



SOFR 计算及账单 **SOFR Calculation and Billing**

世界银行贷款运行局贷款管理组
World Bank Accounting and Finance
Loan Accounting (WFALA)
蒋硕

主要内容 Agenda

01

贷款管理组简介
WFALA Team Overview

02

账单周期及账单组成
Overview of Billing Cycle and Billing Statement

03

IBRD灵活贷款利息的组成
IBRD Flexible Loans Lending Rate Components

04

贷款利息计算
All-in Rate Calculation

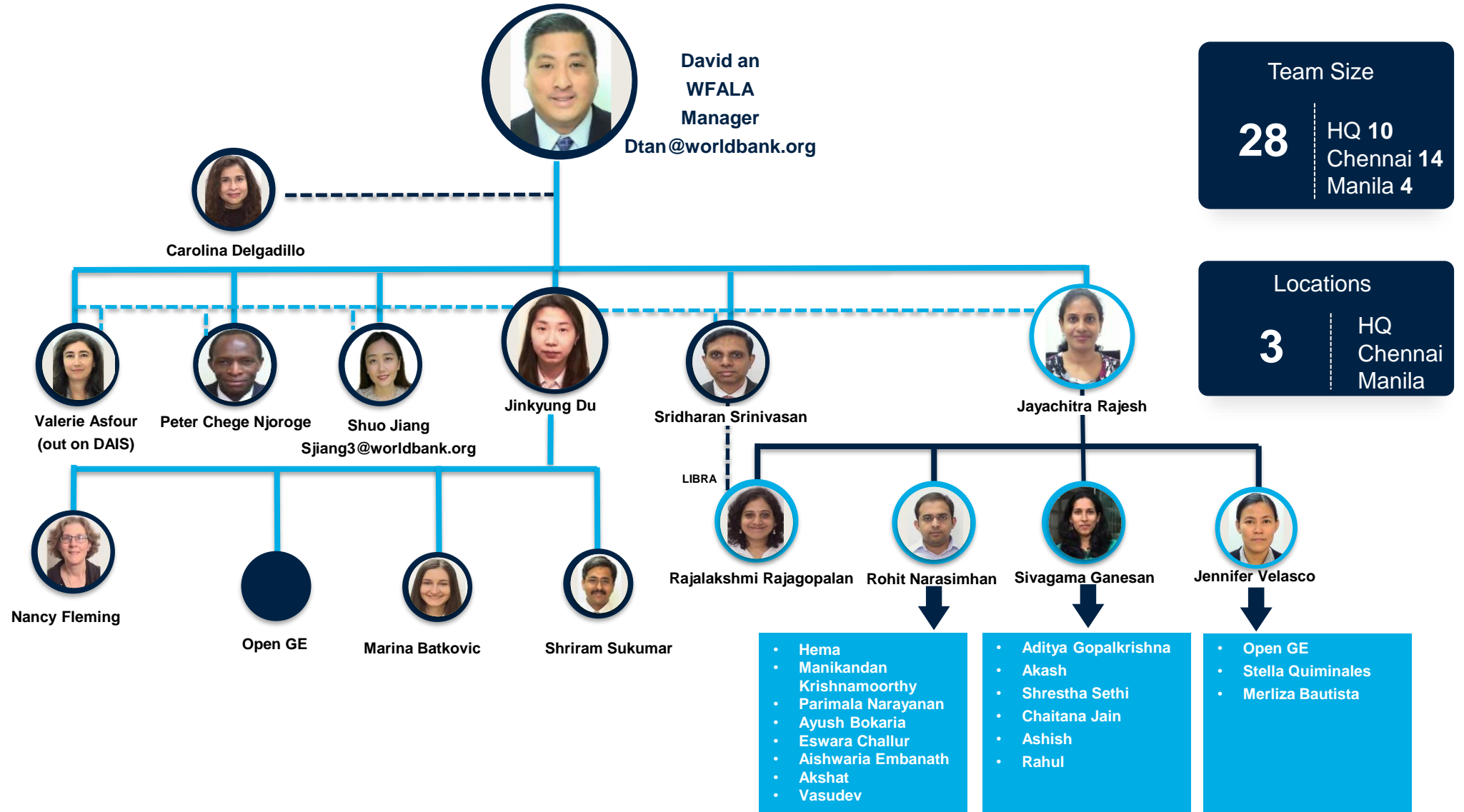
05

账单中利息及费用的计算
Billing Statement – Interest and Commitment Fee Billed

世界银行贷款管理组简介 WFALA Team Overview

WFALA 主要职责

- ▶ IBRD和IDA贷款的会计及财报
- ▶ 世行创新项目的落地
- ▶ 账单及逾期管理
- ▶ 数据、商业及财务分析



账单周期及账单组成 Overview of billing cycle and statement



○ 账单周期 Billing cycle

账单每6个月发放一次，账单日及还款日仅为一个月的1号或者15号，账单通常在还款日前两个月准备，账单中包含四个月的实际发生费用和两个月的估算费用，这两个月的估算费用会在付款日重新计算并体现在下一个账单中。



