Public Disclosure Authorized

Public Disclosure Authorized

Policy Research Working Paper 11479

Returns to Private Debt in Emerging and Developing Economies

Shawn Cole
Cesaire Meh
Fanele Mashwama
Florian Mölders

WORLD BANK GROUP
Development Economics
Private Markets Group
October 2026

Reproducible Research Repository

A verified reproducibility package for this paper is available at http://reproducibility.worldbank.org, click **here** for direct access.

Policy Research Working Paper 11479

Abstract

Private debt is an important form of corporate financing in emerging markets, but its investor returns are not well understood. This paper uses loan-level cash flow data from the International Finance Corporation to provide the first systematic evidence on realized returns across 4,109 loans over more than 20 years, totaling about US$115 billion in 127 countries. Post–global financial crisis loans outperform both the JPMorgan Corporate Emerging Market Bond Index and U.S. Treasuries, with public market equivalents of 1.02 and 1.10, respectively, rising to 1.05 and 1.14 over the latest five years. Over 2002–24, the corresponding public market equivalents are 0.98 and 1.07, respectively, with global financial crisis–era vintages posting weaker performance relative to the JPMorgan Corporate Emerging Market Bond Index. Overall, returns are competitive with public markets. The paper also assesses financial performance more specifically within the most challenging markets: very low-income countries and fragile and conflict-affected states. Although default rates are higher in these markets, returns relative to public-market alternatives are statistically indistinguishable from those of the overall portfolio, suggesting that the International Finance Corporation priced default risk appropriately even in these markets.

This paper is a product of the Private Markets Group, Development Economics. It is part of a larger effort by the World Bank to provide open access to its research and make a contribution to development policy discussions around the world. Policy Research Working Papers are also posted on the Web at http://www.worldbank.org/prwp. The authors may be contacted at fmoelders@worldbankgroup.org. A verified reproducibility package for this paper is available at http://reproducibility.worldbank.org, click **here** for direct access.

The Policy Research Working Paper Series disseminates the findings of work in progress to encourage the exchange of ideas about development issues. An objective of the series is to get the findings out quickly, even if the presentations are less than fully polished. The papers carry the names of the authors and should be cited accordingly. The findings, interpretations, and conclusions expressed in this paper are entirely those of the authors. They do not necessarily represent the views of the International Bank for Reconstruction and Development/World Bank and its affiliated organizations, or those of the Executive Directors of the World Bank or the governments they represent.

Produced by the Research Support Team

Returns to Private Debt in Emerging and Developing Economies[a]

Shawn Cole[b], Cesaire Meh[c], Fanele Mashwama[d], and Florian Mölders[e]

Authorized for distribution by Paolo Mauro, Director, Development Impact Measurement, World Bank Group

Keywords: Private debt; Emerging markets; Development finance; Public market equivalent; Impact investing

JEL Codes: G23, F34, O16, G24

---

[a] The authors would like to thank the participants of the World Bank Macro/Trade/Finance Seminar and the HBS Finance Working Lunch for excellent comments. The authors also thank Mohammed Saleh, Murat Arslaner, and Rong Cao, especially, for providing an understanding of the data. Ufuk Akcigit, David Cummings, Sandro Díez-Amigo, Federico Galizia, John Gondolfo, Rapti Goonesekere, Jeremias Huber, Kevin Njiraini, Paolo Mauro, and Imtiaz Ul Haq provided helpful comments and suggestions. Anushka Kataruka provided excellent research assistance. The views expressed herein are those of the authors and do not necessarily represent the views of the International Finance Corporation (IFC), IFC management, or the World Bank Group. Shawn Cole and Fanele Mashwama have served as Short Term Consultant for the IFC.
AI use disclosure: A high-quality draft of the entire text was written by the authors; Generative AI was used to generate editorial suggestions, which the authors reviewed and selectively implemented.
[b] Harvard Business School and NBER (scole@hbs.edu)
[c] International Finance Corporation (cmeh@ifc.org)
[d] Harvard Business School (fmashwama@fas.harvard.edu)
[e] International Finance Corporation (fmoelders@ifc.org)

1. Introduction

Debt is the dominant source of corporate financing in emerging markets (Alter and Elekdag, 2020), yet surprisingly little is known about the returns earned by investors in this vital asset class. Existing evidence on emerging market corporate debt largely relies on benchmarks such as the JPMorgan Corporate Emerging Market Bond Index (CEMBI), which focuses on large, relatively liquid international bond issuances. CEMBI returns represent more financially developed emerging economies, providing limited evidence of returns to smaller firms and domestic credit markets. As a result, the performance of private debt, which accounts for the bulk of corporate finance in emerging markets, remains largely unexplored. In most emerging and developing economies, corporate financing is dominated by private bilateral lending rather than publicly traded bonds, yet nearly all evidence on emerging market corporate debt returns comes from bond indices like the CEMBI and JPMorgan Emerging Market Bond Index (EMBI), which capture only the largest, most liquid issuers.

To address this information gap, we assembled a comprehensive dataset of loan-level cash flows covering 4,109 loans totaling USD 114.8 billion across 127 countries over three decades (1992-2024). The loans were originated and held by the International Finance Corporation (IFC), the private-sector investing arm of the World Bank Group, which serves as the lender of record for all instruments in our sample. Unlike prior studies that rely on aggregate capital flow data (Klingen et al., 2004) or small samples from specific countries, we obtain the exact timing and magnitude of every disbursement and repayment, including fees, late payments, and recoveries, enabling precise characterization of loan-level returns. The data span a wide range of country income levels, regions, and macroeconomic environments, including multiple economic crises, making it uniquely suited to studying the risk-return properties of private EMDE debt. To the best of our knowledge, this represents the most comprehensive evidence to date on realized returns to private debt investment in emerging and developing economies.[1]

We show that the loan portfolio after the global financial crisis (GFC) outperforms both the CEMBI Broad Diversified index and U.S. Treasuries, with public market equivalents (PMEs) of 1.02 and 1.10, respectively, rising to 1.05 and 1.14 over the latest five years. Over the full 2002-2024 period (which includes the GFC period),[2] the portfolio earns 0.98 against the CEMBI and 1.07 against Treasuries; the difference reflects the GFC-era vintages, which absorbed elevated defaults as the crisis hit and returned less than the benchmark over the

[1] Because IFC selects borrowers based on private information about creditworthiness, our return measures reflect both asset class characteristics and the credit selection of a sophisticated lender.
[2] CEMBI data are available starting in January 2002.

same period.[3] A compositional difference is the coupon structure. IFC lends predominantly at floating rates, while benchmark indices consist largely of fixed-rate bonds whose total returns embed duration effects; Section 2 discusses this difference and its implications for interpreting the comparison. This lending occurs in a borrower universe largely inaccessible through public markets.

Beneath this aggregate performance, lending in fragile and conflict-affected states and International Development Association (IDA)-eligible economies carries default rates materially above the portfolio average, yet the overall returns are statistically indistinguishable from the rest of the portfolio. This suggests that IFC prices default risk in a fair manner even in its most challenging markets. The portfolio-wide annual default rate of 3.0 percent in normal times rises to 7.3 percent during moderate economic downturns and 9.2 percent during severe ones.

We contribute to several literatures. First, we provide the first comprehensive evidence on realized returns to private debt investment in emerging markets using transaction-level data. Prior work by Klingen et al. (2004) estimated approximate aggregate returns to emerging market lending using country-level debt flow data from the World Bank's Global Development Finance database, covering sovereign and quasi-sovereign borrowers over 1970–2000, primarily syndicated bank loans to governments rather than bilateral loans to private firms. They found returns comparable to U.S. Treasuries. We extend this in three ways: we use loan-level rather than aggregate flows, we focus exclusively on private-sector corporate borrowers rather than sovereigns, and we cover a more recent period in which private bilateral lending to firms has grown substantially. We find that private corporate credit outperforms U.S. Treasuries.

Second, while returns to public emerging market debt are well-documented through indices like the CEMBI and EMBI (González-Rozada and Yeyati, 2008), no comparable evidence exists for the much larger private bilateral lending market in emerging and developing economies, a gap this paper fills at the transaction level. A related literature examines risk-adjusted returns to private equity and impact investments in emerging markets (Barber et al., 2021, Jeffers et al., 2024; Mölders & Salgado, 2025; Cole et al., 2025), but debt instruments differ fundamentally in their return profiles. We provide the first transaction-level characterization of when and where default risk occurs in private EMDE debt, showing it varies strongly with the macroeconomic cycle, measured as country-level GDP contractions, whether driven by domestic conditions, EM-wide stress, or global recessions, and systematically differs across country income groups. We also provide the first

[3] Loans disbursed during the GFC period (2007-2011) achieve a PME 0.90 against the CEMBI and 1.00 against Treasuries.

transaction-level evidence on realized financial performance in mandate-intensive, high-impact environments (FCS countries and IDA-eligible economies), examining whether returns in these markets differ from those in the broader portfolio.

Third, we contribute to the literature on capital flows and credit risk in emerging markets. A large body of work documents that private capital flows to emerging markets are highly procyclical, amplifying booms and busts (Alfaro, Chari, and Kanczuk 2017). We provide transaction-level evidence on the credit risk dimension of this procyclicality: default rates in private EMDE debt rise sharply during downturns, with the steepest deterioration in middle-income markets.

The paper is organized as follows. Section 2 describes the institutional context in which our three-decade sample of loans was originated, priced, and managed. It also discusses IFC's dual mandate, underwriting methods, currency-hedging strategy, and portfolio evolution. Section 3 describes the data, sample construction, and methodology for measuring loan performance, including our treatment of outstanding loans. Section 4 presents aggregate portfolio performance and documents heterogeneity across vintage years, regions, and loan tenors. Section 5 examines performance in the most challenging market environments, specifically countries classified as FCS and those eligible for concessional IDA support, documenting how default rates and risk-adjusted returns compare across these mandate-driven sub-portfolios. Section 6 discusses implications, and Section 7 presents our conclusion.

2. Institutional Context

Interpreting realized returns to private EMDE debt requires understanding the institutional context in which the loans in our sample were originated, priced, and managed. This section describes IFC's operating model, pricing methodology, hedging strategy, and portfolio evolution over three decades. These details are essential context for our performance metrics; they clarify what the returns we measure do and do not reflect and provide evidence that IFC's portfolio is a credible data source for studying private EMDE debt more broadly.

IFC's Mandate

Our data comes from the International Finance Corporation, established in 1956 as a member of the World Bank Group and the largest multilateral lender focused exclusively on the private sector in emerging markets. Unlike its sister institution, the International Bank for Reconstruction and Development (IBRD), which lends primarily to sovereigns, IFC provides debt and equity financing to private firms and financial institutions in developing countries.

IFC operates under a dual mandate: promoting private sector development in emerging markets and obtaining market-rate financial returns on its investments. IFC prices loans by adding spreads to cover its cost of funds, operating expenses, expected credit losses, and required returns. These spreads vary by borrower to reflect credit risk, country risk, and project characteristics (IFC, 2024a). IFC generally maintains pricing discipline aligned with market conditions, though in some settings, such as fragile and conflict-affected states, it can and does adopt blended finance (concessional lending practices)[4] (IEG, 2019). Throughout the paper, due to our focus on market-rate returns to lending, we exclude blended finance loans.

IFC assigns internal credit risk ratings to all borrowers using a 15-grade scale that is mapped to external rating agency categories; the 13 highest grades cover performing exposures, while the lowest grades correspond to default states (IFC, 2024b). These ratings are based on quantitative factors (financial ratios, cash flow coverage, leverage) and qualitative assessments (management quality, competitive position, country risk, project structure). Ratings are reviewed at least annually and more frequently if borrower circumstances change materially. Unlike external rating agencies that focus primarily on publicly traded companies and sovereigns, IFC's system is calibrated for privately held firms in emerging markets, many of which operate in environments where financial reporting standards and audit quality vary considerably, and where historical credit track records are limited or absent. While IFC's internal ratings are proprietary, IFC does publish some information on realized default rates (IFC, 2024b). Over our 1992-2024 sample period, the portfolio-wide default rate averaged approximately 4 percent, comparable to historical default rates for B/B3-rated corporate debt in external rating agency data (Moody's and S&P report long-run default rates of 4-5 percent for B-rated issuers). This suggests IFC's portfolio, on average, carries credit risk similar to sub-investment-grade but not deeply distressed borrowers, consistent with IFC's mandate to serve creditworthy private sector clients in markets where capital is scarce. This historical average reflects realized experience over the full 1992-2024 sample, including legacy portfolios and several crisis episodes; it characterizes the portfolio's long-run default history rather than the credit quality of newly originated exposures, which is assessed at origination and may sit higher within the sub-investment-grade range.

