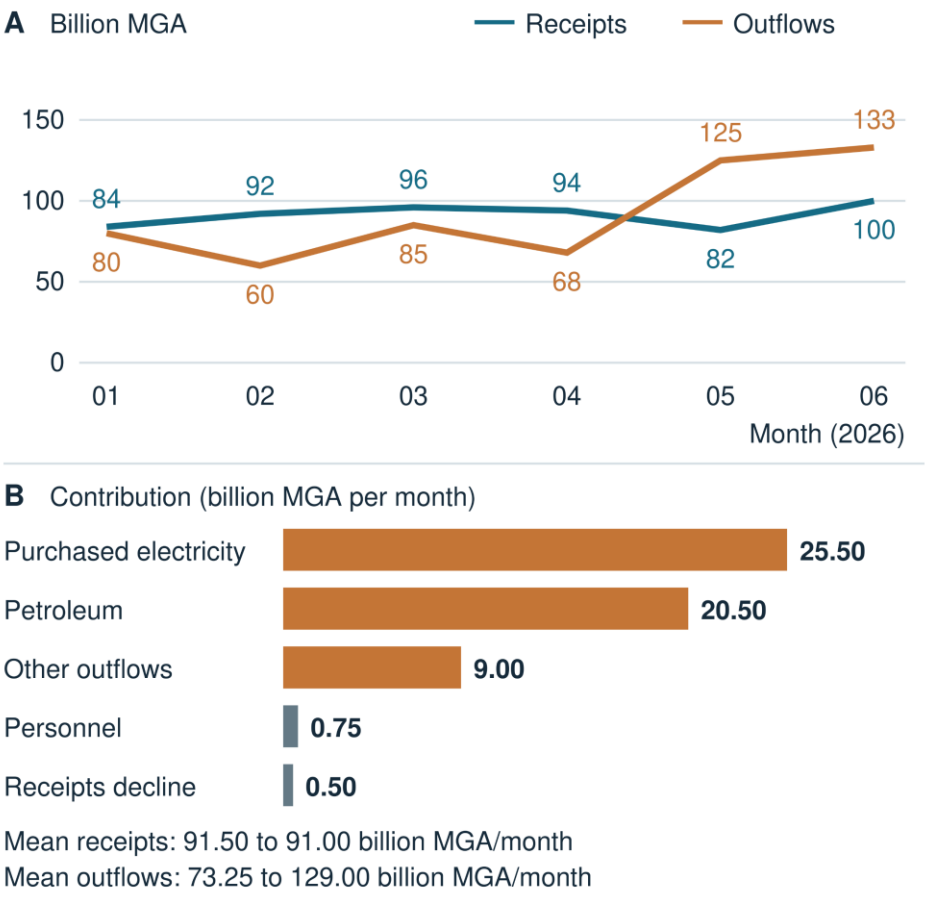


Fig. 2 Company cash flows and decomposition of their deterioration in 2026. A Monthly cash receipts and cash disbursements (billion MGA). B Contributions to the change in mean monthly net cash flow between January–April and May–June

Table 3 Deterioration in mean monthly net cash flow and energy contributions across all five chronological partitions (billion MGA per month)

Split after	Months (early/late)	Deterioration	Electricity payments	Petroleum payments	Energy share (%)
January	1 / 5	5.40	−4.20	13.00	162.96
February	2 / 4	27.75	12.00	13.25	90.99
March	3 / 3	32.33	9.67	16.33	80.41
April	4 / 2	56.25	25.50	20.50	81.78
May	5 / 1	39.00	24.60	19.40	112.82

Electricity and petroleum entries are changes in mean monthly payments from the earlier to the later window. Their sum divided by the deterioration gives the energy share. Dataset file: S02.

4.3 Combined routes and the lower bound on the state share

Under the accounting assumptions in section 3.3, combining company energy payments with dated first-half state settlements gives at least 564.89 billion MGA across the two supplier groups. The conditional lower bound on the state share is 23.17% overall, 39.16% for producers and 14.92% for petroleum suppliers (Table 4). Combining January–June company disbursements with the summary's full state total of 195.04 billion, which includes July settlements, yields 629.04 billion and a state share of about 31%.

Table 4 Company cash payments and dated state payments in the first half of 2026 (billion MGA)

Supplier group	Company cash (B)	State, paid by 30 June (S)	Combined (B + S)	State share, lower bound (%)
Producers	117.00	75.31	192.31	39.16
Petroleum suppliers	317.00	55.58	372.58	14.92
Both groups	**434.00**	**130.89**	**564.89**	**23.17**

Conditional lower bounds follow the accounting assumptions in section 3.3. Dataset file: M03.

For producers, the company settlements listed for March, May and June (20.80, 33.01 and 40.01 billion MGA) agree with the corresponding purchased-electricity cash entries (21, 33 and 40) at the cash statement's whole-billion precision. The unmatched portion of the aggregate purchased-electricity total is 23.18 billion MGA, consistent with the January cash entry of 23 billion at the statement's reporting precision. April records 48.41 billion in direct state settlements to producers alongside zero company payments in both the annex and the cash statement. For petroleum suppliers, the annex reports 140.00 billion in company payments for February–July, while the cash statement records 317.00 billion for January–June.

Company cash payments exceed the company settlements in the supplier summary by 10.28 billion MGA for producers and 177.00 billion for petroleum suppliers, equivalent to 8.79% and 55.84% of the respective cash totals. The combined difference is 187.28 billion, or 43.15%. These comparisons quantify the difference between calendar-period cash disbursements and settlements against the invoice cohorts described in the summary.