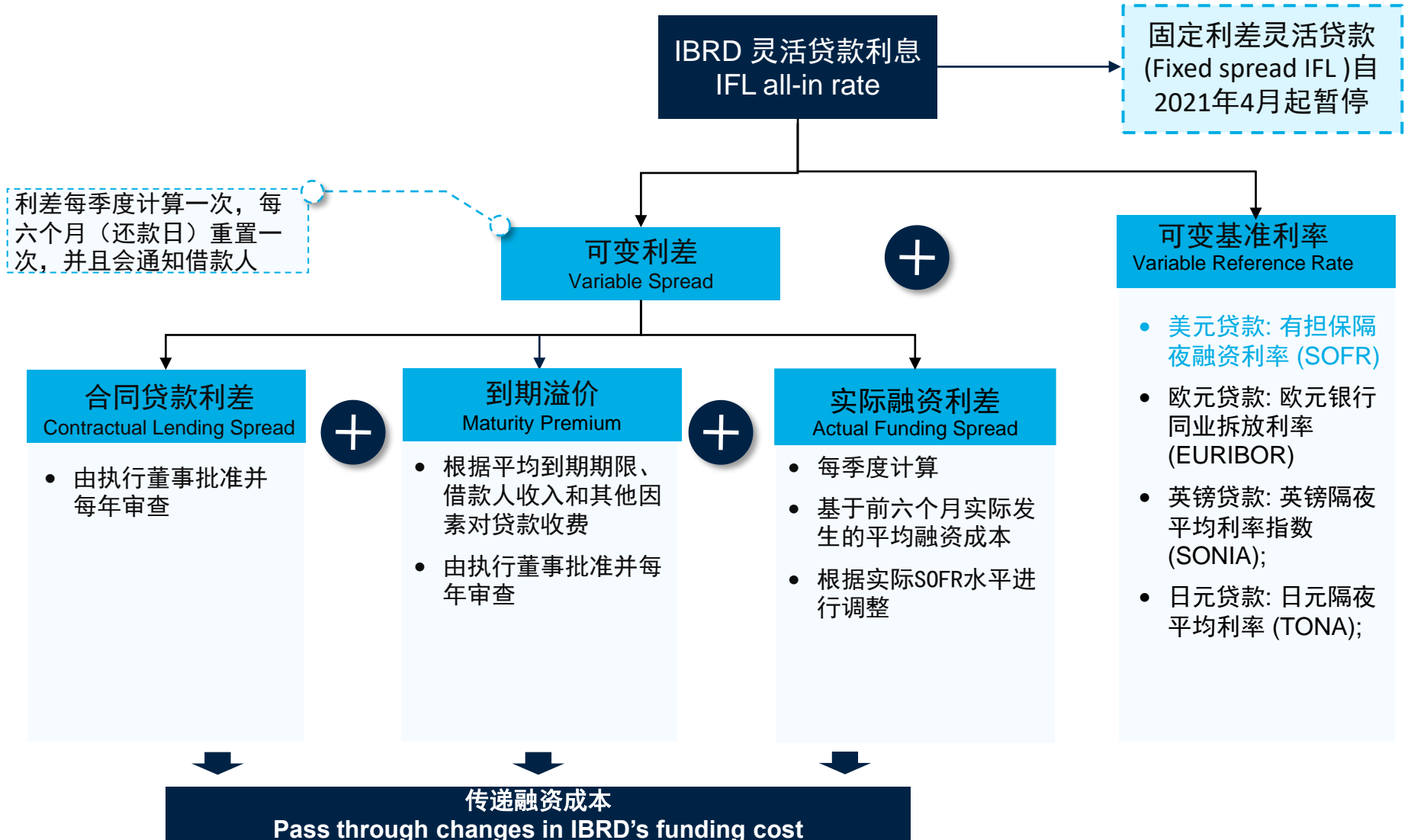
○ 账单组成 Components of a billing

付款说明	随函附上的付款说明详情，包括存款银行账户、货币金额和付款日期。
付款活动	上期账单金额的详细情况及付款的应用情况
费用	本期承诺费（总费用和减免分别显示）。
利息累计	利息或服务费用的详细信息（国际复兴开发银行贷款的利息和减免计算，如有，将分别显示）。
本金	根据贷款或信用的摊销时间表应支付的金额
结转应收款	如适用，从上一计费周期结转的金额
本期应付款项	本期应付总额（费用、利息/服务费、本金和结转应收款项之和，减去任何适用的债务减免和结转信贷。）
上一账单期确定金额	上一账单期实际应付总额（费用和/或信贷类别的详细信息分别呈现）。
贷款应收款项的应用	上期账单金额、应付金额以及上一计费周期内从借款人和/或其他来源收到的资金的应用，按贷款类别分类。
本金活动	本金的期初，本期变动及期末金额