Currency and Interest Rate Risk Management

IFC structures its lending primarily on a variable-rate basis, with interest rates that float relative to a benchmark such as the Secured Overnight Financing Rate (SOFR) (or, prior to that, London Inter-Bank Offered Rate (LIBOR)). This approach aligns with IFC's funding

[4] See Section 5 for a detailed analysis of portfolio performance in FCS and IDA-eligible countries.

structure, which is predominantly composed of floating-rate bonds issued in international capital markets (IFC, 2025). When both IFC's loan assets and bond liabilities are tied to the same benchmark, changes in global interest rates affect both sides of the balance sheet symmetrically, creating a natural hedge against interest rate risk.

IFC seeks to hedge both interest rate and currency risks. When borrowers prefer fixed rates, IFC uses interest rate swaps to convert their receipts back to floating rates. For non-USD loans, IFC enters into currency swaps to convert local currency cash flows into dollars, using specialized entities such as The Currency Exchange Fund (TCX) when commercial hedging is unavailable. Hedging costs are passed to borrowers through pricing adjustments. IFC actively hedges interest rate and currency risk on its loan portfolio, swapping exposures back into variable-rate U.S. dollar obligations (IFC 2017, 2025).

While IFC's portfolio of floating-rate loans has limited exposure to interest rate risk, the portfolios we use as benchmarks (CEMBI, EMBI, and U.S. Treasury) include both floating- and fixed-rate instruments. From a lender's perspective, fixed-rate bond prices respond inversely to changes in interest rates, since the value of a fixed coupon stream falls as rates rise (and vice versa). Rather than making ad hoc (and often challenging) adjustments to the cash flows of IFC or benchmark portfolios, we trust that the variety of comparators and the use of over 30 years of data, spanning multiple rate cycles, will yield informative results. For reference, the JP Morgan CEMBI Broad Index has a weighted average maturity of approximately 8.2 years. This compares to an average tenor of 6.65 years for the IFC portfolio, for which data on maturities is available.[5] Our Treasury benchmark uses 7-10 constant maturity yields.

Evolution of IFC Lending Operations

IFC's lending portfolio has evolved substantially over our sample period. Total annual lending volume increased from approximately USD 3 billion in the mid-1990s to over USD 30 billion in recent years (IFC 1995, 2024a). The most significant compositional shift occurred in the financial sector: Financial institution lending grew from less than 10 percent of commitments in the early 1990s to 40-50 percent by the 2010s, as IFC increasingly used loans to banks to support on-lending to smaller enterprises. This shift toward shorter-term financial sector loans has implications for our return comparisons, which we address in the vintage-year analysis in Section 4.

[5] Note that contractual maturity data is only reliably available from IFC starting in 2003. This average is based on all loans that are labeled as straight senior loans.

Implications for Our Analysis

This institutional context shapes our empirical analysis in several ways. First, because IFC systematically hedges currency and interest rate exposures, the returns we calculate reflect credit performance rather than exposure to broader currency or interest rate trends. Second, the evolution in portfolio composition, particularly the shift toward financial sector lending, larger loan sizes, and shorter maturities, suggests that vintage-year analysis may be particularly important for understanding performance. Portfolio performance calculated over the full 1992-2024 period aggregates quite different portfolios, and we should expect heterogeneity across time periods as both IFC's strategy and global market conditions evolved.

Finally, the institutional framework clarifies what our return measures do and do not capture. Our PME and IRR calculations are based solely on actual cash flows between IFC and its borrowers, disbursements out and repayments in, including fees, late payments, and recoveries, and do not deduct IFC's costs of originating, monitoring, or administering loans. Our benchmarks, the CEMBI, EMBI, and U.S. Treasury indices, are likewise total return series that do not deduct the management fees or transaction costs that investors in these markets would actually incur. Both sides of the comparison are therefore measured before intermediation costs, and the PME asks whether IFC's cash flows, timed as they actually occurred, would have generated more or less wealth than a passive investment in the benchmark index over the same period. In practice, investors access these markets through vehicles that incur nontrivial management fees, while IFC similarly incurs administrative expenses (around USD 1.3 billion annually[6]) funded from investment income. Our analysis, therefore, compares gross returns on both sides, abstracting from intermediation costs. These measures also do not capture indirect benefits such as technology transfer or market development effects. We measure financial returns to private debt in emerging markets, not social returns, and view characterizing and quantifying social returns as an important avenue for future research.

3. Data and Methodology

This section describes our data sources, sample construction, and empirical methodology for measuring loan performance. We begin by describing the loan-level cash flow data and the filters we apply to construct our analysis sample. We then explain our performance metrics, the realized public market equivalent (PME) and internal rate of return (IRR), and the benchmark indices against which we compare portfolio returns. Finally, we discuss our approach to handling outstanding loans and expected credit losses.

[6] IFC Annual Report 2024 – Financial Performance Summary

Data Sources and Sample Construction

Primary Data: IFC Loan Cash Flows

Our primary data source is IFC's comprehensive loan-level cash flow database, which records disbursement and repayment transactions associated with IFC's debt portfolio from January 1, 1992, through June 30, 2024. For each cash flow, we observe a unique loan identifier, a project identifier, the cash flow amount in U.S. dollars, the value date, the transaction type, and loan characteristics, such as country and sector.

The raw dataset contains cash flows from 8,923 individual loans. We aimed to evaluate IFC core lending activity, and therefore deleted loans that do not have a record of an initial disbursement, blended finance (subsidized loans), foreign-currency-denominated loans (most IFC loans are in USD), and loans that are shorter than 31 days in tenor. We also omit loans that include an equity conversion. Table A 6 in the Appendix shows this omission does not have a material effect on our results.

Final sample: After applying all filters, our analysis sample contains 4,109 loans across 3,282 projects in 127 countries, with total disbursed capital of USD 114.8 billion. The median loan size is USD 11.5 million, and the mean is USD 27.9 million.

For each loan, we observe geography (country and region), income classification (low, lower-middle, upper-middle, high income) as of the loan approval year, sector, and vintage year.

Benchmark Data[7]

We employ three benchmark indices:

- **US Treasury Index** (Bloomberg): Tracks the total gross return of 7-10-year U.S. Treasury bonds. This data series is available for the entire time period for which we have cash flow data (since 1991), covering all loans in our sample. It represents the risk-free rate and includes only fixed-rate loans.
- **JP Morgan Emerging Markets Bond Index (EMBI) Global Diversified**: Tracks the total return performance of U.S. dollar-denominated sovereign and quasi-sovereign bonds issued by emerging market governments. The index is market-capitalization weighted; each bond's weight reflects its outstanding face amount multiplied by its current price relative to the total index market value, meaning larger issuers naturally dominate. The 'Diversified' designation means that country weights are capped at 10 percent of the index, with any excess redistributed to smaller countries, providing somewhat more even coverage across the emerging market universe than a pure

[7] All benchmark indices are gross total return series and do not reflect trading costs or fund management fees.

market-cap approach would yield. It is the most widely used benchmark for hard-currency sovereign emerging market debt and has been available since January 1994.

- **JP Morgan Corporate Emerging Markets Bond Index (CEMBI) Broad Diversified**: Tracks the total return performance of U.S. dollar-denominated bonds issued by corporate entities domiciled in emerging markets. Like the EMBI Global Diversified, it applies country-weight caps to limit concentration. The index spans investment-grade and high-yield issuers across a broad range of sectors and countries, making it the most comprehensive publicly available benchmark for hard-currency emerging market corporate debt. Data are available from January 2002. Conceptually, the CEMBI Broad Diversified is the closest available public market benchmark to private EMDE corporate lending.

All indices are total return series obtained from Bloomberg at a monthly frequency.

Additional Data

Default timing, outstanding balances, and loan loss provisions are drawn from IFC's internal credit risk management systems. IFC characterizes default at the borrower level rather than the loan level. A borrower is classified as in default when it fails to make a scheduled payment within 90 days or when full repayment is deemed unlikely, at which point all loans to that borrower are classified as in default. This borrower (institution)-level definition reflects standard cross-default provisions and aligns with rating agency methodologies: Moody's and S&P compute default rates at the issuer level, where a payment failure on any instrument triggers default classification across the issuer's entire debt (Moody's, 2025; S&P, 2025).

Performance Measurement Methodology

We employ two complementary approaches to measuring loan portfolio performance: the public market equivalent (PME) and the internal rate of return (IRR).

Public Market Equivalent

The PME, developed by Kaplan and Schoar (2005), provides a relative performance metric by comparing private investment cash flows against public market index returns with the same timing. The PME evaluates: If an investor had invested in a public market index with exactly the same disbursement and repayment timing as a private loan portfolio, would they have ended up with more or less capital?[8]

[8] PME is more commonly applied to private equity than to fixed income since private equity investments have irregular exit timing and lack direct public market comparables. We employ PME because IFC's staggered disbursements, cash flow modifications, and outstanding balance treatment may create timing differences

The PME ratio is calculated as:

$$\text{PME} = \frac{\sum \frac{\text{Distributions}_t}{(1+R_t)}}{\sum \frac{\text{Contributions}_t}{(1+R_t)}}$$

where Distributions are repayments to IFC, Contributions are disbursements from IFC, and R_t[9] is the cumulative return of the benchmark index from the start of the sample to time t.

Interpretation:

- PME = 1.0: the loan portfolio matched the benchmark
- PME > 1.0: the loan portfolio outperformed
- PME < 1.0: the loan portfolio underperformed

For example, PME of 1.10 versus CEMBI means the loan portfolio generated 10 percent more wealth than investing in CEMBI over the same time period.

We calculate PMEs at a monthly frequency, aggregating cash flows to the month-end and matching to the month-end index values. We report PMEs for the entire portfolio and for sub-portfolios by vintage year and region.

We note several interpretive limitations of PME in this context. IFC loan cash flows reflect par accounting, while CEMBI/EMBI benchmark returns incorporate mark-to-market price movements, meaning PME outcomes may partly reflect spread and rate movements in public markets rather than underlying loan performance alone. The IFC loan portfolio also differs from CEMBI/EMBI constituents in coupon structure (floating versus fixed), effective duration (amortizing versus bullet), and credit-quality distribution. We therefore present PME as a complementary metric alongside the IRR-based analysis rather than a single definitive measure of performance.

Liquidity is a related consideration. IFC's loans are illiquid and held to maturity, while the benchmark indices track tradable bonds, and investors require compensation for giving up liquidity (Amihud and Mendelson, 1986). Some of the outperformance we measure against

---

that warrant a timing-matched comparison. IFC (2019) also includes a performance measure for equity and loans issued by IFC, using the PME methodology. Their headline findings are broadly in line with ours.

[9] Let I_t denote the level of the benchmark index at time t. The cumulative return from the start of the sample t_0 to time t is then $R_t = I_t / I_{t_0}$, where I_{t_0} is the index level at the first observation date. For cash flow occurring at time t, the PME methodology scales that cash flow by $1/R_t$ to express it in units of the benchmark's starting value, effectively discounting at the benchmark's realized return rather than a fixed rate.

U.S. Treasuries may therefore reflect a liquidity premium rather than credit risk compensation alone; our data do not allow us to separate the two.

Internal Rate of Return (IRR)

The realized IRR (the actual rate earned after accounting for defaults, late payments, reschedulings, and recoveries) provides an absolute return metric, the annualized rate that sets the net present value of all cash flows to zero:

$$\sum \frac{\text{CF}_t}{(1 + \text{IRR})^{t/12}} = 0$$

where CF_t is the net cash flow in month t (negative for disbursements from IFC, positive for repayments to IFC). For loans outstanding as of June 30, 2024, we include the expected terminal value (described in the following subsection) as a final cash inflow.

The IRR is intuitive; it provides an absolute annual percentage return. However, IRR does not account for systematic market risk or opportunity cost: A 10 percent IRR tells us the portfolio's return, but not whether 10 percent was appropriate compensation for the risks taken or the market conditions at entry.

PME addresses this by creating a timing-matched benchmark investment: It asks what return an investor would have earned by investing in the CEMBI (or another index) at precisely the moment capital was disbursed and withdrawing when repayments were received. This timing-matched comparison reveals whether the private loan portfolio outperformed the benchmark after accounting for market conditions at the time of investment. Importantly, PME does not adjust for differences in systematic risk between the private loan portfolio and the benchmark index; rather, it benchmarks performance against the realized return of a passive investment in public EM corporate debt over the same horizon. We report both PME, for performance relative to timing-matched public market benchmarks, and IRR for absolute return levels.

Treatment of Outstanding Loans

Approximately 12 percent of loans in our sample remain outstanding as of June 30, 2024. However, our data include loan loss provisions, which IFC makes in anticipation of future default risk. We use these loan loss provisions to estimate terminal values. These provisions (funds reserved for expected credit losses) are based on internal credit ratings and historical loss experience and are calculated loan-by-loan rather than as portfolio-wide averages. For each outstanding loan, we calculate:

- **Outstanding Balance** = principal owed + accrued interest as of June 30, 2024
- **Loss Provision** = IFC's estimated expected loss for that specific loan

This approach has several advantages: (1) it incorporates information about individual borrower creditworthiness; (2) it uses forward-looking assessments of macroeconomic and borrower-specific risks rather than backward-looking averages; (3) it applies loan-level provisions rather than uniform haircuts.

