
Calculating Financing Account Interest

OMB Annual Training
June 26, 2007
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What we'll cover

- Why do I need to calculate financing account interest?
 - What are the mechanics underlying the calculations?
 - Example calculations using the CSC2
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Review

- Subsidy cost of a direct loan or loan guarantee program is the net present value of cash flows between the Government and the public
 - Net present value calculation requires Treasury interest rates (discount rates)
 - These rates determine the cohort interest rate (disbursement weighted average or single effective rate)
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Discounting to the present value

The future value of money invested in the present.

Compounding interest example - Savings account in a bank

Amount deposited \$100 Interest rate 5%

Year 1..... $(1+0.05) \times \$100 = \105
Year 2..... $(1+0.05) \times \$105 = \110.25
Year 3..... $(1+0.05) \times \$110.25 = \115.76
Year 4..... $(1+0.05) \times \$115.76 = \121.55
Year 5..... $(1+0.05) \times \$121.55 = \127.63

The present value of money to be received or paid in the future.

Discounting example - Buying a bond

Face value of bond \$127.63 Discount rate 5%

Year 5..... $\$127.63 / (1+0.05) = \121.55
Year 4..... $\$121.55 / (1+0.05) = \115.76
Year 3..... $\$115.76 / (1+0.05) = \110.25
Year 2..... $\$110.25 / (1+0.05) = \105
Year 1..... $\$105 / (1+0.05) = \100

Interest earnings and costs

- Credit financing accounts earn interest on balances
 - Interest earnings are received from the Treasury Financial Management Service
 - Credit financing accounts pay interest on outstanding borrowings from Treasury
 - Interest payments are made to the Treasury Bureau of the Public Debt
 - These earnings and costs affect the deficit
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Cohort interest rate

- Financing accounts **must** earn and pay interest at the same rate used to discount the credit subsidy cash flows for each cohort
 - For FY 1992-2000 cohorts, this is the disbursement-weighted average discount rate
 - For FY 2001 and subsequent cohorts, this is the single effective rate, generated by the Credit Subsidy Calculator 2 (in most cases, either budget formulation rate or final rate from the first technical reestimate after 90% disbursement)
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CSC2: Cohort interest rate

- Methods for calculating cohort interest rates have not changed
 - Comes from first technical reestimate after interest rate reestimate
 - Cohorts that have established actual DWADR/SER continue to use established rate—No need to recalculate
 - Cohorts substantially disbursed in 2007—use CSC2 to calculate cohort rate
 - Data requirements are the same as old CSC
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Interest calculations

- Agencies calculate financing account interest costs and earnings at year-end
 - Agencies must use the CSC2 to calculate financing account interest
 - Financing Account Interest Calculator in the C-Credit tool is no longer supported
 - Calculations are required to be submitted to Treasury (BPD and/or FMS)
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CSC2: Financing account interest

FAIC

- Simplified methods
 - Simple interest
 - Average balances
- Disconnects with reestimate cashflows

CSC2

- Consistent with discounting
 - Compound interest
 - Actual cash flows
- Aligned with reestimate cashflows

Improved calculations, same requirements

CSC2: Interest owed

- ***Compute interest owed to the Treasury:***
 - Debt to Treasury at the beginning of the year includes all borrowing outstanding at the beginning of the year. A full year of interest is paid on such debt.
 - Transactions with BPD include all borrowings and repayments during the year.
 - Borrowings made during the year are back-dated to the beginning of the year and a full year of interest is paid on the borrowing.
 - Debt repayment and end of year borrowing to pay interest take place at year-end and does not impact the interest calculation.
 - Interest owed is adjusted for repayments that occur at the middle of the year.
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CSC2: Interest earned

- ***Compute Interest due from the Treasury:***
 - Cash balances include all cash on deposit with the Treasury at the beginning of the year.
 - Intra-governmental transfers with the financing account
 - Reestimates, interest on reestimate and interest adjustments: occur start of the year.
 - Subsidy transfers and modifications: timing assigned by the user.
 - Financing account interest: paid at the end of the year.
 - Transactions with the public include all loan disbursements, claim payments, loan payments, fees, defaults, and recoveries.
 - Interest is earned depending on the timing assumption indicated for the individual cash flow line.
 - Outflows reduce interest earned; inflows increase interest earned.
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CSC2: Calculating interest

- Can be calculated at the same time as reestimates
 - Can be calculated separately from reestimates
 - Requires an input cashflow formatted for the CSC2
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CSC2: Required cashflow inputs

- Latest completed fiscal year
 - Reference point--required for financing account interest and reestimate calculations
 - Cohort Balances
 - Debt to Treasury/Cash Balance with Treasury
 - Treasury Transactions
 - Borrowings and repayments
 - Budgetary Transactions
 - Subsidy transfers, financing account interest, reestimates, and modifications—reconciling balances, financing account interest, and reestimates
 - Historical cashflows with the public
 - Cashflows in latest completed fiscal year required for ALL cohorts
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CSC2: Input cashflows