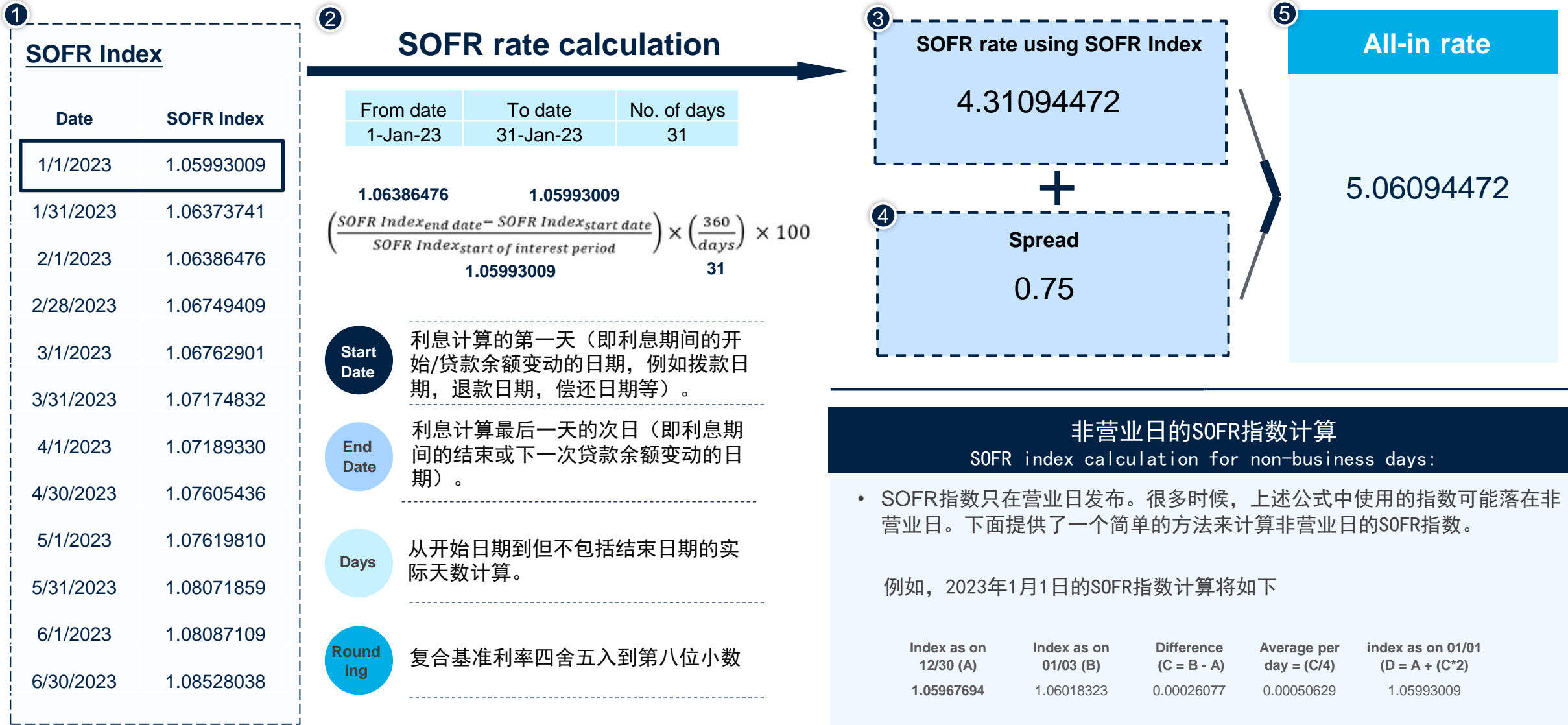
灵活贷款利息 IBRD Flexible Loans Lending Rate

LIBOR转换

- 截至2023年12月31日，LIBOR替换工作已经全部完成
- IFL的定价原则、成本传递、公平性和等价性将保持不变
- 在LIBOR转换后，所有关键的IFL特性将保持不变
- 账单周期不会改变
- SOFR、SONIA和TONA的利率使用新的方法进行计算
- EURIBOR贷款的利息计算方法不会改变



贷款利息计算 All-in Rate Calculation



非营业日的SOFR指数计算

SOFR index calculation for non-business days:

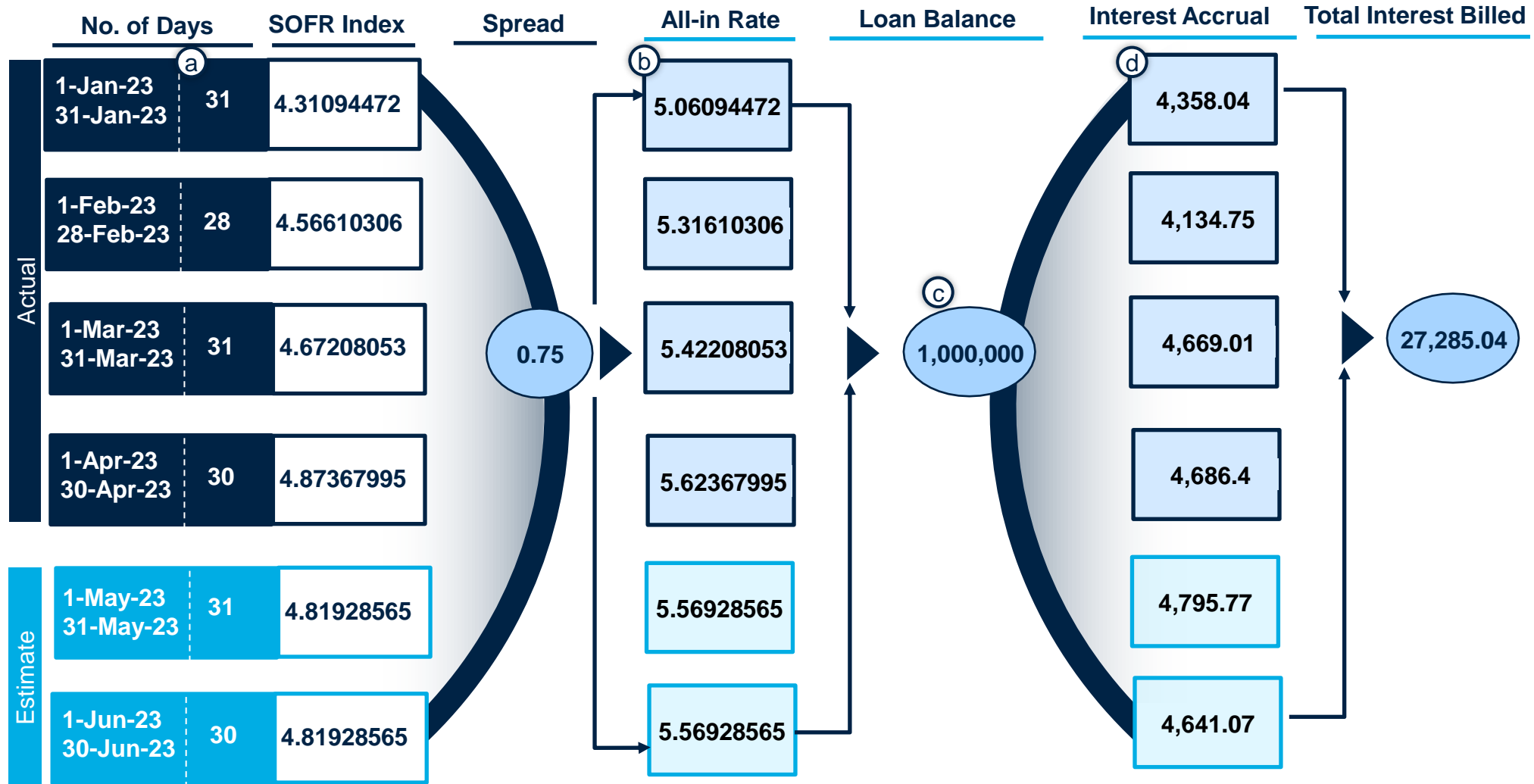
- SOFR指数只在营业日发布。很多时候，上述公式中使用的指数可能落在非营业日。下面提供了一个简单的方法来计算非营业日的SOFR指数。