For fully repaid or defaulted loans, we use actual realized cash flows. Loss provisions do not enter the calculation of returns for loans that have been repaid or written off.

To verify that our sample construction process does not unduly influence the final results, we conduct a robustness check, located in the Appendix (Table A 6). This analysis documents the evolution of the aggregate portfolio PME as each filter is applied sequentially, from excluding loans without disbursement records to removing short-tenor loans. The portfolio's aggregate performance metrics are robust to various data filters. While the overall PME shifts from 1.10 to 0.98 when the sample is restricted to the 2002-2024 period of CEMBI benchmark availability,[10] it remains highly stable around this level when applying subsequent sensitivity checks for haircuts and loan size composition.

Summary Statistics

Table 1 presents summary statistics for the analysis sample of 4,109 loans totaling USD 114.8 billion. Lending volumes grew substantially over the sample period, from USD 2.5 billion in the early 1990s to over USD 25 billion in recent years.

To contextualize IFC's scale, the table also reports each segment's share of total EMDE private, nonguaranteed debt disbursements (World Bank, International Debt Statistics (IDS)). Over the full 1992-2024 period, IFC's analysis sample represents approximately 1.1 percent of aggregate EMDE private debt disbursements, with the full prefilter sample accounting for 1.7 percent. IFC's market share is highly unequal across regions (Panel B). It is smallest in East Asia & Pacific (0.35 percent) and largest in the Middle East & North Africa (3.4 percent) and Sub-Saharan Africa (3.0 percent), reflecting IFC's development mandate to prioritize markets where private capital is scarcest.

Latin America and the Caribbean accounts for the largest regional share (24.9 percent), followed by Europe and Central Asia (14.5 percent) and East Asia and Pacific (12 percent). By income group, lower- and upper-middle-income countries dominate (30.6 percent and

[10] Note that this is a result of the PME calculations using loan repayments, fees, and prepayments of loans that have disbursements before 2002, which therefore inflates the PME by taking into account flows back to IFC without disbursements.

32.7 percent of volume, respectively), with low-income countries accounting for 7.9 percent. Financial services is the largest sector (38.9 percent of volume), followed by manufacturing, agribusiness, and services (38.1 percent), and infrastructure (21.8 percent).

Table 1: Summary Statistics

	Analysis Sample			
	N Loans	**Total Volume (USD million)**	**Share of Total (%)**	**IFC % of EMDE Private Debt**
Panel A: Disbursement Period				
1992-1994	265	2,496	2.2	2.34
1995-1999	700	6,903	6.0	1.75
2000-2004	666	7,869	6.9	1.49
2005-2009	756	15,646	13.6	1.16
2010-2014	731	31,666	27.6	1.37
2015-2019	550	23,705	20.7	0.80
2020-2024	441	26,475	23.1	0.84
Total	**4,109**	**114,760**	**100.0**	**1.06**
Panel B: Region				
East Asia & Pacific	529	13,741	12.0	0.35
Europe & Central Asia	810	16,590	14.5	0.73
Latin America & Caribbean	1,258	28,559	24.9	0.89
Middle East & North Africa	292	6,474	5.6	3.39
South Asia	410	12,363	10.8	1.46
Sub-Saharan Africa	688	13,885	12.1	2.99
Regional / Other	122	23,147	20.2	—
Total	**4,109**	**114,760**	**100.0**	**1.06**
Panel C: Income Group				
Low income	781	9,096	7.9	8.72
Lower-middle income	1,610	35,149	30.6	2.07
Upper-middle income	1,317	37,477	32.7	0.41
High income	57	2,927	2.6	—
Regional / Unclassified	344	30,111	26.2	—
Total	**4,109**	**114,760**	**100.0**	**1.06**
Panel D: Sector				
Disruptive Technologies & Funds	67	1,362	1.2	—
Financial Markets	1,231	44,620	38.9	—
Infrastructure	972	25,055	21.8	—
Manufacturing, Agribusiness & Services	1,839	43,723	38.1	—

Total	**4,109**	**114,760**	**100.0**	**—**

Notes: Analysis Sample is restricted to IFC loans with at least one Disbursement transaction, denominated in USD, with no blended finance, equity conversion, or tenor below 31 days, and without double-posted cash flow entries. Full Sample (prefilter) covers all loans that have at least one Disbursement row, before the four business exclusions listed above. Volume is the sum of disbursed principal (absolute value of Disbursement transactions). Share of Total (%) is within-sample (each sample sums to 100 percent). Income group is based on World Bank historical classification at the loan vintage year; Regional / Unclassified comprises regional or multicountry facilities and 2024-vintage loans beyond the classification table's coverage. Period is defined by year of first disbursement. Sector and regional groups follow IFC's industry taxonomy. IFC % of EMDE Private Debt: IFC disbursed principal as a percentage of EMDE private nonguaranteed debt disbursements (World Bank IDS indicator DT.DIS.DPNG.CD), summed over 1992-2024, for the matching EMDE aggregate (Panel A: LMY by period; Panel B: regional aggregates; Panel D: income-group aggregates). IDS data sourced from the World Bank data. — denotes no comparable IDS aggregate (Regional/Other, Regional/Unclassified, and all sector rows). DT.DIS.DPNG.CD covers private, non-guaranteed borrowing only.

4. Aggregate Portfolio Performance

This section presents our main findings on loan portfolio performance in EMDEs. We begin with overall portfolio returns across all benchmarks, then examine how performance varies over time through vintage year analysis. We conclude by documenting heterogeneity across loan tenors.

Overall Portfolio Returns

Table 2 reports PMEs across our three benchmarks, for the full sample period and separately by the vintage in which each loan was disbursed. Private EMDE debt delivers returns comparable to public market alternatives over the full period and exceeds them for loans disbursed after the global financial crisis.

Table 2: Overall Portfolio Returns, Various Benchmark Indices

	PME vs CEMBI Broad Div.	PME vs EMBI Broad Div.	PME vs US Treasury (7–10y)	N Loans	Countries
Full period 2002–2024	0.98	0.98	1.07	2,888	115
Pre-GFC 2002–2006	0.98	0.93	1.04	694	80
GFC-era 2007–2011	0.90	0.88	1.00	765	85
Post-GFC 2012–2024	1.02	1.04	1.10	1,429	92
of which 2019–2024	*1.05*	*1.08*	*1.14*	*532*	*69*

Notes: PME is the Kaplan–Schoar (2005) Private Market Equivalent; PME > 1 indicates the portfolio outperformed the benchmark. The sample is every loan whose first cash flow falls on or after January 2002, the month the CEMBI Broad Diversified index becomes available. Loans are grouped by the year of their first disbursement. The three period blocks partition the sample exactly, so no loan is omitted or counted twice; the final row is a subset of the post-GFC block, reported separately. GFC denotes the global financial crisis. CEMBI

Broad Diversified and EMBI Broad Diversified are JP Morgan's emerging-market corporate and sovereign bond indices respectively; the Treasury benchmark is the 7–10 year US Treasury total-return series. All three series are available over the whole sample window, so a single common-period sample serves every column.

Over the 2002–2024 period, the portfolio achieves a PME of 0.98 against the CEMBI Broad Diversified corporate bond index and 0.98 against the EMBI sovereign index, indicating performance essentially at par with emerging market debt, and 1.07 against U.S. Treasuries. All three benchmarks are evaluated on the same 2,888 loans over the same window, so differences across columns reflect only the choice of benchmark.

Grouping loans by the year of first disbursement shows that this full-period average combines very different vintages. Loans disbursed before the crisis, in 2002–2006, earn 0.98 against the CEMBI. Those disbursed into the crisis, in 2007–2011, earn 0.90, the trough of the series, and 0.88 against the EMBI. Loans disbursed from 2012 onward earn 1.02 against the CEMBI, 1.04 against the EMBI, and 1.10 against Treasuries, exceeding every benchmark; restricting further to the most recent five years, 2019–2024, gives 1.05, 1.08, and 1.14.

These results suggest that private EMDE debt delivers returns consistent with its credit risk. PMEs relative to their closest benchmark, the CEMBI, range from 0.98 to 1.05, with the strongest performance in the post-GFC period (2012-2024) and the most recent five-year period (2019-2024). The outperformance relative to U.S. Treasuries likely reflects a credit risk and/or liquidity premium. The portfolio's position relative to the EMBI sovereign index varies by vintage: it trails EMBI for pre-crisis and crisis-era loans, when sovereign borrowers benefited from a historically benign default environment, and exceeds it for post-crisis loans. Major EM sovereign restructurings were concentrated before 2002, and the subsequent two decades saw few systemically important sovereign defaults, generating strong benchmark returns that were unlikely to persist and that weakened after 2012.[11]

The choice of 2002 as the sample start is dictated by CEMBI availability rather than by loan data availability: the CEMBI series begins in 2002, whereas the loan data extend back to 1992. Benchmarks that do not rely on the CEMBI are therefore reported over the full 1992-2024 sample.[12] To assess whether the measured PME is sensitive to the period, Appendix Table A 10 reports PMEs for samples beginning in 2010, 2015, and 2019. The measured PME rises on both benchmarks together as the start date moves later, while the sample falls from 2,888 loans to 517, indicating that the movement reflects the period being measured.

[11] Note that benchmarking each loan against the CEMBI subindex of its own country (where available), rather than the aggregate index, gives a similar answer, indicating that the near-parity result over the full sample period is robust to holding country composition constant. Appendix Table A *7* reports this analysis in full.
[12] Over the full 1992–2024 loan sample, the portfolio's gross IRR is 5.7 percent and its PME against U.S. Treasuries is 1.06.

The IRR gap relative to CEMBI and EMBI reported in Table 3 partly reflects a timing mismatch that "disadvantages" IFC. The benchmark figures are buy-and-hold returns assuming full capital deployment from January 2002, capturing the strong returns of the early 2000s commodity boom and the broad decline in emerging market borrowing costs that followed the debt restructurings of the late 1990s in full. IFC, by contrast, disbursed gradually across the period, with later vintages deployed after spreads had already tightened and into a rising-rate environment, conditions less favorable for benchmark-relative performance. The PME, which discounts both IFC's cash flows and a hypothetical benchmark investment at the same index level on each transaction date, corrects for this timing difference by construction and remains the preferred basis for comparison. More generally, Table 3 sets a buy-and-hold index return against a portfolio of staggered, actually occurring cash flows and is therefore not a like-for-like performance measure.

Table 3: IRR Comparison for the Time Period 2002-2024

Index/Portfolio	IRR (%)
CEMBI Broad Diversified	6.10
EMBI Broad Diversified	6.71
US Treasury (7-10 Year)	2.99
IFC	4.82

Notes: Benchmark IRR is the annualized buy-and-hold total return of the index over the full common period (January 2002-June 2024). IFC is the portfolio IRR computed from actual loan cash flows using the same sample period. CEMBI Broad Diversified = JP Morgan corporate EM bond index. EMBI Broad Diversified = JP Morgan sovereign EM bond index. Sample: loans with first disbursement between January 2002 and June 2024.

