Is the Ghana cedi no longer a one-way bet?:

Insights from machine learning predictions

Introduction

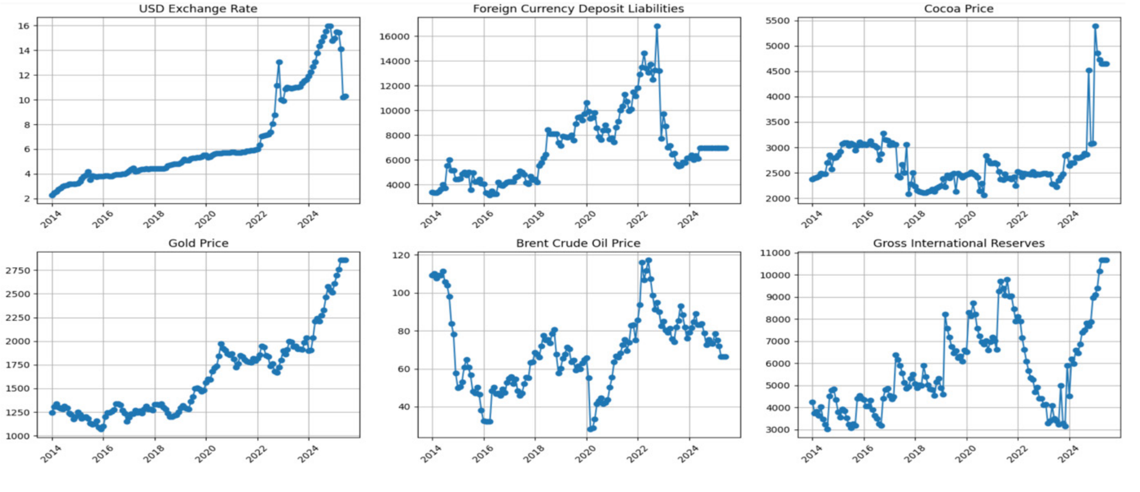
In recent months, the Ghana cedi rallied strongly against the major trading currencies such as the dollar, the pound and the euro. As at July 2025, the Cedis had appreciated by 40.7%, 31.2% and 24.2% against the dollar, pound and Euro respectively. This made the Ghana Cedis one of the best performing currencies in the world. This performance broke the long held notion that the Ghana Cedis was a one-way bet – the assumption that the cedis will always depreciate.

Before the COVID-19 pandemic in February 2020, one US dollar was going for about Ghs 5.32. By December 2022 when Ghana's debt and economic crisis peaked (marked by the announcement of the domestic debt exchange programme), one US dollar was going for about Ghs 10.20. The Cedis fell to its lowest value of Ghs 15.98 in November 2024. The sharp fall in the value of the Cedis has been attributed to several factors such as fiscal indiscipline, the downgrading of Ghana's debt by the major credit rating agencies, an increase in the cost of borrowing on both domestic and external debt, an inability to effectively access international capital markets and capital flow reversals. In essence, the announcement of the DDEP and the downgrade of Ghana's debt resulted in a catastrophic 'death' spiral for the economy and the Cedis.