例如，2023年1月1日的SOFR指数计算将如下

Index as on 12/30 (A)	Index as on 01/03 (B)	Difference (C = B - A)	Average per day = (C/4)	index as on 01/01 (D = A + (C*2))
1.05967694	1.06018323	0.00026077	0.00050629	1.05993009

账单中利息的计算 Billing Statement-Payment Day at 1st Day

SOFR Index	
Date	SOFR Index
1/1/2023	1.05993009
1/31/2023	1.06373741
2/1/2023	1.06386476
2/28/2023	1.06749409
3/1/2023	1.06762901
3/31/2023	1.07174832
4/1/2023	1.07189330
4/30/2023	1.07605436
5/1/2023	1.07619810

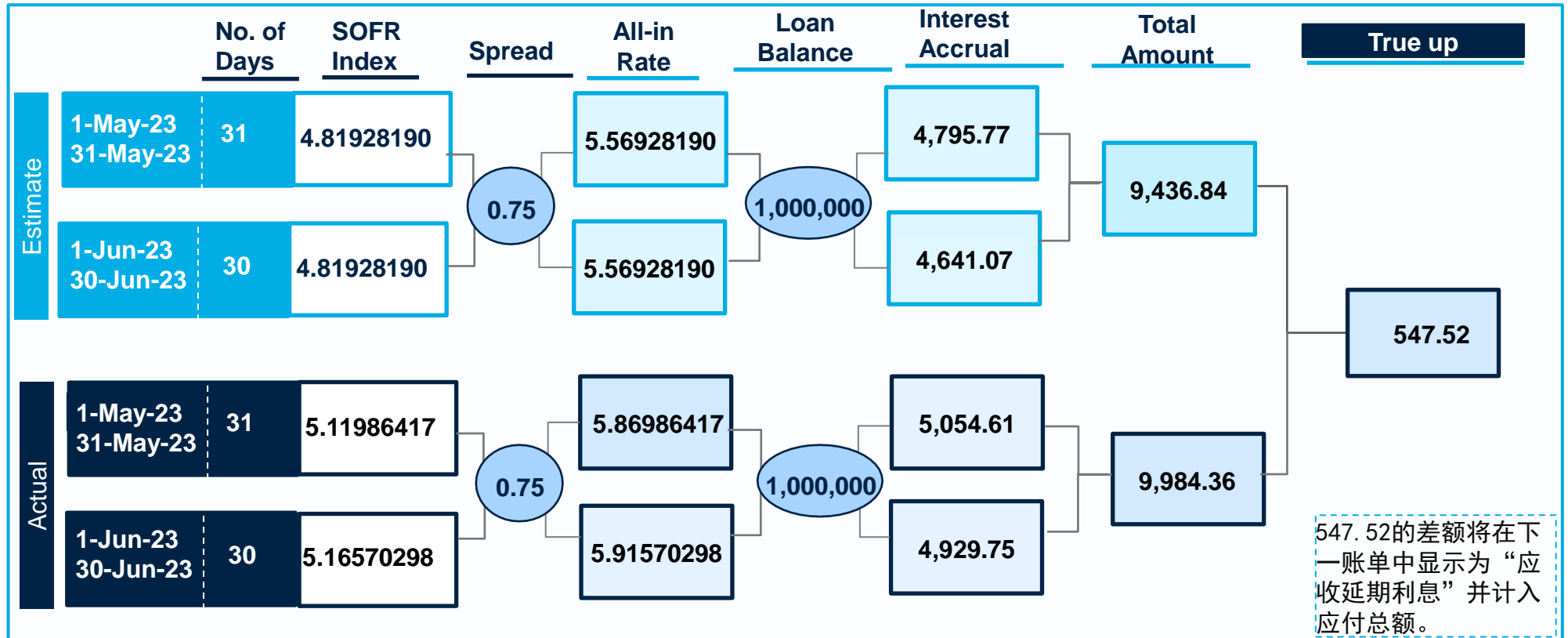


$$④ = ② * ③ * ① / 360 * 100$$

账单中的实际利息和预估利息 Definitive amounts for previous billing

SOFR Index

Date	SOFR Index
1/1/2023	1.05993009
1/31/2023	1.06373741
2/1/2023	1.06386476
2/28/2023	1.06749409
3/1/2023	1.06762901
3/31/2023	1.07174832
4/1/2023	1.07189330
4/30/2023	1.07605436
5/1/2023	1.07619810
6/1/2023	1.08087109
6/30/2023	1.08528038
7/1/2023	1.08543383