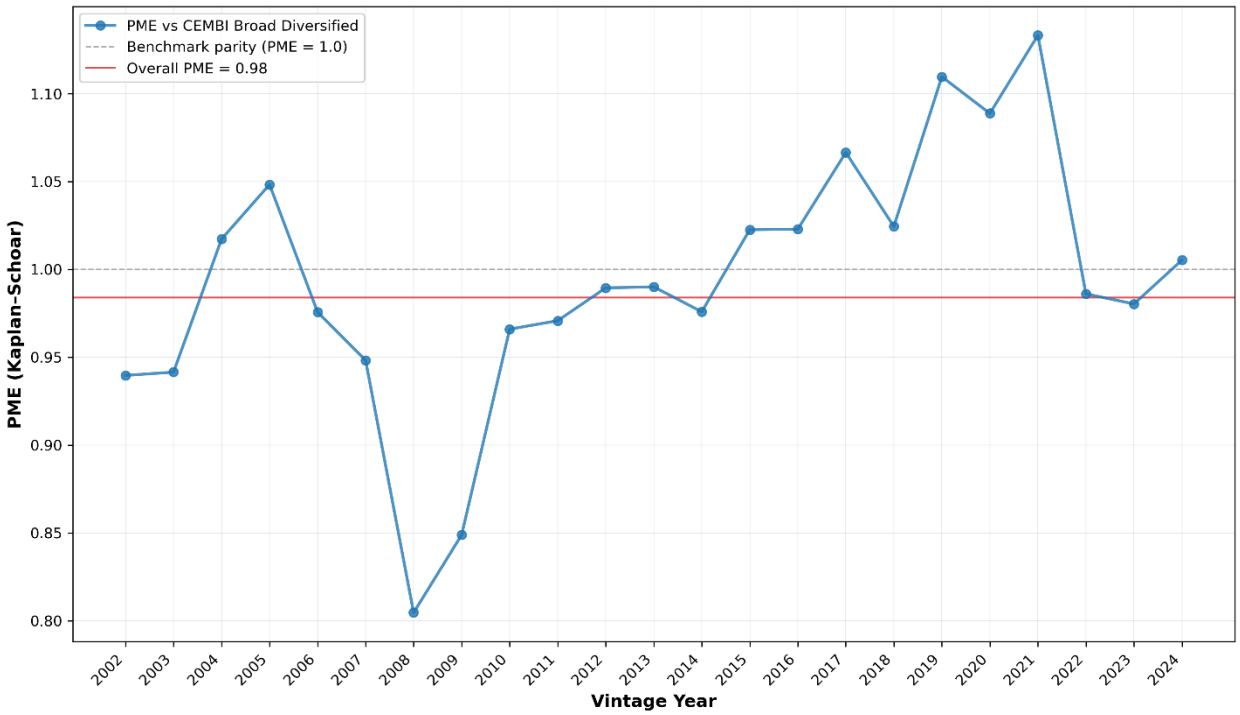
Performance over Time

Figure 1 and Table A 1 decompose portfolio performance by yearly loan origination vintage, revealing significant cyclicality. Performance is heavily influenced by the macroeconomic environment at the time of investment. Vintages that originated just before and during the 2008 global financial crisis (2007-2009) are the worst-performing, with the 2008 vintage showing a PME of just 0.805. This reflects elevated default rates among borrowers caught by the crisis, which left realized returns on these vintages below the benchmark over the same period.

Conversely, vintages from the post-crisis recovery and subsequent years show strong outperformance. The 2019 and 2021 vintages are standouts, achieving PMEs of 1.110 and 1.133, respectively, indicating returns of more than 10 percent above the public market benchmark. Performance for the most recent vintages has returned to levels near parity. This

cyclical pattern highlights that returns are not uniform over time and are sensitive to global market cycles.[13]

Figure 1: PME by Vintage Year



Note: Private market equivalent (PME) ratios by vintage year benchmarked against the overall CEMBI Broad Diversified. Vintage year is year of first cash flow. Sample restricted to loans with all cash flows in 2002-2024. PME > 1.0 indicates outperformance.

Loan Performance by Tenor

In the Appendix (Table A 2 and following), we report tables that describe how loan performance varies by contractual and realized tenor. We restrict the analysis to fully settled loans, both those repaid and those written off, to ensure both realized tenor and PME reflect complete loan lifecycles. Active loans are right-censored, as we do not know whether they will be repaid early, late, or on time.[14]

Table A 3 shows the distribution of loans across tenor extension categories. More than half (51.1 percent) of loans are repaid within ±1 year of their contracted maturity, which we classify as on time. More than one-third (39.0 percent) repay early (more than one year

[13] It is worth noting that during this same episode, when IFC loans were underperforming relative to the CEMBI benchmark, returns on advanced economy assets were far worse (BIS, 2009); IFC's private EMDE lending would thus have provided diversification value to a global investor during the crisis.

[14] Table A 2 presents summary statistics for this subsample of completed and written-off loans (2,352 loans). The median PME is 1.009, contractual maturity averages 6.65 years, and realized tenor averages 5.3 years.

before contracted maturity), while 7.1 percent experience moderate extensions (one to three years) and 2.9 percent require long extensions (>3 years). The median PME for on-time loans is 1.004, compared to 0.834 for loans with large extensions, suggesting extensions may signal distress.

Table A 4 examines loan performance across contractual maturity buckets. Loans with the shortest contractual maturities (zero to three years) have a median PME of 0.997, and those with the longest maturities (>15 years) have a median PME of 1.120. While loans with short-to-medium terms (zero to 12 years) perform at or just above the benchmark, a notable dip in performance occurs for loans in the 12- to 15-year bucket. This group, which is substantial in number, has a median PME of just 0.947, the lowest of any maturity bracket.

In stark contrast, Table A 5 demonstrates a strong negative correlation between a loan's realized tenor and its performance. While loans that repay relatively quickly (zero to seven years) outperform the benchmark (median PME>1.0), performance drops significantly as the realized tenor increases. Loans lasting beyond 15 years perform poorly, with a median PME of only 0.782. This pattern is not driven by contractual maturity per se; longer-maturity loans carry higher spreads that compensate for greater duration and credit risk, and there is no systematic underperformance across contractual maturity buckets. Rather, realized tenor beyond the contracted term is a distress signal, as loans that run significantly past their scheduled repayment date are overwhelmingly due to borrowers struggling to repay, and that financial stress is what ultimately drives poor returns. Extended realized tenor is thus less a cause of underperformance than an early observable symptom of the default risk that produces it.

5. Performance in the Most Challenging Markets

A central question in the impact investing literature is whether investors must trade off financial returns when pursuing the most socially valuable projects. IFC data present an excellent laboratory to examine this hypothesis: While IFC applies impact criteria to all its lending, the World Bank Group board has elected to charge it in particular to lend in two environments thought to be particularly impactful and challenging: to firms in very-low-income countries, and to firms in fragile and conflict-affected situations (FCS).[15] FCS countries typically face weaker legal and financial institutions, greater political uncertainty, and more limited domestic financial markets, all of which increase the likelihood that borrowers encounter payment difficulties (IMF, 2026).

[15] https://www.ifc.org/en/where-we-work/africa/supporting-growth-in-fragile-and-conflict-affected-situations-in-africa

Both categories represent settings where private capital is particularly scarce, access to international debt markets is constrained, and the potential for debt distress is elevated. This section examines whether the higher default risk in these environments translates into lower benchmark-relative returns, that is, whether lending in these environments generates returns comparable to the rest of the portfolio when measured against the same public market benchmark, or whether the elevated credit risk ultimately translates into lower benchmark-relative performance that the pricing fails to fully compensate.

Countries in Fragility and Conflict

The World Bank Group classifies countries as FCS based on annual assessments of institutional quality and the presence of organized violence. Since 2020, the classification distinguishes countries experiencing active armed conflict from those that are fragile due to governance deficits but not directly affected by war. The sample for the default rate analysis covers 2006-2023 and includes 2,417 institutions (IFC investees) across 128 countries, of which 254 (roughly one in 10) had some exposure to fragility or conflict over the sample period. The default-rate panel begins in 2006 because the World Bank Group's harmonized list of fragile and conflict-affected situations is available only from FY2006 onward, and the conflict/fragility distinction only from FY2020; it ends in 2023, the most recent year for which full-year default outcomes are observable in the institution-year panel. The return analysis in this section applies the same FY2006 starting point to loan vintages but incorporates cash flows through June 2024.

Panel A of Table 4 compares the default rate of borrowers (institutions) that are in countries that were never classified as FCS during their lending period, with the default rate of borrowers classified as FCS during at least one year of a loan.[16] The annual default rate for FCS borrowers is 4.79 percent against 2.64 percent for the rest of the portfolio, a gap of 2.15 percentage points that is significant at the 1 percent level. The exposure-weighted differential (3.25 percent versus 1.71 percent), which scales each institution-year by its outstanding committed balance, confirms the pattern is not driven by outlier institutions with small balances. Panel B reveals some level of nonlinearity: institutions for which a majority of borrowing years are classified as FCS report an annual default rate of 6.87 percent, roughly two and a half times that of institutions that never borrow during an FCS-classified year. Institutions with limited or partial FCS exposure (below 25 percent of observation years) actually default less than average.

[16] This binary classification pools borrowers whose country was FCS at origination but subsequently stabilized with those whose country entered FCS status during the loan life. In practice, FCS transitions are infrequent; few countries switch classification within a typical loan tenor, making this a reasonable approximation.

Table 4: Default Rates and Loan Performance in Fragile and Conflict-Affected Countries

	No FCS	FCS	Diff (FCS – No)	z-stat	Total
Panel A. Binary lifetime FCS exposure					
N institutions	2,163	254	—	—	2,417
N institution-years	10,973	1,335	—	—	12,308
Total exposure ($M)	347,334	29,363	—	—	376,697
Annual default rate (%)	2.64	4.79	2.15***	(4.44)	2.88
Exposure-wtd. default rate (%)	1.71	3.25	1.54***	(3.91)	1.83
Panel B. FCS-share bucket (share of institution-years in FCS country)					
	0%	**(0%, 25%]**	**(25%, 50%]**	**(50%, 100%]**	
N institutions	2,163	32	38	184	
N institution-years	10,973	283	281	771	
Total exposure ($M)	347,334	6,794	8,247	14,322	
Annual default rate (%)	2.64	1.06	2.85	6.87	
Exposure-wtd. default rate (%)	1.71	1.44	1.43	5.15	

Notes: Institution-year panel, 2006–2023. Annual default rate = share of institution-years with a recorded default event. Exposure-weighted default rate weights each institution-year by outstanding commitment. Panel A: No FCS = institution never observed in an FCS-designated country; FCS = ever observed in an FCS country. Diff = FCS minus No FCS; z-statistic from two-sample z-test of proportions. Panel B: bucket = share of observation years in which the country was FCS-designated. ***, **, * denote 1%, 5%, 10% significance.

The within-period distinction between conflict and fragility matters too. Restricting to the 2020–2023 sub-period, for which the conflict/fragility split is available, institutions in active conflict countries default at an annual rate of 7.69 percent, nearly four times the non-FCS rate, while institutions in fragility-only countries default at 3.75 percent, a rate only modestly above the baseline and statistically indistinguishable from it. The elevated credit risk in FCS

settings is thus heavily concentrated in countries experiencing widespread violence rather than being a uniform feature of fragile states.

In Table 5, we examine returns (the PME), rather than the default rate, and see a quite different story. Loans to FCS-designated countries generate IRRs and PMEs statistically indistinguishable from the rest of the portfolio (mean PME of 1.013 versus 1.009). For the recent years for which fragile and conflict states are separately classified, we find that fragility-only loans show a mean PME of 1.269, substantially above both the non-FCS and conflict baselines, while conflict-country loans earn IRRs above the non-FCS average despite their elevated default rates.

Table 5: Loan Performance in Fragile and Conflict-Affected Countries

	No FCS	FCS	Diff (FCS – No)	t-stat
N loans	1,751	222	—	—
Total disbursed ($M)	62,755	6,739	—	—
Mean Realized IRR (%)	6.55	6.72	0.17	(0.40)
Median Realized IRR (%)	6.12	7.37	—	—
Portfolio Realized IRR (%)	4.80	5.35	—	—
Mean PME (CEMBI)	1.009	1.013	0.005	(0.29)
Median PME (CEMBI)	1.014	1.034	—	—
Portfolio PME (CEMBI)	0.986	1.012	—	—

Notes. IFC private-sector loans with vintage year ≥ 2006, PME ∈ (0, 5], matched to the FCS country panel. No FCS = country never FCS-designated during the loan's life; FCS = country was FCS-designated at any point during the loan's life. Diff = FCS minus No FCS; t-statistic from Welch two-sample t-test. Portfolio IRR and Portfolio PME aggregate all cash flows within each group into a single portfolio. ***, **, * denote 1%, 5%, 10% significance.

Conflict and fragility could affect loan returns through competing channels. On one hand, firms operating in fragile or conflict-affected states may face disrupted cash flows, weaker institutions, and higher default risk, all of which would depress returns. On the other hand, lenders like the IFC may respond by tightening underwriting standards or pricing risk into higher spreads, potentially offsetting performance drag. Table 6 tests for the presence of these effects.

We estimate five specifications relating loan PME to various measures of FCS exposure, controlling throughout for loan size, contracted tenor, and vintage-year fixed effects. The main variables of interest are a dummy for whether the borrower country was FCS-designated at issuance (columns 1, 4, 5); a dummy for FCS status at any point during the loan life (column 2); and the share of loan-life years spent under FCS designation (columns 3, 5).

The baseline results are strikingly flat. Neither FCS status at issuance nor ever-FCS exposure during the loan life bears any statistically significant relationship with returns (columns 1–4). This is consistent with the hypothesis that IFC underwriting adjustments at origination, tighter covenants, fair pricing of default risk, or selectivity in which FCS borrowers receive financing successfully offset the baseline risk premium.