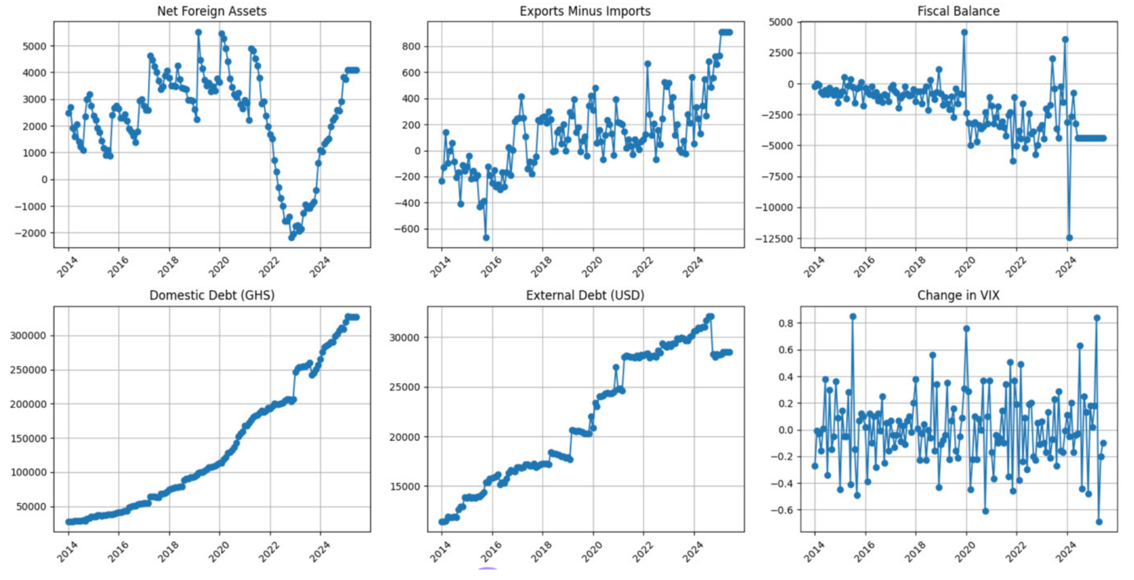
However, by June 2025, the Cedis had significantly appreciated and was worth Ghs 10.30 representing an appreciation of 55% from November 2024. In essence, the performance of the Cedis in 2025 mostly reversed the losses that were suffered during the severe and painful debt/economic crisis between 2022 and 2024 (see Figure 1: Panel A). Given the recent performance of the Cedis, a number of questions arise such as 1) factors influencing the performance of the Cedis (we utilize machine learning approaches using monthly data from January 2014 to June 2025 to gain insights into the factors that predict the performance of the Ghana Cedis); 2) the effects of the appreciation of the Cedis & 3) whether this performance is sustainable.

Figure 1: Key Economic Indicators

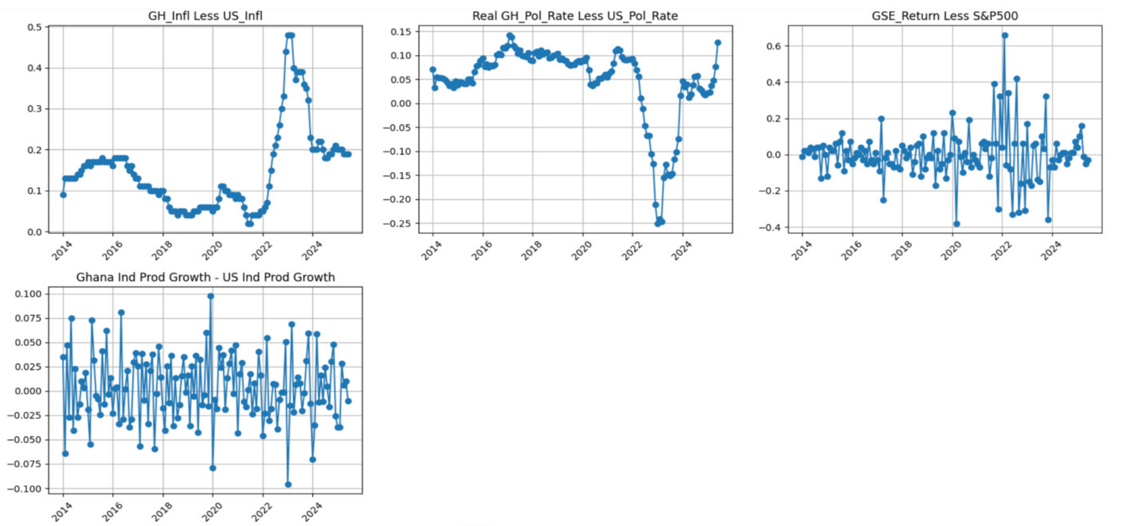
Panel A:



Panel B:



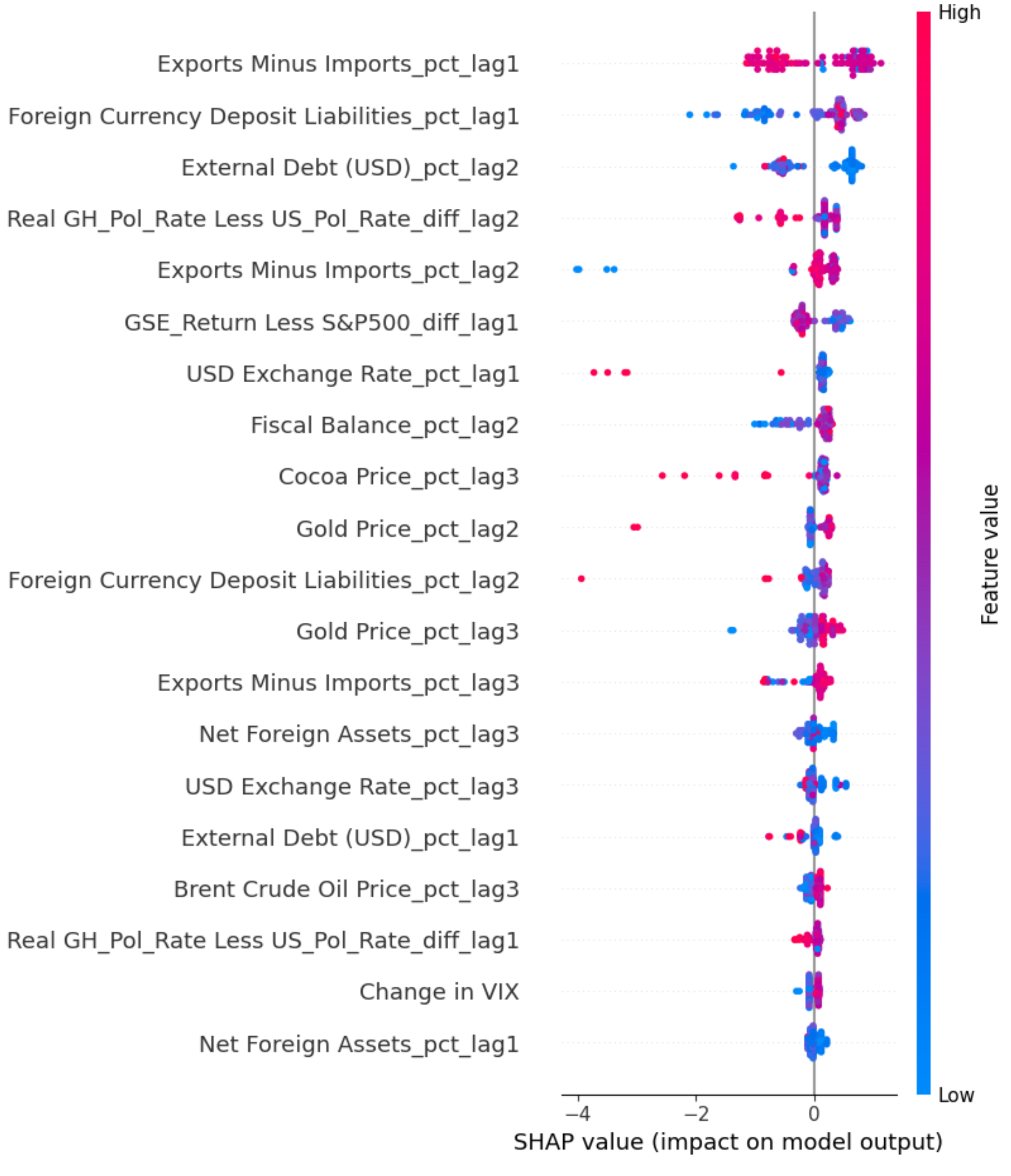
Panel C:



Factors Influencing the Performance (Appreciation/Depreciation) of the Cedis

The SHAPLY plot (which employs a game theoretical model approach is used to explain the response or output of a machine learning model and is an attempt to explain or reduce the 'Blackbox' nature of machine learning models) provides insights into the factors that predict the depreciation of the Cedis (a value of 1 represents depreciation of the Cedis and 0 represents appreciation of the Cedis).

Figure 2: SHAPLY Plot of Key Factors that Predict the Performance of the Cedis



NB: The x-axis shows the magnitude and direction of impact on predicting Cedis depreciation (Target = 1). A positive SHAP value means depreciation is more likely whilst a negative SHAP value means an appreciation is more likely. The colors show the variable's value at that observation (red = high, blue = low). So red dots to the right means that high values increases the odds of depreciation whilst blue dots to the right mean that low values increases the odds of depreciation.