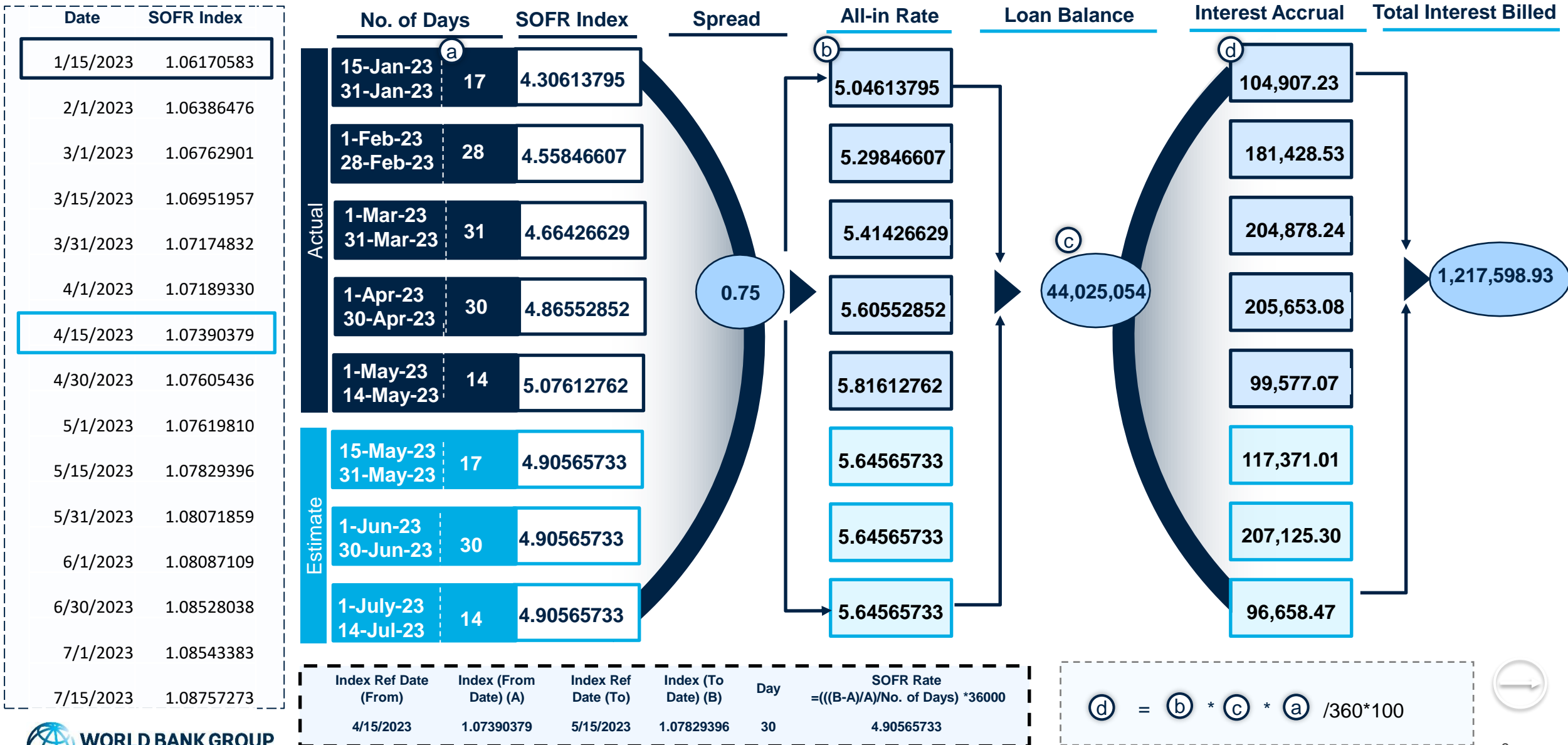


Estimate SOFR rate Calculation

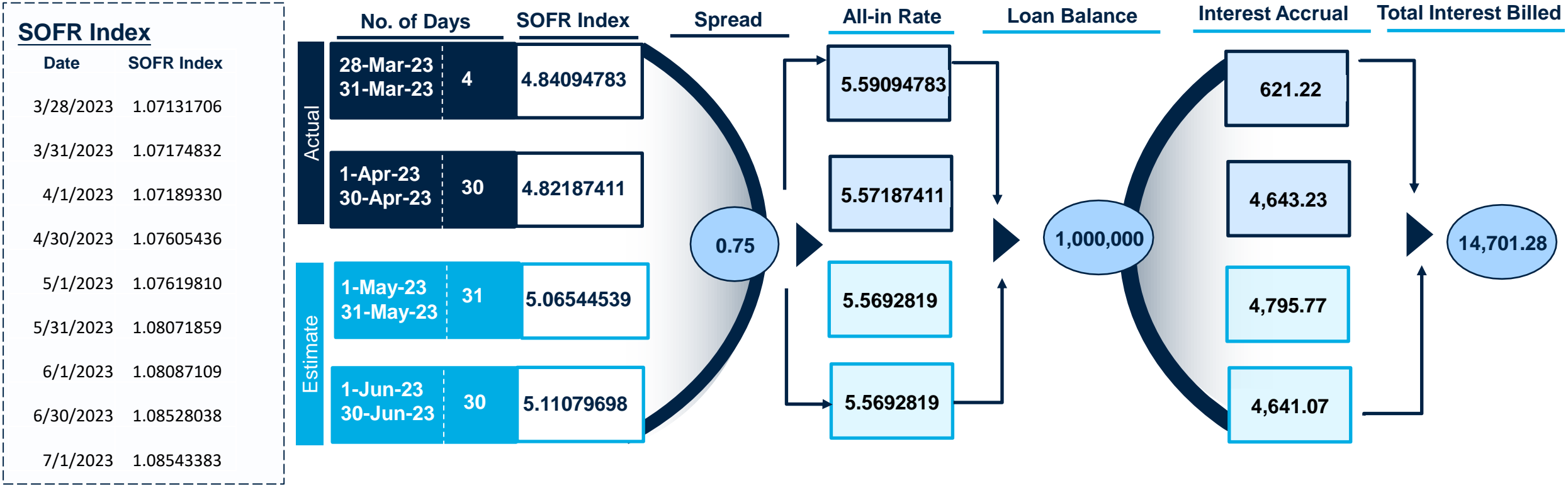
- 由于在账单日没有最后两个月的实际SOFR利率，这两个月的利息计算使用一个代理利率。这个代理利率是基于第四个月的SOFR利率计算的。例如，2023年1月1日的SOFR指数计算将如下

Calculation of estimated SOFR rate for May and June:	Start Date	End Date	Index Ref Date (From)	Index (From Date) (A)	Index Ref Date (To)	Index (To Date) (B)	Day	SOFR Rate =(((B-A)/A)/No. of Days) *36000
	4/1/2023	4/30/2023	4/1/2023	1.07189330	5/1/2023	1.07619810	30	4.81928190