Column (5), however, reveals an important asymmetry. When we interact FCS-at-issuance with the share of loan life spent under FCS designation, the interaction coefficient is −0.137 (significant at 5%). The interpretation is intuitive: loans *originated* in FCS countries fare no worse on average, but among those loans, *sustained* FCS exposure over the tenor of the loan meaningfully erodes performance. In other words, IFC appears able to price conflict risk at origination, but prolonged or deepening fragility during the loan's life, which is harder to anticipate and contract against, generates underperformance. A test that the combined effect of FCS-at-issuance and the interaction (0.045 − 0.137 = −0.092) equals zero is rejected at the 10% level (t = −1.67, p = 0.096).

Taken together, the evidence suggests that point-in-time FCS classification at origination is a weak predictor of loan performance, but the duration of fragility exposure over a loan's life is not. This distinction has practical relevance for development lenders: the risk that matters is not whether a country is in conflict when the loan is made, but whether it remains in, or slides deeper into, fragility over the repayment horizon.

Table 6: FCS Exposure and Loan PME: OLS Regressions

	(1)	(2)	(3)	(4)	(5)
FCS at issuance	-0.026			-0.025	0.045
	(0.017)			(0.017)	(0.039)
Ever FCS (loan life)		-0.008			
		(0.014)			

Became FCS (post-issuance)				0.034	
				(0.026)	
FCS share (loan life)			-0.029		0.051
			(0.018)		(0.052)
FCS at issuance × FCS share					-0.137**
					(0.069)
N	1,973	1,973	1,973	1,973	1,973
R^2	0.215	0.214	0.215	0.216	0.217
Vintage-year FE	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes

Notes. OLS, dependent variable = loan-level PME (CEMBI). Sample restricted to loans with vintage year ≥ 2006, PME ∈ (0, 5], non-missing contracted tenor and log loan size. All specifications include log loan size, contracted tenor, and vintage-year fixed effects. FCS at issuance = 1 if country was FCS in the disbursement year. Ever FCS = 1 if country was FCS at any point during the loan's life. Became FCS = ever FCS − FCS at issuance (post-issuance entry only). FCS share = fraction of loan life-years during which the country was FCS-classified. Constant estimated but suppressed. HC3 robust standard errors in parentheses. ***, **, * denote 1%, 5%, 10% significance.

The World's Poorest Economies

Table 7 compares default rates and loan returns for loans issued to IDA (International Development Association)[17]-eligible countries at vintage against the rest of the portfolio. Borrowing firms in IDA-eligible countries default at higher rates: 4.18 percent annually versus 3.18 percent for non-IDA borrowers, a gap of 1.00 percentage point that is significant at the 1 percent level, but earn risk-adjusted returns virtually identical to those of non-IDA loans. The world's poorest economies generate higher credit risk but, on average, comparable risk-adjusted returns, indicating that the credit risk is approximately priced in. We do not conduct an analysis similar to Table 6 for the share of loan years in an IDA country because the IDA classification is determined at vintage and does not vary within-loan in the same way FCS designation does.

[17] IDA countries are those eligible for concessional lending from the World Bank's International Development Association, broadly corresponding to low-income and lower-middle-income countries with limited access to international capital markets.

Table 7: IDA Eligibility: Default Rates and Loan Performance

	Whole Sample	Not IDA at Vintage	IDA at Vintage	Diff (IDA– Not)	z / t-stat
Panel A. Default rates					
N institutions	3,268	2,195	1,073	—	—
N institution-years	18,283	12,203	6,080	—	—
Annual default rate (%)	3.51	3.18	4.18	1.00***	(3.45)
Exposure-weighted default rate (%)	2.15	2.04	2.48	0.45*	(1.95)
Panel B. Loan returns					
N loans	2,835	1,864	971	—	—
Portfolio IRR (%)	4.99	4.93	5.11	-0.12	(-0.43)
Mean PME (CEMBI)	1.024	1.030	1.012	-0.017	(-1.55)
Portfolio PME (CEMBI)	0.987	0.988	0.983	—	—

Notes: Panel A: institution-year panel, 1991–2023. Not IDA at vintage = country was not IDA-eligible in the institution's first observation year; IDA at vintage = country was IDA-eligible at that time. Annual default rate = share of institution-years with a recorded default event. Exposure-weighted default rate weights each institution-year by outstanding commitment. Diff = IDA minus not IDA; z-stat from two-sample z-test of proportions. Panel B: IFC private-sector loans with vintage year ≥ 1991, PME ∈ (0, 5]. Not IDA at vintage = country was not IDA-eligible in the loan's vintage year; IDA at vintage = country was IDA-eligible in the vintage year. Portfolio IRR and PME aggregate all cash flows within each group. Diff = IDA at vintage minus not IDA; t-stat from Welch two-sample t-test. ***, **, * denote 1 percent, 5 percent, 10 percent significance.

Synthesis

The two analyses in this section point to the same finding: Lending in the most challenging market environments carries higher credit risk, but that risk does not necessarily translate into lower risk-adjusted financial returns at the portfolio level. In countries affected by fragility and conflict, the annual default rate is nearly twice the portfolio average; in the world's poorest economies, it is about one-third higher. Yet mean PME and IRR in both groups are statistically indistinguishable from those of the broader portfolio, implying that the default risks are priced in a fair manner in these settings.

These results require two qualifications. First, the sample excludes blended-finance loans, which are concentrated in FCS and IDA-eligible markets. The reported default rates and returns therefore reflect IFC's senior lending on commercial terms, not the co-investment structures through which most third-party investors enter these markets.[18] Accordingly, returns comparable to the broader portfolio do not imply that private investors could achieve similar economics without such support. Second, the overall similarity in risk-adjusted returns masks important differences within the FCS category. Higher default risk appears concentrated in countries facing active armed conflict. By contrast, fragile countries with weak governance but no ongoing war have default rates only slightly above the baseline and, for recent loan vintages, above-average PMEs. Treating all FCS markets as a single group, therefore, obscures two distinct lending environments.

In our final set of analysis, we examine how EMDE private debt performs during economic crises and economic downturns. Having established that private EMDE debt delivers (approximately) competitive returns in aggregate, we examine how performance varies during episodes of domestic macroeconomic stress. Economic downturns are the natural setting in which credit risk in this asset class is most likely to materialize: Borrower cash flows deteriorate, debt service becomes strained, and lenders may pull back from markets perceived as risky. We document that default rates rise sharply during downturns, with heterogeneity across income groups.

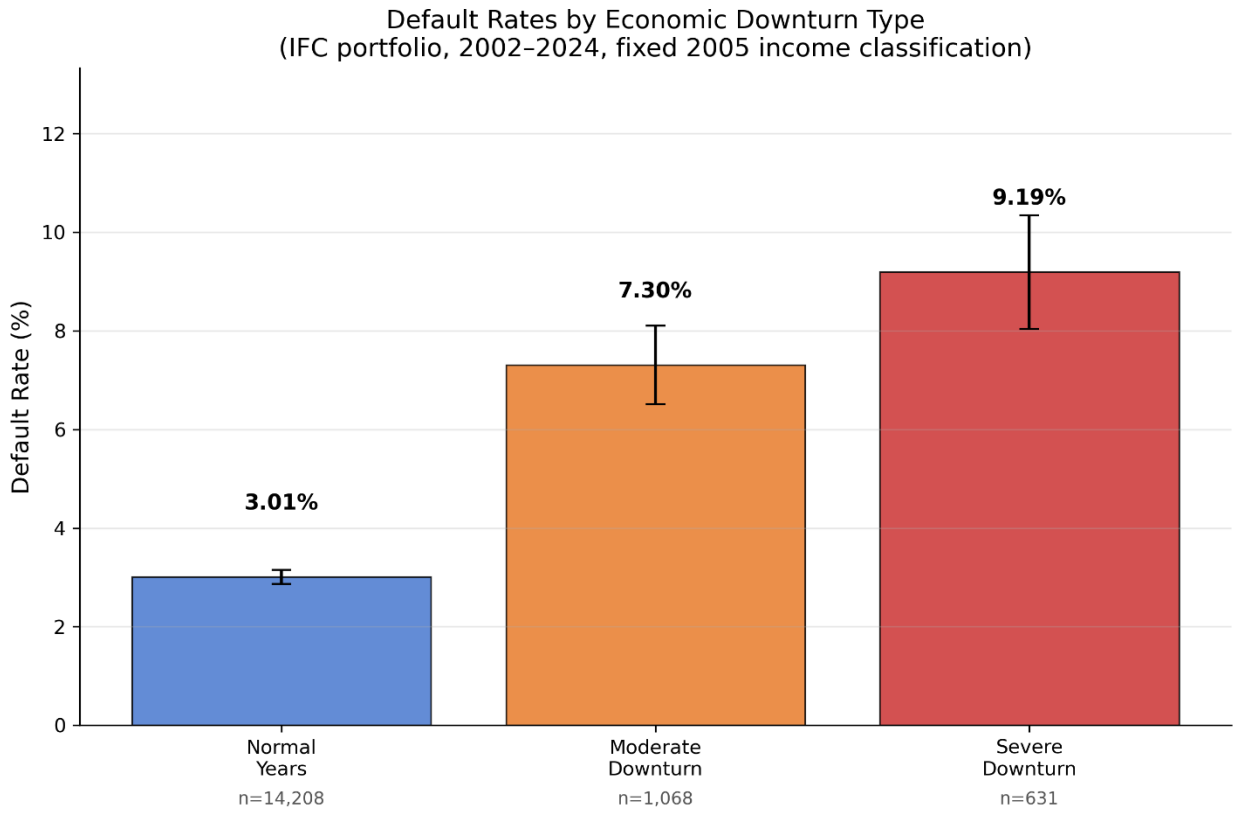
Default Rates during Crises

We next examine how default rates change during economic downturns and pay particular attention to whether there is heterogeneity by country income level. We classify countries by their 2005 income status and hold this classification constant throughout the analysis period. This approach isolates the effect of economic conditions from compositional changes that occur as countries move between income groups.

Default rates increase substantially during economic downturns. Under normal conditions, the portfolio-wide default rate is 3.01 percent, rising to 7.30 percent during moderate downturns and 9.19 percent during severe downturns, more than doubling and nearly tripling, respectively (Figure 2).

Figure 2: Default Rates by Type of Economic Downturn

[18] Even though IFC's charter prohibits it from relying on government guarantees, it may nonetheless benefit from some sort of protection, as part of the World Bank Group, and it can draw on Group-wide expertise not available to outside investors. Our estimated returns may therefore represent an upper bound for what a similarly diversified private investor could achieve.



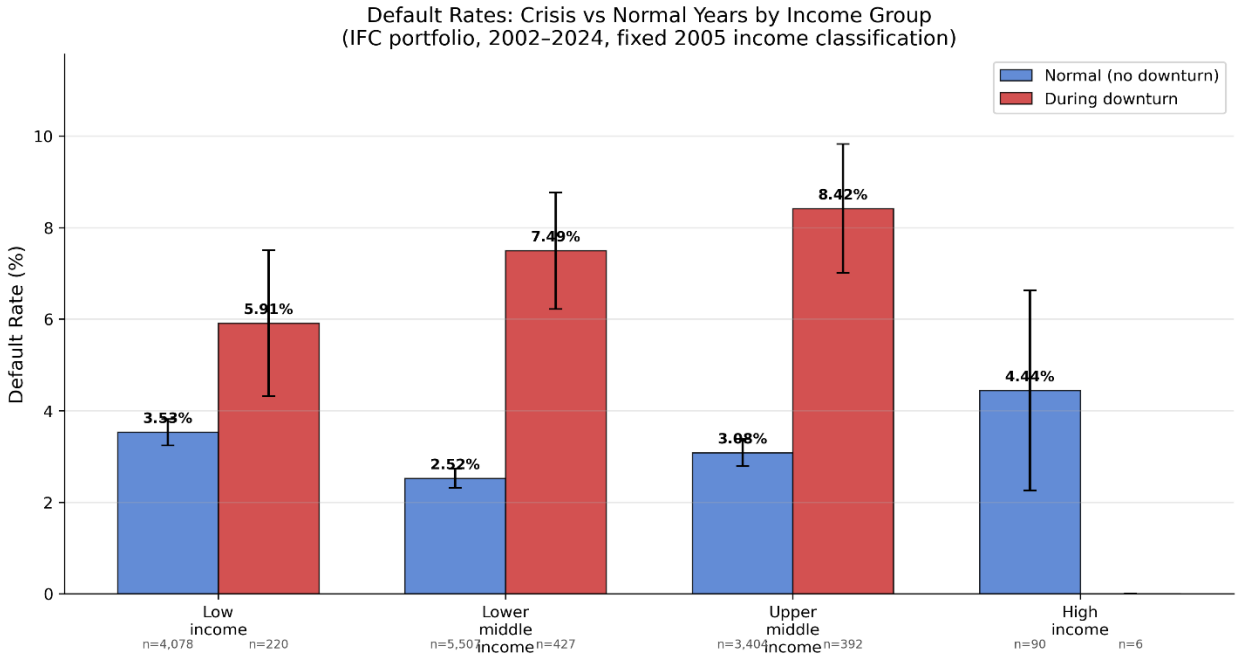
Note: Default rates are computed from IFC's institution (borrower)-year panel, restricted to 2002-2023. Each bar shows the share of institution-years in which a default occurred, separately for normal years (no downturn), moderate-downturn years, and severe-downturn years. Moderate downturn: real GDP growth < −2 percent; severe downturn: real GDP growth < −5 percent. Moderate and severe downturns are mutually exclusive categories defined from IMF real GDP growth data; a moderate downturn year is one in which real GDP growth fell below a moderate threshold but not a severe one, while a severe downturn year is one in which real GDP growth fell below the more stringent severe threshold. Error bars show one standard error. n denotes the number of observations for each calculation. Institution-years with no observed default event are recorded as default = 0. Income classifications are fixed at the 2005 World Bank historical income group assignment.