Trade Performance (Exports Minus Imports)

The SHAPLY plots show that positive trade balances or performance helps to strengthen the value of the Cedis. This is because higher exports compared to imports leads to reserve accumulation.

Foreign Currency Deposit Liabilities and Net Foreign Assets (NFAs)

The SHAPLY plots reveal that high foreign currency deposit liabilities which suggests a preference by domestic economic agents for dollar assets leads to the depreciation of the Cedis as agents sell Cedis assets and obtain dollar assets. The SHAPLY plots also indicate a decline in net foreign assets which represent reserve drains lead to the depreciation of the Cedis whilst an increase in net foreign assets leads to an appreciation in the Cedis. Indeed, Figure 1: Panel B shows a significant decline in Net Foreign Assets between 2020 – 2023 coinciding with the depreciation of the Cedis.

External Debt

The SHAPLY plots suggest that high levels of external debt put pressure on the Cedis to depreciate. As part of Ghana's ongoing external debt restructuring efforts, payments on selected foreign obligations were temporarily suspended. Following the final payment in January 2025, foreign-currency debt servicing was paused until July 2025. This moratorium significantly reduced near-term demand for foreign exchange, thereby relieving pressure on the Bank of Ghana to draw down its FX reserves. With fewer external debt outflows, the central bank enjoyed greater operational flexibility, reinforcing market confidence in the Ghana Cedis stability. Notably, the Cedis appreciation since the start of 2025 has reduced the local currency value of external debt by over GH¢150 billion, lowering the public debt-to-GDP ratio from approximately 69% to 55%. These gains have created valuable fiscal space, reducing the government's reliance on costly domestic borrowing and contributing to a more sustainable debt outlook.

Relative Monetary Policy Stance (Real Ghana Policy Rate Minus US Policy Rate)

The SHAPLY plots show that when the real monetary policy rate differential between Ghana and the US is low, the Cedis tends to depreciate. This is because investors would prefer to invest their funds in the US as there is not much incentive to take on the risk of investing in risky assets such as the Cedis. Indeed, Figure 1: Panel C shows a large decline in the differential real monetary policy between Ghana and the US between 2020 and 2023 with many periods where this differential was negative.

Fiscal Balance

As expected, The SHAPLY plots show that fiscal indiscipline (which undermines investor confidence) leads to the depreciation of the Cedis. Figure 1: Panel C shows that the fiscal deficit widened between 2020 and 2024.

Relative Capital Market Performance (GSE Return less S&P 500 Return)

The SHAPLY plots reveal that when the return on the Ghana Stock Exchange (GSE) relative to the return on the US S&P 500 is low, the Cedis tends to depreciate. This is in line with theory, as investors would sell Cedis assets and purchase dollar assets putting pressure on the Cedis.

Momentum Effects (Lag of the USD Exchange Rate)

When the Cedis is depreciating, market participants are likely to believe that it would continue to depreciate. This fuels a self-fulfilling prophesy as market participants sell Cedis assets and seek foreign currency alternatives.

Commodity Price Performance

As expected, high commodity prices (cocoa and gold) provide support to the value of the Cedis due to higher export earnings.

Gold Prices

The establishment of the Ghana Gold Board (GoldBod) has had a significant and positive impact on Ghana's macroeconomic stability, particularly the performance and resilience of the Ghanaian cedi (GHS). By formalizing and regulating the trade of artisanal and small-scale gold, the GoldBod has become a strategic tool for enhancing foreign exchange (FX) inflows, reducing illicit financial flows, and reinforcing the central bank's capacity to stabilize the exchange rate.

Between 2013 and 2022, Ghana is estimated to have lost over US$11 billion through gold smuggling. These losses were primarily due to foreign-controlled purchases of artisanal gold and systemic underreporting of exports. Such practices severely undermined Ghana's FX earnings and eroded the Bank of Ghana's ability to support the cedi effectively. The centralized trading model introduced by GoldBod has helped seal these leakages. By prohibiting foreign entities from purchasing artisanal gold and requiring miners to sell directly to the Board, previously informal or illicitly exported gold is now captured within the formal economy. This has resulted in the recovery of over US$11.6 billion worth of gold exports through official channels.