- Reestimate discount rate is the cohort interest rate
 - Latest completed fiscal year is a must!
 - New keywords
 - Debt to Treasury EOY
 - Cash Held by Treasury EOY
 - Borrowing from Treasury SOY/EOY
 - Repayments of Treasury Debt MOY/EOY
 - Financing Account Interest
 - Financing Account Interest Adjustments
 - Reestimate SOY and Interest on Reestimate SOY
 - Modification and Modification Adjustment Transfer
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CSC2 Input

Cohort Interest Rate {

Treasury Cash and Debt Balances {

Treasury Borrowings and Repayments {

Intra-governmental Additions or Subtractions {

Additions or Subtractions from Public {

Name:	Loan guarantee example			
Description:	FAI and reestimate			
Program Type:	Guarantee			
Purpose:	Reestimate			
Budget Year:	2008			
Latest completed fiscal year	2006			
Cohort	2004			
Reestimate Discount Rate	4.76			
Original Subsidy Rate	4.78			
Interest Rate Reestimated Sub Rate	4.91			
	Year 1	Year 2	Year 3	Year 4
Commitments (+)	1,000,000			
Timing	Annual, Beginning			
Disbursements (+)	1,000,000			
****Balances with Treasury				
Debt to Treasury EOY	0	0	0	
Cash balance EOY	29,414	38,550	17,888	
****Intragovernmental Transactions				
Borrowings from Treasury SOY	0	0	0	
Borrowings from Treasury EOY	0	0	0	
Repayments of Treasury Debt MOY	0	0	0	
Repayments of Treasury Debt EOY	0	0	0	
Financing Account Interest	2,275	2,690	0	
Financing Account Interest Adjustments	0	0	0	
Reestimate SOY	0	25,876	0	
Interest on Reestimate SOY	0	1,232	0	
Subsidy transfer [annual,beginning]	47,800	0	0	
Modification	0	0	0	
Modification Adjustment transfer	0	0	0	
****Borrower Cashflows				
Default claim payments (+) [annual,middle]	41,324	41,324	41,324	41,324
Recoveries (-) [annual,middle]	-20,662	-20,662	-20,662	-20,662
End				

FAIC Input

	Enter amounts for FY 2006 in Dollars
Step 1 : Derive cash balances and interest earnings:	
Cash balance, beginning of current year	38,550
Adjustments to start-of-year balance.....	<input type="text"/>
Adjusted cash balance.....	38,550
Activity during the current year:	
<i>Additions:</i>	
Net transfers of budgetary resources into the financing account	<input type="text"/>
Collections from the public during the current year	20,662
Amounts borrowed from Treasury during the current year (<u>back dated to 10/1</u>)	<input type="text"/>
Amounts borrowed from Treasury <u>at year end</u> to pay interest	<input type="text"/>
<i>Subtractions:</i>	
Net transfers of budgetary resources out of the financing account	<input type="text"/>
Disbursements to the public during the current year	41,324
Payments to Treasury to liquidate debt made <u>during the year</u>	<input type="text"/>
Payments to Treasury to liquidate debt made <u>at year end</u>	<input type="text"/>
Balance owed to Treasury, beginning of current year	<input type="text"/>
Adjustments to start-of-year balance.....	<input type="text"/>
Adjusted balance owed to Treasury.....	0

CSC2 vs. FAIC Output

Financing account interest as calculated by the CSC2					
Debt & Cash before financing account interest	Interest earnings	Interest costs	Cash balances	Debt to Treasury	DWADR/SER
Cohort	(current year)	(current year)	(end of year)	(end of year)	
2004	1348.93	0	17887.97	0	4.76
2005	0	0	0	0	0
2006	0	0	0	0	0
Total	1348.93	0	17887.97	0	

Consolidated Credit Tool -- Version 10/06/06

Cohort	Interest Earnings <u>(during current year)</u>	Interest Costs <u>(during current year)</u>	Cash Balances <u>(end of year)</u>	Debt to Treasury <u>(end of year)</u>
2004	1,343	0	19,231	0
2005	0	0	0	0
2006	0	0	0	0
Total	\$1,343	\$0	\$19,231	\$0

- \$6 difference in interest earnings due to compounding
- When calculating Financing Account Interest, the CSC2 displays end of year cash and debt balances before interest for reconciliation purposes. The FAIC displayed end of year balances including interest.

CSC2: Compound interest

- PV factor used to calculate compound interest is $(1+rate)^{time}$
 - For a cohort with a 4.76% rate, a cashflow to the financing account at the middle of the year would earn 2.35% interest that year, $(1+0.0476)^{0.5} = 1.0235$
 - Simple interest would be one half 4.76% or 2.38%

$$\$20,662 * 2.38\% = \$492$$

$$\$20,662 * 2.35\% = \$486$$

$$\text{Difference} = \$6$$

Summary

- CSC2 replaces the C-Credit financing account interest calculator
 - Same data is needed, different format
 - Improved financing account interest calculations
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For more information

- Guidance on Financing Account Interest:
 - OMB Circular A-11, Sec. 185, especially 185.32-185.36
 - Federal Credit Support Page:
 - <http://www.omb.gov/credit>
 - CSC2 application and user guide (CSC2 Page)
 - Calculator for projecting the future interest income or costs of credit financing accounts
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