The income group breakdown reveals a nonmonotonic pattern (Figure *3*). Low-income countries show a default rate of 3.5 percent in normal years, rising to 5.9 percent during downturns. Middle-income countries show the sharpest sensitivity: Default rates rise from 2.5 percent in normal years to 7.5 percent during downturns for lower-middle-income countries, and from 3.1 percent to 8.4 percent for upper-middle-income countries. High-income countries, by contrast, record no downturn observations in the IFC portfolio under the fixed 2005 income classification.

The steepest deterioration in middle-income countries, rather than the poorest countries, likely reflects their greater integration into global financial markets and associated exposure to external shocks, combined with weaker institutional capacity to manage financial stress. Part of the explanation is likely compositional, as financial-sector loans account for a large

share of the portfolio, and middle-income borrowers are more integrated into global capital markets, so currency depreciation and capital-flow reversals can weigh more heavily on corporate balance sheets there than in less financially open economies (Bruno and Shin, 2020). It is worth stressing that this is a statement about cyclical sensitivity, not levels. Low-income countries still default more often in normal years; what sets middle-income markets apart is how much default rates rise when growth contracts.

Figure 3: Default rates: Crisis versus Normal by Income Group



Note: Default rates are computed from IFC's institution (borrower)-year panel, restricted to 2002-2023. Each pair of bars shows the share of institution-years in which a default occurred during normal (no downturn) and downturn years, separately for each World Bank income group. A downturn year is defined as one in which the country experienced a moderate or severe real GDP growth contraction, based on IMF data. Error bars show one standard error. n denotes the number of observations for each calculation. Institution-years with no observed default event are recorded as default = 0. Income classifications are fixed at the 2005 World Bank historical income group assignment.

The default-rate patterns documented here characterize how private EMDE debt performs under macroeconomic stress. Default rates rise substantially, with the largest increases in middle-income countries. The net effect is that credit risk in this asset class is highly concentrated by both time and geography. It materializes disproportionately during downturns and in markets with the highest borrower vulnerability. Despite this concentration of crisis-period losses, the portfolio achieves near-parity returns in aggregate, reflecting diversification across income groups and the relative stability of normal-period performance.

Loan Returns during Downturns

The default rate evidence in the preceding subsection documents the credit risk dimension of macroeconomic downturns. We now examine whether that credit risk translates into lower risk-adjusted returns at the loan level. Table 8 reports OLS regressions of loan-level PME on various measures of downturn exposure, using the same structure and controls as the FCS analysis in Section 5. Loans originated during a downturn carry a PME that is 2.7 percentage points above the baseline (Table 8, column 1), significant at the 10 percent level. Loans that experience any downturn during their life show a positive but small and statistically insignificant point estimate of 1.0 percentage points (Table 8, column 2). This is the mirror image of the default rate result: downturns raise default rates sharply, yet loans originated during downturns do not underperform on a benchmark-adjusted basis. The interaction specification in column 5 clarifies the mechanism. Loans originated at the onset of a downturn earn above-benchmark returns, an effect that is statistically significant both when the downturn resolves quickly and at the average exposure level in the sample. The negative interaction term shows that this advantage erodes as the downturn extends, and the two effects are jointly significant. The marginal effect crosses zero at a recession exposure share of roughly 0.32: once a loan spends more than about one-third of its life in a downturn, the return premium disappears. At full exposure, a loan that remains in recession for its entire life, the net effect turns negative. A loan originated in a downturn that resolves quickly delivers a PME premium; one that remains in recession for most of its life does not.

Table 8: Downturn Exposure and Loan PME: OLS Regressions

Variable	(1)	(2)	(3)	(4)	(5)
Constant	-0.063*	-0.073*	-0.064**	-0.069**	-0.063*
	(0.034)	*(0.029)*	*(0.032)*	*(0.029)*	*(0.034)*
Downturn at issuance	0.027*	0.023	0.026		0.112***
	(0.015)	*(0.017)*	*(0.018)*		*(0.031)*
Ever in a downturn (loan life)		0.010			
		(0.013)			
Became downturn (post-issuance)				0.004	
				(0.014)	
Downturn share (loan life)			0.008	0.021	
			(0.053)	*(0.050)*	
Downturn at issuance x Downturn share					-0.351***
					(0.119)
Observations	*2,104*	*2,104*	*2,104*	*2,104*	*2,104*
R^2	*0.1560*	*0.1563*	*0.1560*	*0.1557*	*0.1574*
Adjusted R^2	*0.1446*	*0.1445*	*0.1442*	*0.1439*	*0.1456*
Clustering	*Country*	*Country*	*Country*	*Country*	*Country*

Note: OLS regressions at the loan level. Dependent variable is the Kaplan-Schoar PME against the CEMBI benchmark, winsorised at [0, 5]. All specifications control for log loan size and contracted tenor (years), and include vintage-year fixed effects. Downturn at issuance equals one if the borrower country was in a GDP downturn in the loan approval year. Ever in downturn equals one if any year in the loan lifecycle (approval year to last cash-flow year) coincided with a GDP downturn. Became downturn equals one if the country was not in a downturn at issuance but entered one during the loan life (= Ever − At issuance). Downturn share is the fraction of loan-life years in a GDP downturn, in [0, 1]. All specifications include vintage-year (approval year) fixed effects. Heteroskedasticity-robust standard errors in parentheses. ——— * p<0.10, ** p<0.05, *** p<0.01.

The apparent tension with the default rate evidence reflects the relative nature of the PME. During downturns, public EM corporate bond benchmarks also weaken, so loans that suffer elevated but priced-in defaults can still match or beat the benchmark on a net basis.

6. Discussion

Two main findings emerge from our analysis. First, loans disbursed after the global financial crisis earn 1.02 against the CEMBI and 1.10 against Treasuries, exceeding both benchmarks. Second, performance varies across time periods: crisis-era vintages earn 0.90 and 1.00, and over the full period from 2002-2024, the loan portfolio delivered returns comparable to public market benchmarks, with a PME of 0.98 relative to the CEMBI and a gross IRR of 4.8 percent. Outperformance versus U.S. Treasuries (PME of 1.07) confirms a credit risk and/or liquidity premium. Together, these patterns characterize the return profile of private EMDE debt: Competitive aggregate performance achieved through diversification across geographies and macroeconomic cycles, with the strongest results in the most recent period.

These findings speak to several ongoing debates about private credit markets in emerging economies. We discuss two implications in turn: the trade-off between financial returns and development mandate in high-impact markets; and the generalizability of our results.

The Impact Investing Trade-Off

A longstanding debate in the impact investing literature concerns whether lending in high-impact, high-mandate environments requires sacrificing financial returns. Our evidence on FCS and IDA-eligible markets speaks directly to this question. Default rates in FCS-designated countries are nearly twice those in the rest of the portfolio, and in active-conflict countries approach four times the baseline. Default rates in IDA-eligible countries are roughly one-third higher. Yet loan-level PMEs and IRRs in both groups are statistically indistinguishable from those in the broader portfolio. The result is consistent with IFC's pricing methodology, which applies spreads calibrated to expected credit losses and country risk, and with the observation that IDA-eligible and FCS markets carry higher equilibrium risk premia to attract private capital. As emphasized in Section 5, these results characterize IFC’s senior lending on commercial terms; blended-finance operations,

through which most third-party investors access FCS and IDA markets, are excluded from the sample.

A nuance is that the FCS category aggregates notably different lending environments. The elevated default risk is concentrated in active-conflict countries; fragility-only markets carry default rates only modestly above the baseline and, among recent vintage loans, exhibit above-average PMEs. Treating FCS as a single category obscures a favorable risk-return profile in governance-constrained but non-conflict settings.

External Validity

Several aspects of our analysis warrant discussion. First, our results reflect decisions IFC has made—we do not, for example, know whether IFC could have expanded lending substantially and obtained the same level of realized returns. Perhaps IFC would have run out of profitable borrowers had it sought to expand credit. Second, IFC chooses which projects to finance based on current market conditions, private information about borrower quality, project characteristics, and expected development impact. If IFC systematically selects the best available projects within each market, our return measures may overstate what a typical lender would achieve.[19] Conversely, if IFC's development mandate leads it to finance riskier projects with higher social returns, our measures may understate IFC's financial performance adjusted for project characteristics.

Third, our sample excludes important categories of IFC activity. We drop loans with blended finance components to focus on commercial-terms lending, meaning our results do not reflect IFC's most development-oriented operations.[20] Our restriction to U.S. dollar disbursements may result in greater representation of larger, more established borrowers, or those with dollar-denominated revenue. We exclude equity conversions to maintain a pure debt sample, eliminating both cases where IFC converts distressed loans to equity stakes and when IFC exercises warrants offered by the investee at the time of the loan to capture upside. Each of these filters is economically motivated, but they may limit the representativeness of our sample. One caveat applies specifically to the FCS and IDA results. Our return estimates reflect the projects IFC actually financed in these markets. The risk-return equivalence we document, therefore, characterizes IFC's realized portfolio and need not carry over to a much larger lending program.

Fourth, while our time series is quite long (22 years), our performance measures for recent loans rely on IFC's loss provisions for loans still outstanding as of June 2024. We address this by showing our results are robust to alternative treatments of outstanding loans.

[19] This would also be a positive signal for investors to co-invest with IFC, and to diversify their portfolio.
[20] The analysis of blended finance investment performance is a promising area for future research.

Fifth, our results are specific to IFC and may not generalize to other institutional lenders. IFC is the largest multilateral development bank focused on private sector lending, with access to global capital markets, extensive technical expertise, and strong internal credit risk management. Private sector lenders, regional development banks, or smaller bilateral lenders may lack these capabilities and could experience different risk-return trade-offs.

The patterns we document, competitive aggregate returns achieved through broad geographic and temporal diversification, alongside credit risk that concentrates in the most vulnerable markets during periods of stress, provide the most comprehensive transaction-level evidence to date on realized returns to private debt investment in emerging markets. These results offer a foundation for future research on private credit markets in developing economies and for investors and institutions seeking to understand the risk-return profile of this asset class across different market environments.

7. Conclusion

This paper provides the first comprehensive evidence on realized returns to private debt in emerging markets, using three decades of loan-level cash flow data from the IFC. Loans disbursed after the global financial crisis deliver a PME of 1.02 against the aggregate CEMBI and exceed U.S. Treasuries by 10 percent. Over the full period (2002-2024), the private loan portfolio delivers returns comparable to the public market benchmark: a PME of 0.98 versus the aggregate CEMBI. Overall, returns are competitive with public markets. These comparisons are measured against benchmark indices composed predominantly of fixed-rate bonds, whereas IFC predominantly lends at floating rates; a floating-rate-only benchmark would be the ideal comparator, but it is not available with the necessary history. We observe substantial heterogeneity in risk: default rates rise substantially, with the steepest deterioration in middle-income countries, where they increase threefold during contractions. Loans with tenors spanning a high proportion of downturn years earn lower returns than the benchmark.

We also examine lending in IFC's strongest-mandate sub-portfolios: fragile and conflict-affected states and IDA-eligible economies. Again, we find default rates are similarly elevated, relative to the broader portfolio, yet risk-adjusted returns are statistically indistinguishable, indicating that default risk in these environments is priced fairly. These findings are important because they suggest the possibility that firms in these challenging markets are able to provide market-rate compensation to lenders, on average, which should, in principle, allow them to mobilize capital from the broad and deep global capital markets.

References

Alfaro, Laura, Anusha Chari, and Fabio Kanczuk. 2017. "The Real Effects of Capital Controls: Firm-Level Evidence from a Policy Experiment." *Journal of International Economics* 108: 191–210.

Alter, Adrian, and Selim Elekdag. 2020. "Emerging Market Corporate Leverage and Global Financial Conditions." *Journal of Corporate Finance* 62.

Amihud, Yakov, and Haim Mendelson. 1986. "Asset Pricing and the Bid-Ask Spread." *Journal of Financial Economics* 17 (2): 223–249.