GoldBod currently purchases up to three tonnes of gold per week, representing values in excess of US$250 million weekly. These transactions are completed within 3–4 days, a significant improvement from the previous 30-day settlement cycles, which often delayed FX inflows.

The effects of this reform have been clear:

- Gross international reserves have more than doubled, reaching US$9.4 billion as of February 2025, compared to the pandemic-era low of around US$4 billion in 2022.

- The improved FX liquidity has eased demand-side pressures on the cedi.
- The Bank of Ghana has gained greater capacity to intervene in the FX market, supporting the currency during volatile periods.
- The government's reliance on short-term external borrowing has reduced, on the back of improved balance of payments support.

Cocoa Prices

Cocoa export revenues surged to US $1.84 billion in the first four months of 2025—more than triple the US $579 million recorded during the same period in 2024. This impressive growth was driven by improved rainfall patterns, enhanced farming practices, and reduction in smuggling. As a result, cocoa production rose by approximately 32%, from 531,000 to 700,000 metric tons in the 2024/25 season. With this rebound, cocoa has reasserted itself as a key source of foreign exchange (FX) for Ghana, complementing gold as a pillar of the country's export earnings. The strong performance of cocoa exports has contributed significantly to Ghana's current account surplus, which stood at US $1.1 billion as of April 2025.

Oil Prices

The impact of oil prices is ambiguous from the SHAP plots. Global crude oil prices declined significantly—from approximately US $85 to US $64 per barrel between January 2025 and July 2025 - marking a 25–30% drop. This trend was driven by subdued global demand and strategic output adjustments by OPEC+. As a net importer of crude oil, Ghana has benefited directly from this decline. Lower oil prices have reduced the country's dollar-denominated import costs, easing pressure on foreign exchange demand. Consequently, domestic fuel prices fell by about 6%, with pump prices dropping from GH¢13–15 per litre to GH¢11–12 per litre. This reduction, supported by both cheaper imports and a stronger Cedi, translated into lower transportation and logistics costs. These developments have helped ease inflationary pressures, contributing to a decline in headline inflation.

Financial Market Volatility (VIX Index)

The SHAPLY plots indicate that high financial market volatility leads to the depreciation of the Cedis as investors seek safe haven assets due to a risk-off approach and a flight to quality/safety.

Apart from the factors above that were included in our study, we discuss other factors (not included in our study) that can potentially influence the performance of the Ghana Cedis. These factors include remittances, international reserves and the economic umbrella provided by Ghana's IMF programme

Favourable Remittance Position

Remittances have emerged as a vital source of foreign exchange (FX) for Ghana, ranking just behind the country's leading commodity exports—gold and cocoa. These inflows play a crucial role in easing pressure on the Ghanaian Cedi by helping to finance imports and narrowing the current account gap. According to central bank data, robust remittance inflows—alongside strong export earnings—have significantly contributed to the buildup of Ghana's gross international reserves in 2025. This improved FX position has, in turn, reduced the Bank of Ghana's reliance on aggressive FX interventions in the spot market, allowing for more stable exchange rate management and bolstering market confidence in the Cedi.

Increase in Reserves

Ghana's gross international reserves (GIR) rose significantly from approximately US $6.0 billion in early 2024 to US $10.7 billion by April 2025, translating into around 4.7 months of import cover, up from 2.7 months. This increase was driven by strong export receipts, particularly from gold and cocoa, along with higher remittance inflows and proactive interventions by the Bank of Ghana. With a stronger reserve position, the Central Bank has reduced its dependence on aggressive FX sales in the spot market, enabling more deliberate and strategic interventions. These measures have helped stabilize the cedi and ease speculative pressures.

IMF Economic Umbrella

Under the $3 billion IMF-supported Extended Credit Facility (ECF), Ghana has received much needed hard currency totalling about $2.3 billion as at July 2025. These inflows have enabled the Bank of Ghana to build reserve buffers well ahead of projections. The IMF program has also established key fiscal benchmarks—such as reducing the primary deficit and improving public financial management—which have promoted stronger government discipline and more effective revenue mobilization.