4.4 Documented arrangements for public support

Section 4.4 of the report describes the objective of settling invoices through payments by JIRAMA and state subsidies. Section 4.5 refers to compliance with an allocation rule between JIRAMA and the RGA account for current invoices [1]. The payer-specific annex columns document payments by both JIRAMA and the state. The report separately records 246 billion MGA in public support received during the half-year.

5. Discussion

5.1 The date basis changes the financing comparison

The annexes place roughly one-third of the reported state settlements in July. Near agreement between the summary and annex totals therefore coexists with a mismatch in their stated reporting periods. Settlement dates determine the state-payment subtotal attributable to the first half; the accounting assumptions in section 3.3 then define its combination with company disbursements and the conditional lower bound on the state share.

The difference between company cash payments and cohort settlements also depends on the reporting basis. A cash-flow statement groups payments by disbursement date, whereas a cohort summary groups them by the invoices being settled. JIRAMA’s pooled petroleum column adds a further distinction by spanning the June cut-off. Reading these records together therefore requires retaining the cohort definition, attaching a payment period to each settlement subtotal and presenting cross-period amounts separately.

5.2 Payment route and budget classification

The RGA columns identify who paid the suppliers and when; the public-support entry records assistance under the report’s accounting convention. JIRAMA’s 2022 accounts illustrate why the distinction matters: payments made by the same state payer were divided between operating support and loans [5]. The share paid through each route describes the distribution of settlements between payers, while a budget classification describes the form of the state intervention. Keeping these dimensions separate provides the accounting basis for interpreting the institutional and incentive questions raised by the electricity-financing literature [2, 3].

5.3 Company cash pressure and the state route

Rising company cash disbursements for energy and direct state payments occurred within the same half-year. The cash-flow decomposition measures pressure on JIRAMA's own accounts, while the annexes record supplier settlements through the state account. April illustrates the distinction at monthly resolution: direct state payments to producers accompanied zero company payments. The combined measure in section 3.3 captures payments across these two routes under the stated accounting assumptions.

6. Limitations

The analysis covers provisional published amounts, six monthly cash observations and two supplier groups. JIRAMA's 140.00 billion MGA petroleum entry pools February–July, preventing allocation at the June cut-off; the producer annex mentions June invoices despite the summary's January–May cohort description. The printed summary and annex totals differ by up to 0.01 billion MGA, and rounding affects the sum of contribution shares. Reported net cash flow differs from cash receipts minus cash disbursements by 1 billion MGA in both May and June; the analysis uses the arithmetic identity.

The conditional lower bound requires complete, fixed company cash totals, inclusion of first-half company cohort settlements and distinct payer routes. It applies to the two specified supplier categories; adding company outflows to its denominator changes the bound. Without transaction identifiers, agreement between producer amounts supports numerical compatibility rather than verified transaction matching, and the arithmetic remainder provides no independent evidence of inclusion. The pooled petroleum entry leaves its inclusion in first-half cash disbursements unresolved. The published records also provide no verified reconciliation between the 246 billion MGA in public support and supplier settlements. Consequently, the ratios 130.89/246 (53.21%) and 195.04/246 (79.28%) do not establish allocation shares; the latter also mixes payment periods.

The opening petroleum debt at 31 December 2025 was not located in the report, its annexes or the official financial-statement listings inspected. Differences between cohort settlements and company cash disbursements cannot identify unexplained financing or unpaid obligations. Payment aggregates cannot distinguish price, volume and invoice vintage, so they cannot independently confirm the report's attribution of cash pressure to fuel prices. The main chronological partition was selected after inspecting the data and produces the largest deterioration; the five partitions describe accounting contributions rather than testing for a

structural break. Cash balances and short-term liabilities are outside the measured variables, and the six-month aggregate series provides no counterfactual for estimating causal substitution between payer routes.

7. Conclusions

The annexes identify 64.14 billion MGA in July direct state payments within JIRAMA's first-half supplier summary and separately document 130.89 billion paid in April–June. Across both payers, explicitly July-dated settlements account for at least 17.44% of the reported cohort payments. Payments for purchased electricity and petroleum account for 81.78% of the deterioration in mean monthly company net cash flow and at least 80% under each chronological split from February through May. For the two supplier categories, the accounting assumptions in section 3.3 yield combined first-half payments of at least 564.89 billion MGA and a conditional lower bound of 23.17% on the state share. Dating settlements changes the quantitative interpretation of a semi-annual financial report by placing company disbursements and direct state payments on a common temporal basis.

Declarations

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Ethics approval and consent. Not applicable. The study uses published institutional reports and involves no human or animal subjects and no personal data.

Clinical trial registration. Not applicable.

Author contributions. ZRR conceived the study, developed the methodology, analysed and interpreted the data, and wrote the final manuscript.

Use of AI tools. OpenAI ChatGPT assisted with drafting, editing, and translating the manuscript. The author retains full responsibility for the scientific content.

Data availability. The transcribed source values, the calculation code, the independent tests and the generated tables supporting the numerical results reported in this article are deposited at https://doi.org/10.5281/zenodo.23333294. The original JIRAMA report is available from the publisher at the address given in reference [1] and is not redistributed with the dataset.

Code availability. The calculation code uses the Python standard library only and is part of the deposited dataset.

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Supplementary Files

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- RasoanaivoJIRAMASupplementaryInformation.docx