Bank for International Settlements (BIS). 2009. *79th Annual Report, 1 April 2008–31 March 2009*. Basel: Bank for International Settlements.

Barber, Brad M., Adair Morse, and Ayako Yasuda. "Impact investing." *Journal of Financial Economics* 139, no. 1 (2021): 162-185.

Bruno, Valentina, and Hyun Song Shin. "Currency depreciation and emerging market corporate distress." *Management Science* 66, no. 5 (2020): 1935-1961.

Cole, Shawn, Martin Melecky, Florian Mölders, and Tristan Reed. 2026. "Long-Run Returns to Private Equity in Emerging Markets." *Management Science* 72 (3): 2041–2063.

González-Rozada, Martín, and Eduardo Levy-Yeyati. 2008. "Global Factors and Emerging Market Spreads." *Economic Journal* 118 (533): 1917–1936.

Independent Evaluation Group (IEG). 2019. *The International Finance Corporation's Engagement in Fragile and Conflict-Affected Situations: Results and Lessons*. Washington, DC: World Bank Group.

IFC (International Finance Corporation). 1995. *Annual Report 1995*. Washington, DC: International Finance Corporation.

IFC (International Finance Corporation). 2019. *Creating Impact: The Promise of Impact Investing*. Washington, DC: International Finance Corporation. https://www.ifc.org/content/dam/ifc/doc/mgrt/the-promise-of-impact-investing.pdf

IFC (International Finance Corporation). 2017. *Annual Report 2017*. Washington, DC: International Finance Corporation.

IFC (International Finance Corporation). 2024a. *Annual Report 2024*. Washington, DC: International Finance Corporation.

IFC (International Finance Corporation). 2024b. *IFC Portfolio Default Rate Analysis*. Washington, DC: World Bank Group. https://www.ifc.org/content/dam/ifc/doc/2024/ifc-portfolio-default-rate-analysis.pdf

IFC (International Finance Corporation). 2025. *IFC Annual Information Statement FY25*. Washington, DC: World Bank Group. https://www.ifc.org/content/dam/ifc/doc/2025/ifc-annual-information-statement-fy25.pdf

Institute of International Finance (IIF). 2024. *Global Debt Monitor*, May. Washington, DC: IIF.

Jeffers, Jessica, Tianshu Lyu, and Kelly Posenau. 2024. "The Risk and Return of Impact Investing Funds." *Journal of Financial Economics* 161: 103928.

JPMorgan Chase & Co. n.d. *Emerging Markets Bond Index (EMBI) Global; Corporate Emerging Markets Bond Index (CEMBI) Broad Diversified*. Index methodology. https://www.jpmorgan.com/content/dam/jpm/cib/complex/content/markets/composition-docs/pdf-43.pdf.

Kaplan, Steven N., and Antoinette Schoar. 2005. "Private Equity Performance: Returns, Persistence, and Capital Flows." *Journal of Finance* 60 (4): 1791–1823.

Klingen, Christoph, Beatrice Weder di Mauro, and Jeromin Zettelmeyer. 2004. "How Private Creditors Fared in Emerging Debt Markets, 1970–2000." IMF Working Paper WP/04/13, International Monetary Fund, Washington, DC.

Miksjuk, Alexei, Paul M. Bisca, Jocelyn Boussard, John-Paul Fanning, Romina Kazandjian, Yipei Zhang, Lavinia Zhao, Thomas Augsten, Gaëlle Pierre, Björn Rother, and Guillaume Chabert. 2026. "Macroeconomic Challenges of Fragility and Policies for Stability and Growth." IMF Departmental Paper No. 2026/003, International Monetary Fund, Washington, DC.

Mölders, Florian, and Edgar Salgado. 2025. "Mapping Returns of Private Equity Investments in Emerging Markets." World Bank Policy Research Working Paper 11025, World Bank, Washington, DC.

Moody's Investors Service. 2025. *Annual Default Study: Corporate Default and Recovery Rates, 1920–2024*. New York: Moody's Investors Service.

S&P Global Ratings. 2025. *2024 Annual Global Corporate Default and Rating Transition Study*. New York: S&P Global Ratings.

World Bank. *International Debt Statistics*. Washington, DC: World Bank. https://databank.worldbank.org/source/international-debt-statistics.

Appendix

Data cleaning

Double-Posted Entries: Before applying sample filters, we remove duplicate cash flow records arising from double-posted accounting entries in IFC's system.[21] Rows differing only in posting date (an internal processing timestamp) are collapsed to a single occurrence; multi-obligation sub-transactions that share the same amount but carry different obligation numbers are retained. This procedure removes 1.5 percent of raw records and leaves 523,709 unique cash flow observations.

Sample Filters

We apply a series of filters to construct our analysis sample. Table A 6 documents each filter and its effect on sample size.[22]

Filter 1: Require an explicit disbursement record. We retain only loans that have at least one transaction classified as a disbursement in IFC's accounting system. Loans that pass purely on the basis of other outflow types, such as interloan transfer debits, miscellaneous expense credits, or negative fee adjustments, do not represent actual capital deployed by IFC and are excluded. This filter removes 2,381 loans, the majority of which never received a direct IFC loan disbursement, and it qualitatively sharpens the sample toward instruments with a clear principal outflow.

Filter 2: Exclusion of blended finance. We exclude loans with blended finance components, those that combine IFC's commercial-terms funding with concessional capital from donor sources. Blended finance introduces explicit subsidies that affect pricing and performance metrics. This filter removes 467 loans. Our results, therefore, characterize commercially priced private EMDE debt and do not extend to concessional lending operations.

Filter 3: USD disbursements only. We restrict the sample to loans with at least one disbursement denominated in U.S. dollars to ensure comparability with our U.S. dollar-denominated benchmarks (CEMBI, EMBI, and U.S. Treasuries). Since IFC converts all incoming cash flows to USD at prevailing spot rates, loans originally disbursed in local currency would reflect both credit performance and currency movements. This filter

[21] A transaction is classified as a duplicate if it is identical on six keys simultaneously: the tranche-level loan identifier (a concatenation of project ID and tranche number), value date, transaction type, U.S. dollar amount, obligation number, and participant number.

[22] Note that the table in the Appendix applies each filter consecutively, while the description in the main text provides total loans dropped per filter as a standalone from the baseline.

removes 2,424 loans; the excluded non-USD-denominated loans are more frequent in lower-income countries and in more recent periods.

Filter 4: Minimum tenor. We exclude loans with a tenor of less than 31 days to match our monthly calculation frequency. This removes 228 loans.

Filter 5: No equity conversions. We drop loans where IFC subsequently converted debt into equity, as this fundamentally alters the cash flow structure and mixes debt and equity returns. (A more thorough analysis might analyze the ex-ante pricing effect of including equity conversion options, but we lack the information necessary to do this.) This filter removes 380 loans. Note that Table A 6 verifies that excluding these loans has a minimal effect on aggregate performance metrics.

Table A 1: Temporal Decomposition of PME Benchmark Gap by Origination Vintage

Vintage Year	N Loans	Volume ($B)	PME (CEMBI Broad)	IRR (%)
2002	108	1.26	0.940	8.0
2003	149	3.04	0.942	5.1
2004	153	2.44	1.017	7.0
2005	130	2.24	1.048	7.2
2006	154	2.77	0.976	5.2
2007	166	3.55	0.948	4.4
2008	175	4.71	0.805	3.3
2009	131	4.05	0.849	2.8
2010	149	3.49	0.966	4.8
2011	144	3.78	0.971	4.7
2012	145	9.50	0.990	4.0
2013	151	6.14	0.990	4.2
2014	142	10.27	0.976	3.1
2015	129	4.43	1.023	5.4
2016	125	7.10	1.023	5.3
2017	90	4.19	1.067	5.0
2018	115	4.68	1.024	4.9
2019	91	5.39	1.110	5.2
2020	102	5.41	1.089	4.8
2021	96	5.89	1.133	5.7
2022	84	6.35	0.986	6.6
2023	114	7.46	0.980	7.1
2024	45	2.36	1.005	13.3

Notes: Vintage year is defined as the year of the first disbursement for each loan. Sample includes loans with first cash flow on or after 2002; cash flows are truncated at end-2024. PME is the Kaplan-Schoar (2005) public market equivalent computed against the CEMBI Broad Diversified index. IRR is the portfolio-level internal rate of return. Volume is the sum of loan disbursements in USD billions. All standard data filters applied

(deduplication of double-posted entries; loans required to have at least one disbursement row; blended finance, non-USD disbursements, short-tenor loans ≤31 days, and debt-to-equity conversions excluded).

Table A 2: Summary statistics: Loan tenor, Contractual, and Realized

Variable	N	Mean	Median	Std Dev	Min	25th Pct	75th Pct	Max
PME	2352	0.997	1.009	0.195	0	0.933	1.083	2.917
Tenor_contracted	2352	6.65	6	3.686	0.286	4	9	30
Tenor_realized	2352	5.345	4.994	2.94	0.077	3.062	7.099	18.877
Tenor_extension	2352	-1.305	-0.007	3.385	-24.658	-2.754	0.662	15.273

Notes: Sample comprises IFC loans with first disbursement on or after January 2002 and fully settled by end-2024. PME (public market equivalent) is computed using the CEMBI Broad Diversified index. Tenor contracted is the original contractual maturity (years). Tenor realized is measured from first disbursement to final repayment (years). Tenor extension equals realized minus contracted tenor; negative values indicate early repayment. Vintage year is defined as the year of first disbursement. Vintage year is defined as the year of first disbursement.

Table A 3: Distribution of Loans by Extension Category

Extension Category	Number of Loans	Percentage	Median PME
Early Repayment	917	39	1.025
On Time (±1yr)	1,201	51.1	1.004
Moderate Ext (1-3yr)	166	7.1	1.007
Long Ext (>3yr)	68	2.9	0.834

Note: Extension categories are based on the difference between realized and contractual tenor. Early Repayment = loans repaid >1 year before maturity; On Time = within ±1 year of contractual maturity; Moderate Extension = 1-3 years beyond maturity; Large Extension = >3 years beyond maturity. Median PME shows performance by category.

Table A 4: Performance by Contractual Maturity

Contractual Maturity	N	Median PME
0-3 yrs	260	0.997
3-7 yrs	1,029	1.013
7-12 yrs	867	1.01
12-15 yrs	105	0.947
>15 yrs	91	1.12

Note: Loans grouped by original contractual maturity at origination. Median PME (public market equivalent) shows risk-adjusted performance relative to the aggregate CEMBI Broad Diversified index.

Table A 5: Performance by Realized Tenor

Realized Tenor	N	Median PME

0-3 yrs	559	1.013
3-7 yrs	1,184	1.021
7-12 yrs	559	0.989
12-15 yrs	39	0.936
>15 yrs	11	0.782

Note: Loans grouped by realized tenor (time from first disbursement to last repayment). Median PME shows risk-adjusted performance by actual loan duration.

Robustness

We subject our baseline PME estimates to a series of robustness analyses, varying sample construction, haircut assumptions, and loan size composition. Table A 6 reports these results. The central finding, a portfolio-level PME close to 1.0 versus the aggregate CEMBI remains consistent across specifications.

The upper panel of Table A 6 traces the effects of each data filter applied sequentially. Beginning from all 8,923 loans across all vintages, the PME against the aggregate CEMBI ranges from 1.066 to 1.103 across filtering steps. The most consequential filter is the exclusion of non-USD outflows, which reduces the sample from 6,181 to 4,330 loans. Restricting to the period of CEMBI availability (first cash flow on or after 2002) moves the PME to 0.984 on 2,888 loans, which is the main specification. The portfolio IRR ranges from 5.3 to 5.7 percent across the quality filters and is 4.8 percent in the main specification.

Since our sample includes active loans with outstanding balances recorded at face value, we test the sensitivity of results to haircut assumptions that discount these outstanding amounts. Applying haircuts of 2, 4.1,[23] 6, and 10 percent produce PMEs ranging from 0.980 to 0.983 against the overall CEMBI. Even at the most aggressive 10 percent haircut, which implicitly assumes substantial expected losses on the outstanding portfolio, the PME remains at 0.980. The IRR declines modestly from 4.8 percent (no haircut) to 4.7 percent (10 percent haircut).

The lower panel examines whether results are driven by particular segments of the loan size distribution. Excluding the smallest loans (below USD 1 million) or the largest (above USD 100 million) has minimal impact: the overall PME remains between 0.981 and 0.984. Results are therefore not driven by outlier loans at either end of the size distribution.

Table A 6: Sensitivity Analysis of Performance Metrics

Specification	PME (Overall CEMBI)	IRR (%)	N Loans	Notes

[23] This is the average default rate of IFC, based on https://www.ifc.org/content/dam/ifc/doc/2024/ifc-portfolio-default-rate-analysis.pdf.