Effects of the Appreciation of the Cedis

The appreciation of the cedis has a number of effects (both favourable and unfavourable). In general, the strengthening of the cedis makes foreign goods and services cheaper for Ghanaians. It also provides relief and restores the significant erosion in purchasing power and living standards that Ghanaians suffered over the last few years.

Cheaper Imports

The strengthening of the Cedi makes imports cheaper as importers require less Ghana cedis to purchase the same amount of dollars. The appreciation of the Cedis led to lower prices for imported goods and services such as fuel and transportation prices. Cheaper imports have contributed to lowering domestic inflationary pressures with inflation falling from a high of 23.8% in December 2024 to 9.4% in September 2025.

Lower Debt Burden

For the same amount of debt in foreign currency, a strengthening cedi lightens the debt burden since the government requires less cedis to service our external debt obligations. The appreciation of the Cedis contributed to the decline of public debt from 61.8% as at the end of December 2024 to 44.9% as at the end of June 2025.

On the other hand, the recent performance of the currency can have some adverse effects such as a reduction in exports (because Ghanaian goods become more expensive) and lower remittance inflows.

Potentially Lower Exports

The appreciation of the cedi could lead to potentially lower exports as Ghanaian products become more expensive for foreign buyers. This is because, they need more of the foreign currency to acquire cedis. The impact on exports however depends on the elasticity of our exports. For inelastic exports (exports that foreigners find difficult to do away with), the impact will not be so severe as foreigners still need these products and may not be able to easily switch to other providers.

Reduction in Remittances

The performance of the cedis could lead to less remittance inflows to Ghana. Under normal circumstances, remittances should not be affected that much as the smaller Cedis sent to relatives in Ghana by family and friends abroad should be able to buy more goods and services if domestic prices are equivalently falling.

Uncertainty for Economic Agents

The performance of the Cedis can create uncertainty for economic agents as they are unsure as to whether this trend will continue or there is the potential for the Cedis to reverse sharply in the foreseeable future. For example, for business men, should they reduce the prices of their products not knowing what rates will apply in the future? There is a real possibility that they will experience capital erosion should they reduce prices and the Cedis depreciates sharply.

Overall, however, we believe that the net effects of the cedi strengthening are positive.

Is the Performance of the Cedis Sustainable.

Our analysis reveals that several factors have contributed to the recent strengthening of the Ghanaian Cedis, with the SHAP-based machine learning model providing useful insights into the relative importance of these determinants. Key among them are improvements in trade performance, reserve accumulation, favorable commodity price movements, fiscal consolidation efforts under the IMF-supported program, and reduced external debt servicing pressures. These developments have temporarily restored confidence in the domestic currency and improved macroeconomic stability.

However, the broader question of whether the cedi is no longer a one-way bet—that is, whether this performance can be sustained in the long run—remains fundamentally an issue of economic theory and policy credibility. According to the Purchasing Power Parity (PPP) framework, the long-run path of the exchange rate is primarily driven by inflation differentials between Ghana and its major trading partners, particularly the United States. If both economies operate around their long-run potential levels, and Ghana's inflation rate exceeds that of the U.S. by an average of about six percentage points, the cedi would be expected to depreciate by roughly six percent per year in the long run.

In that sense, while the short-run appreciation of the cedi is both remarkable and encouraging, it does not necessarily imply a structural reversal of the currency's long-term trajectory. Short-term factors—such as policy interventions, debt restructuring, and commodity windfalls—can support the exchange rate temporarily, but the sustainability of these gains ultimately depends on maintaining fiscal discipline, controlling inflation, and deepening export diversification. Persistent inflation differentials, weak productivity growth, and external vulnerabilities could easily erode these short-term gains.

In conclusion, the evidence suggests that the recent appreciation of the Ghanaian cedi represents a cyclical correction rather than a permanent shift in fundamentals. The "one-way bet" perception may have weakened in the short term, but the long-run outlook continues to be shaped by Ghana's inflation dynamics, structural competitiveness, and macroeconomic policy consistency. Sustaining the currency's strength will therefore require not only sound macroeconomic management but also credible reforms that anchor inflation expectations and enhance productivity growth across tradable sectors.

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