账单中利息的计算 Billing Statement-Payment Day on the 15th

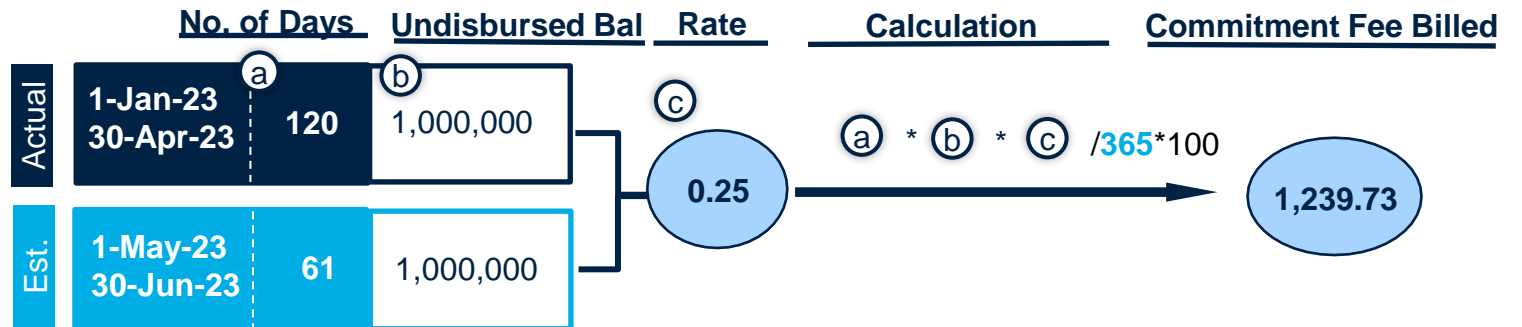


贷款发放日在非账单日 Billing Statement-Disbursement



承诺费 Commitment Fee

承诺费用在贷款签署后60天开始对未拨款的金额计收，并且只有在贷款生效后才到期。目前的承诺费率定为 0.25%。



Annex

账单样本 Sample Billing Statement

付款说明

Payment Instruction



1818 H Street N.W.
Washington, D.C. 20433
U.S.A.
Tel No: +1-202-458-8330
Fax No: +1-202-522-1654
email address:
askloans@worldbank.org

May 18, 2023

MINISTRY OF FINANCE
DIRECTOR GENERAL
INTERNATIONAL DEPARTMENT, MOF
No 3, SANLIHE STREET
100820 BEIJING
CHINA

Re: IBRD Loan [REDACTED]

Dear Sir/Madam,

Enclosed are the statements for the loan/credit referenced above.

The amounts due are as follows:

USD 7,038,880.58 Payable July 17, 2023

Note:

- Please send your payment instructions using SWIFT MT 202
- Please cite reference [IBRD 48290 CN due July 15 2023] on line 1 of field 72 of the SWIFT message

Please arrange for the above to be remitted to the following accounts:

United States Dollars:

CITIBANK N.A.
399 PARK AVENUE
NEW YORK
SWIFT Code: CITIUS33XXX

For Credit to:

IBRD account number : 36397302
SWIFT Code : IBRDUS33XXX

The Loan Services Group is committed to providing its clients with the highest possible quality service. We welcome your comments and suggestions for improvement of our services at askloans@worldbank.org.

Loan Services Group
International Bank for Reconstruction and Development

付款活动

Payment Activity



INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT
Statement of Account for IBRD Loan 48290 as of May 14, 2023

Balances as of May 14, 2023 (in USD)	
Signed Amount	150,000,000.00
Cancelled	(5,639,666.28)
Disbursed	144,360,333.72
Undisbursed	0.00
Matured Principal	(100,335,279.72)
Prepaid	0.00
Disbursed Outstanding	44,025,054.00

GUARANTOR COUNTRY : People's Republic of China
PROJECT : [REDACTED]
LOAN TYPE : Variable spread loan
CURRENCY : USD

Bill for IBRD Loan [REDACTED] due Jul 15, 2023

Description	From date	To date	No. of Days	Calculation base	Spread / Rate (%)	Index Rate (%)	Total Int. Rate (%)	Floor Adj. Amount	Payable (USD)
-------------	-----------	---------	-------------	------------------	-------------------	----------------	---------------------	-------------------	---------------

PAYMENT ACTIVITY

Borrower Receivables:

Billed for due date Jan 15, 2023 USD 6,703,523.16

Payment Application:

Received from borrower Jan 17, 2023 USD 6,703,523.16
Fund used USD (6,703,523.16)

Credit Balance USD 0.00

账单样本 Sample Billing Statement

利息累计、费用及本金 Interest Accrual, Fees, and Principal



INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT
Statement of Account for IBRD Loan

GUARANTOR COUNTRY: People's Republic of China
PROJECT: [REDACTED]
LOAN TYPE: Variable spread loan
CURRENCY: USD

Balances as of May 14, 2023 (in USD)	
Signed Amount	150,000,000.00
Cancelled	(5,639,666.28)
Disbursed	144,360,333.72
Undisbursed	0.00
Matured Principal	(100,335,279.72)
Prepaid	0.00
Disbursed Outstanding	44,025,054.00

Bill for IBRD Loan due Jul 15, 2023

Description	From date	To date	No. of Days	Calculation base	Spread / Rate (%)	Index Rate (%)	Total Int. Rate (%)	Floor Adj. Amount	Payable (USD)
-------------	-----------	---------	-------------	------------------	-------------------	----------------	---------------------	-------------------	---------------