Panel A: Progressive Filters				
Baseline (all loans, all years)	1.082	5.7	8,923	No filters, all years
Remove missing cashflows	1.082	5.7	8,923	Drop NaN cashflows
Remove loans without disbursement row	1.066	5.3	6,542	Filter A': need Disbursement
Remove blended finance	1.068	5.3	6,181	Exclude BF=1
Remove non-USD outflows	1.102	5.6	4,330	USD only
Remove short tenor (<=31d)	1.103	5.6	4,325	Tenor > 31 days
Remove equity conversions	1.101	5.7	4,109	All quality filters, all years
Restrict to CEMBI coverage (first CF ≥2002)	0.984	4.8	2,888	First cash flow on or after 2002-01-01
Main specification (2002-2024)	**0.984**	**4.8**	**2,888**	All filters + common period
Panel B: Haircut Sensitivity				
Low haircut (2%)	0.983	4.8	2,888	Haircut = 2.0%
Medium haircut (4.1%)	0.982	4.8	2,888	Haircut = 4.1%
High haircut (6%)	0.982	4.7	2,888	Haircut = 6.0%
Very high (10%)	0.980	4.7	2,888	Haircut = 10.0%
Panel C: Loan Size Sensitivity				
Exclude small (< 1M)	0.984	4.8	2,787	101 excluded
Small loans only (< 1M)	1.020	6.1	101	Bottom segment
Exclude large (> 100M)	0.981	5.1	2,739	149 excluded
Large loans only (> 100M)	0.991	4.0	149	Top segment
Middle 50% (P25-P75)	0.982	5.4	1,522	6.3M to 40.0M
Smallest quartile (Q1)	0.983	6.0	722	< 6.3M
Largest quartile (Q4)	0.984	4.4	725	> 40.0M
Panel D: Relaxed Filters				
Exclude loans with outstanding balances	0.976	4.7	2,477	411 excluded
Exclude short-term loans	0.983	4.9	2,757	250 ST loans excluded
Include blended finance	0.986	4.8	3,078	BF included
Include short tenor (<=31d)	0.984	4.8	2,893	All tenors
Include equity conversions	0.982	4.8	3,013	Conversions included

Notes: PME is the Kaplan-Schoar (2005) public market equivalent computed against the CEMBI Broad Diversified index. IRR is the portfolio-level internal rate of return. Panel A shows the incremental effect of sequentially applying data-quality filters across the full loan universe (all vintages). Steps 1-7 do not restrict by start date, so the count after all quality filters (step 7: Remove equity conversions) matches the 4,109-loan sample used in the summary statistics table. Step 8 adds the CEMBI benchmark coverage restriction (first cash flow ≥2002), and step 9 further restricts to the 2002-2024 common analysis window. Loans are required to have at least one disbursement transaction; double-posted entries are removed. Panel B tests sensitivity to alternative haircut rates on outstanding balances (TRANSACTION_TYPE_ID = 'OUTSTANDING'). Panel C reports results by loan size group, defined by total disbursement volume within the main specification sample. Panel D relaxes individual filters one at a time and excludes loans with remaining outstanding balances or short-term product classification.

Country-Matched Benchmark Analysis

Our baseline PME results benchmark the loan portfolio against the aggregate CEMBI Broad Diversified total return index. However, this market-capitalization-weighted index is dominated by large, liquid emerging markets, principally China, Brazil, Mexico, and Indonesia. The overall CEMBI therefore provides a useful reference point for how IFC's private lending performs relative to the broadest available public market alternative.

As a robustness check, we construct a country-matched benchmark that evaluates each loan's returns on publicly traded corporate bond markets in the specific country where it was made. For each cash flow observation, we assign the corresponding country-level CEMBI Broad Diversified subindex as the discount factor, where such a country-specific subindex is available.

Country subindices matching an IFC borrower country are available for 43 countries, of which 40, covering 1,891 of the 4,109 loans in the full sample, have lending activity within the 2002–2024 window. Every such loan is retained with its complete cash-flow stream. Where a country subindex is unavailable, the aggregate CEMBI Broad Diversified is used in its place, so that no cash flow is dropped for lack of a benchmark value.

Table A 7 compares the portfolio's PME against three benchmarks, using the same loans in each case, so any differences across columns reflect only the benchmark. Panel A reports the full period; Panel B splits the identical sample by year of first disbursement. Over the full period, the portfolio exceeds U.S. Treasuries (PME of 1.09) and approximately matches both EM corporate benchmarks, with 0.99 against the aggregate CEMBI and 0.96 against country-specific subindices.

Panel B shows the same vintage pattern as the full period. Loans disbursed in 2007–2011 earn 0.89 against country-matched subindices and 0.90 against the aggregate. Loans disbursed from 2012 onward earn 1.00 against country-matched subindices, 1.04 against the aggregate, and 1.15 against Treasuries.

Table A 7: Portfolio Performance vs. Benchmarks (Identical Sample)

	PME vs Country-Specific CEMBI	PME vs Overall CEMBI Broad Div.	PME vs US Treasury (7–10y)	N Loans	Countries
Panel A: Full period					
Full period 2002–2024	0.96	0.99	1.09	1,891	40
Panel B: By disbursement vintage block					
Pre-GFC 2002–2006	0.95	0.98	1.03	510	36
GFC-era 2007–2011	0.89	0.90	1.01	515	37

Post-GFC 2012–2024	1.00	1.04	1.15	866	38
of which 2019–2024	*1.00*	*1.06*	*1.16*	*330*	*36*

Notes: PME is the Kaplan–Schoar (2005) Private Market Equivalent; PME > 1 indicates the portfolio outperformed the benchmark. Within a row, the three PMEs are computed on identical cash flows, so any difference between them reflects only the discounting benchmark. The sample comprises every loan in a country with a matching CEMBI sub-index whose first cash flow falls on or after January 2002, with its full cash-flow stream retained. Panel B splits the identical sample by year of first disbursement into three blocks that partition it exactly, so no loan is omitted or counted twice; the final row reports the most recent five years and is a subset of the post-GFC block, shown indented below a rule rather than as a fourth block. GFC denotes the global financial crisis. Country sub-indices are used after the following adjustment: Where a country sub-index is unavailable, before it begins, inside gaps, or after it ends, the aggregate CEMBI Broad Diversified is used in its place, rescaled to join the sub-index smoothly at the adjoining month. No cash flow is dropped for lack of a benchmark value. The aggregate CEMBI and Treasury series need no adjustment.

Geographic Heterogeneity

Table A 8 reports performance by World Bank region, revealing geographic variation in returns.

Table A 8: Regional PMEs

Region	N Loans	% of Total Loans	PME (CEMBI)	IRR (%)	Sample Period
East Asia and Pacific	371	12.8	0.986	4.5	2002–2024
Europe and Central Asia	612	21.2	0.992	5.6	2002–2024
Latin America and the Caribbean	750	26.0	0.990	5.6	2002–2024
Middle East and North Africa	251	8.7	0.981	4.9	2002–2024
South Asia	254	8.8	0.945	3.7	2002–2024
Sub-Saharan Africa	355	12.3	1.027	5.8	2002–2024
Regional	295	10.2	0.969	2.3	2002–2024
All Regions	**2,888**	**100.0**	**0.984**	**4.8**	**2002–2024**

Notes: This table shows portfolio performance by World Bank region for IFC loans with the first cash flow between 2002 and 2024. PME is the Kaplan-Schoar (2005) public market equivalent computed against the aggregate CEMBI Broad Diversified index. IRR is the portfolio-level internal rate of return. All filters applied: missing cash flows, loans without an explicit disbursement transaction (Filter A'), blended finance, non-USD disbursements, short-tenor loans (≤31 days), and debt-to-equity conversions excluded.

Private EMDE debt performance exhibits some variation across regions when benchmarked against the aggregate CEMBI index. Sub-Saharan Africa shows the strongest performance with a PME of 1.027, indicating modest outperformance. Most other regions perform close to the benchmark, with PMEs ranging from 0.981 in the Middle East and North Africa to 0.992 in Europe and Central Asia. South Asia is a notable exception, with a PME of 0.945, indicating underperformance relative to the aggregate index. Portfolio IRRs range from 2.3 percent in the Regional category to 5.8 percent in Sub-Saharan Africa.

Regression Analysis

To examine whether loan-level performance varies systematically with macroeconomic conditions, we regress PME on three standardized measures of macroeconomic conditions realized over each loan's life, real GDP growth, local-currency depreciation against the U.S. dollar, and CPI inflation, each measured as the annualized rate from the loan's start year to its end year, using a sample of 2,011 finalized loans (Table A 9). Annualizing removes the mechanical correlation between cumulative macroeconomic change and loan tenor. Without fixed effects (columns 1 and 3), none of the three variables is statistically significant and the model explains less than half a percent of PME variation. Once country and vintage-year fixed effects are included (columns 2 and 4), explanatory power rises sharply ($R^2 \approx 0.20$) and currency depreciation becomes significant at the 5 percent level: a one-standard-deviation faster depreciation, roughly 9 percentage points per year, is associated with a PME that is about 0.02 lower, or two cents per dollar invested. The within-country, within-cohort nature of this result suggests that while persistent depreciation is compensated ex ante, unexpected depreciation episodes during the life of a loan erode realized dollar returns. GDP growth and inflation are statistically insignificant in all specifications, and the results are unchanged by the inclusion of loan-level controls for size and contracted tenor (columns 3 and 4).

Table A 9: Loan Performance and Macroeconomic Factors

Variable	(1)	(2)	(3)	(4)
	Macro only, No FE	*Macro only, Country+Year FE*	*Macro + controls, No FE*	*Macro + controls, Country+Year FE*
Real GDP growth, % p.a. over loan period (std.)	-0.0105	-0.0170	-0.0115	-0.0155
	(0.0086)	(0.0111)	(0.0087)	(0.0115)
Currency depreciation vs USD, % p.a. over loan period (std.)	-0.0012	-0.0198**	-0.0009	-0.0216**
	(0.0068)	(0.0084)	(0.0068)	(0.0088)
Inflation (CPI), % p.a. over loan period (std.)	-0.0019	0.0013	-0.0026	0.0021
	(0.0054)	(0.0047)	(0.0051)	(0.0048)
Log loan size			-0.0034	-0.0064
			(0.0052)	(0.0057)
Contracted tenor (years)			-0.0022	0.0022
			(0.0019)	(0.0022)
Constant	0.9839***	0.8972***	1.0532***	0.9820***
	(0.0061)	(0.0153)	(0.0861)	(0.0899)
R-squared	*0.0025*	*0.2009*	*0.0044*	*0.2052*
Adjusted R-squared	*0.0010*	*0.1456*	*0.0019*	*0.1490*

Observations	*2,011*	*2,011*	*1,972*	*1,972*
Loan controls	*No*	*No*	*Yes*	*Yes*
Country FE	*No*	*Yes*	*No*	*Yes*
Vintage-year FE	*No*	*Yes*	*No*	*Yes*

Note: Dependent variable is loan-level PME against the overall CEMBI Broad Diversified total return index. Sample restricted to finalized loans (outstanding ≤ $1,000 in 2024, last cash flow ≤ 2023) with PME in (0, 5]. Macroeconomic variables are annualized (geometric average) rates per year over each loan's life, from the loan start year to the loan end year: real GDP growth, currency depreciation against the USD (positive = depreciation), and CPI inflation (GDP deflator NY.GDP.DEFL.ZS where CPI is unavailable). Macro variables are standardized (mean = 0, std = 1); coefficients give the change in PME per one standard deviation. Loan controls: log of total disbursed amount and contracted tenor in years. Columns (1)-(2): macro variables only; columns (3)-(4): with loan controls. Columns (2) and (4) include country and vintage-year fixed effects. Standard errors (in parentheses) clustered by country × start year. ***, **, * denote significance at the 1%, 5%, and 10% levels.

Table A 10: Sensitivity of Portfolio PME to the Sample Start Date

Sample start	PME vs CEMBI Broad Div.	PME vs US Treasury (7–10y)	N Loans	Countries
2002 (baseline)	0.98	1.07	2,888	115
2010	1.02	1.10	1,668	94
2015	1.04	1.13	958	80
2019 (last five years)	1.05	1.14	517	67

Notes: Each row reports the full portfolio benchmarked against the aggregate CEMBI Broad Diversified index and the 7–10 year US Treasury total-return series, for a sample beginning in the stated year. A loan qualifies if its first cash flow falls on or after that date. No restriction to countries with a CEMBI sub-index is applied, so these samples are larger than the country-matched sample of Table 4 and are not directly comparable to it. PME is the Kaplan–Schoar (2005) Private Market Equivalent. The PME rises on both benchmarks together as the start date moves later, while the sample falls from 2,888 loans to 517, indicating that the movement reflects the period being measured rather than a change in relative performance: later windows exclude the global financial crisis (GFC), when the portfolio underperformed and the CEMBI recovered strongly.