INTEREST ACCRUALS

Description	From date	To date	No. of Days	Calculation base	Spread / Rate (%)	Index Rate (%)	Total Int. Rate (%)	Floor Adj. Amount	Payable (USD)
Interest Accruals									
Calculation of Interest (actual)	Jan 15, 2023	Jan 31, 2023	17	44,025,054.00	0.74	4.30613795	5.04613795		104,907.23
	Feb 01, 2023	Feb 28, 2023	28	44,025,054.00	0.74	4.55846607	5.29846607		181,428.53
	Mar 01, 2023	Mar 31, 2023	31	44,025,054.00	0.74	4.66426629	5.40426629		204,878.24
	Apr 01, 2023	Apr 30, 2023	30	44,025,054.00	0.74	4.86552852	5.60552852		205,653.08
	May 01, 2023	May 14, 2023	14	44,025,054.00	0.74	5.07612762	5.81612762		99,577.07
(2 months charges for billing)	May 15, 2023	May 31, 2023	17	44,025,054.00	0.74	4.90565733	5.64565733		117,371.01
	Jun 01, 2023	Jun 30, 2023	30	44,025,054.00	0.74	4.90565733	5.64565733		207,125.30
	Jul 01, 2023	Jul 14, 2023	14	44,025,054.00	0.74	4.90565733	5.64565733		96,658.47
Calculation of Interest									1,217,598.93

FEES

Description	From date	To date	No. of Days	Calculation base	Spread / Rate (%)	Index Rate (%)	Total Int. Rate (%)	Floor Adj. Amount	Payable (USD)
Commitment fees									
Calculation of Fees (Actual)									
(2 months charges for billing)									
Calculation of fees									

PRINCIPAL

Principal Recall	Jul 15, 2023								5,811,287.99
Total Principal									5,811,287.99

结转应收款、本期应付款项、上一账单期确定金额 Carry forward receivables, Current dues, and Definitive amounts for previous billing

Description	From date	To date	No. of Days	Calculation base	Spread / Rate (%)	Index Rate (%)	Total Int. Rate (%)	Floor Adj. Amount	Payable (USD)
-------------	-----------	---------	-------------	------------------	-------------------	----------------	---------------------	-------------------	---------------

CARRY FORWARD RECEIVABLE

Deferred Interest Receivable									65,330.71
------------------------------	--	--	--	--	--	--	--	--	-----------

CURRENT DUES

Total Due current Period									7,038,880.58
--------------------------	--	--	--	--	--	--	--	--	--------------

DETERMINATION OF DEFINITIVE AMOUNTS DUE FOR PREVIOUS BILLING (01/15/2023)

Interest on Overdue Principal

Due Interest on Overdue Principal	Jul 15, 2022	Jul 19, 2022	5	(5,519,287.52)	1.23	1.54010230	2.77010230		(2,123.47)
	Jul 15, 2022	Jul 19, 2022	5	5,519,287.52	1.23	1.54010230	2.77010230		2,123.47
Total Interest on Overdue Principal									0.00

Interest

Interest Billed	Jul 15, 2022	Jan 14, 2023							1,036,678.55
Partial interest waiver(Actual)	Jul 15, 2022	Nov 14, 2022							(42,445.87)
(2 months charges for billing)	Nov 15, 2022	Jan 14, 2023	61						(21,050.40)
Total Billed Interest									973,182.28
Actual due interest									
	Jul 15, 2022	Jul 31, 2022	17	49,692,735.20	1.23	1.70647881	2.93647881		68,907.46
	Aug 01, 2022	Aug 31, 2022	31	49,692,735.20	1.23	2.28653538	3.51653538		150,475.95
	Sep 01, 2022	Sep 30, 2022	30	49,692,735.20	1.23	2.49900055	3.72900055		154,420.19
	Oct 01, 2022	Oct 31, 2022	31	49,692,735.20	1.23	3.05263629	4.28263629		183,258.15
	Nov 01, 2022	Nov 14, 2022	14	49,692,735.20	1.23	3.71192850	4.94192850		95,502.53
	Nov 15, 2022	Nov 30, 2022	16	49,692,735.20	1.23	3.83804877	5.06804877		111,931.20
	Dec 01, 2022	Dec 31, 2022	31	49,692,735.20	1.23	4.12886668	5.35886668		229,311.09
	Jan 01, 2023	Jan 14, 2023	14	49,692,735.20	1.23	4.36911820	5.59911820		108,202.69
Actual interest due									1,102,009.26
Partial interest waiver(Actual)	Jul 15, 2022	Jan 14, 2023	184	49,692,735.20			0.25000000		(63,496.27)
Total Interest Due									1,038,512.99

Principal

Principal Billed	Jan 15, 2023								5,667,681.20
Principal Due	Jan 15, 2023								5,667,681.20



账单样本 Sample Billing Statement

应收贷款的应用及本金活动 Loan receivable application/ Principal Activity

LOAN RECEIVABLE APPLICATION FOR DUE DATE May 15, 2023 (in USDs)	Billed	Due	Receivable	Applied			Deferred/ Overdue
				Total	Current	Overdue	
Funds - Borrower				(1,839,559.76)			
Interest net of waiver	1,750,889.20	1,755,478.94	1,839,559.76	(1,839,559.76)	(1,839,559.76)	0.00	4,589.74
Total	1,750,889.20	1,755,478.94	1,839,559.76	(1,839,559.76)	(1,839,559.76)	0.00	4,589.74
Credit				0.00			

PRINCIPAL ACTIVITY PERIOD Mar 15, 2023 - Sep 14, 2023	Date	REF	AMOUNT
Opening balance Mar 15, 2023			88,272,096.58
Closing balance Sep 14, 2023			88,272,096.58

Loan significant dates:
 Approval Date : Jun 15, 2022
 Signing Date : Jul 06, 2022
 Effective Date : Aug 01, 2022
 First Principal Repayment : Nov 15, 2027
 Last Principal Repayment : May 15, 2040



纽约联储网站 NY Fed Website

Home Page

MUSEUM & VISITS REGIONAL ECONOMY DATA & STATISTICS CAREERS BLOG PRESS CENTER search

FEDERAL RESERVE BANK of NEW YORK *Serving the Second District and the Nation*

About the New York Fed Markets & Policy Implementation Economic Research Financial Institution Supervision Financial Services & Infrastructure Community Development & Education

home > markets & policy implementation > data > reference rates >

SOFR Averages and Index Data

As an extension of the Secured Overnight Financing Rate (SOFR), the SOFR Averages are compounded averages of the SOFR over rolling 30-, 90-, and 180-calendar day periods.

The SOFR Index measures the cumulative impact of compounding the SOFR on a unit of investment over time, with the initial value set to 1.00000000 on April 2, 2018, the first value date of the SOFR.

The SOFR Index value reflects the effect of compounding the SOFR each business day and allows the calculation of compounded SOFR averages over custom time periods.

Each business day, the New York Fed publishes the SOFR Averages and SOFR Index on the New York Fed's website, shortly after the SOFR is published at approximately 8:00 a.m. ET.

For more information on the SOFR Averages and Index's publication schedule and methodology, see [Additional Information about Reference Rates Administered by the New York Fed](#).

Resources

About the Reference Rates
Statements and Operating Policies
Additional Information about Reference Rates Administered by the New York Fed
Markets Data APIs

Terms of Use

Use of the Reference Rates are subject to important disclaimers, limitations and indemnification obligations.

RECEIVE EMAIL ALERTS FOR THIS PAGE

enter your email

SOFR AVERAGES AND INDEX DATA

[Chart](#) | [Historical Search](#)

Export To: [Excel](#) | [XML](#)

DATE	30-DAY AVERAGE (%)	90-DAY AVERAGE (%)	180-DAY AVERAGE (%)	INDEX
04/11	5.33002	5.34807	5.38983	1.13186326
04/10	5.33002	5.34807	5.38982	1.13169634
04/09	5.33002	5.34807	5.38982	1.13152944
04/08	5.32999	5.34807	5.38982	1.13136256
04/05	5.32901	5.34775	5.38966	1.13086121
04/04	5.32868	5.34762	5.38959	1.13069412
04/03	5.32834	5.34762	5.38952	1.13052705
04/02	5.32734	5.34818	5.38941	1.13035938

Selecting Criteria

Reference Rates Historical Data Search

Note: Starting with the March 1, 2016 rate, the fields published for EFFR changed.

Date Range*: to

- Type*:
- Overnight Rates
 - Unsecured Rates
 - EFFR
 - OBFR
 - Secured Rates
 - TGCN
 - BGCR
 - SOFR

- Average Rates and Index
 - SOFR Averages and Index

*Required

Export To: [Excel](#) | [XML](#)

DATE	BENCHMARK NAME	30-DAY AVERAGE (%)	90-DAY AVERAGE (%)	180-DAY AVERAGE (%)	INDEX
06/22/2023	SOFRAI	5.06655	4.97487	4.74915	1.08406268
06/21/2023	SOFRAI	5.06655	4.97206	4.74488	1.08391064
06/20/2023	SOFRAI	5.06655	4.96643	4.74061	1.08375861
06/16/2023	SOFRAI	5.06662	4.94398	4.72369	1.08315084
06/15/2023	SOFRAI	5.06629	4.93823	4.71948	1.08299862
06/14/2023	SOFRAI	5.06662	4.93283	4.71533	1.08284672



IBRD 灵活贷款利息及兑换费 IFL Rates and Conversion Fee

IBRD 灵活贷款利息 IFL Rates

Lending Rates & Fees

IBRD FLEXIBLE LOAN IBRD HEDGES CONVERSIONS GUARANTEES RETIRED & SUSPENDED PRODUCTS

IBRD loans are subject to different maturity premiums based on income and other factors. Countries are classified into one of four pricing groups: A, B, C, or D.

Borrowers should use the drop-down menu below to identify the Pricing Group in which their country is classified and their applicable spread.

Current IBRD Flexible Loan Rates

China

Pricing Group C

Variable Spreads as of January 1, 2024

Average Maturity Bucket	up to 8 years	8+ to 10 yrs	10+ to 12 yrs	12+ to 15 yrs	15+ to 18 yrs	18+ to 20 yrs
USD	SOFR + 0.94 %	SOFR + 1.04 %	SOFR + 1.24 %	SOFR + 1.44 %	SOFR + 1.64 %	SOFR + 1.84 %
EUR	EURIBOR + 0.49 %	EURIBOR + 0.59 %	EURIBOR + 0.79 %	EURIBOR + 0.99 %	EURIBOR + 1.19 %	EURIBOR + 1.39 %
JPY	TONA + 0.94 %	TONA + 1.04 %	TONA + 1.24 %	TONA + 1.44 %	TONA + 1.64 %	TONA + 1.84 %
GBP	SONIA + 0.94 %	SONIA + 1.04 %	SONIA + 1.24 %	SONIA + 1.44 %	SONIA + 1.64 %	SONIA + 1.84 %

LOAN CHARGES^{1,2}

Front-End Fee	0.25%
Commitment Fee	0.25%

兑换费 Conversion Fee

Lending Rates & Fees

IBRD FLEXIBLE LOAN IBRD HEDGES CONVERSIONS GUARANTEES RETIRED & SUSPENDED PRODUCTS

Transaction Fees: Expressed as a percentage per annum on the outstanding loan amount unless otherwise indicated.

Transaction Type	For Variable Spread Loans	
Interest Rate Conversion	USD ⁽¹⁾	EUR ⁽¹⁾ , JPY ⁽¹⁾ , GBP ⁽¹⁾
Rate fixings of disbursed amounts	0.05%	0.10%
Interest Rate Caps/Collars of disbursed amounts	On a case-by-case basis	
Currency Conversion		
Of undisbursed loan amounts ⁽²⁾	0.125%	
Of disbursed loan amounts	0.06%	0.11%
Early termination for any conversion ⁽³⁾	0.02%	

Note: For loans for which the applicable reference rate + spread is lower than zero during the current interest rate period, transaction fees will be calculated on a case-by-case basis.

(1) Currency of the loan prior to the Conversion.

(2) Expressed as a percentage of the principal amount involved, and payable as a lump sum.

(3) Transaction fees expressed as a percentage per annum are converted to a one-time lump sum.

Transaction Fees for Early Termination: For early termination of a Conversion (a currency, or interest rate conversion) a transaction fee of 2bp will