



# Credit Subsidy Cost Reestimate Concepts

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# Overview

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## **This Presentation Will Cover:**

- Review: Credit Subsidy Estimation
- What are Subsidy Reestimates?
- Interest Rate Reestimates
- Technical Reestimates
  - Balances and Traditional Approaches
  - SER Calculation
- Interest on the Reestimate (tech. adjustment)
- Financing Account Interest Adjustment
- Requirements and Helpful Hints



# Review: Subsidy Estimation

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## What is a subsidy estimate?

- The subsidy estimate is the lifetime cost to the Government, on a net present value basis, of direct loans or loan guarantees.
- Subsidy estimates by cohort and risk category
- Rate is expressed in terms of percentage
- Rate is applied to the face value to calculate subsidy budget authority of direct loans or loan guarantees
  - Program X has a 20% subsidy rate of a \$100 loan, or \$20 subsidy Budget Authority



# What is a Subsidy Reestimate?

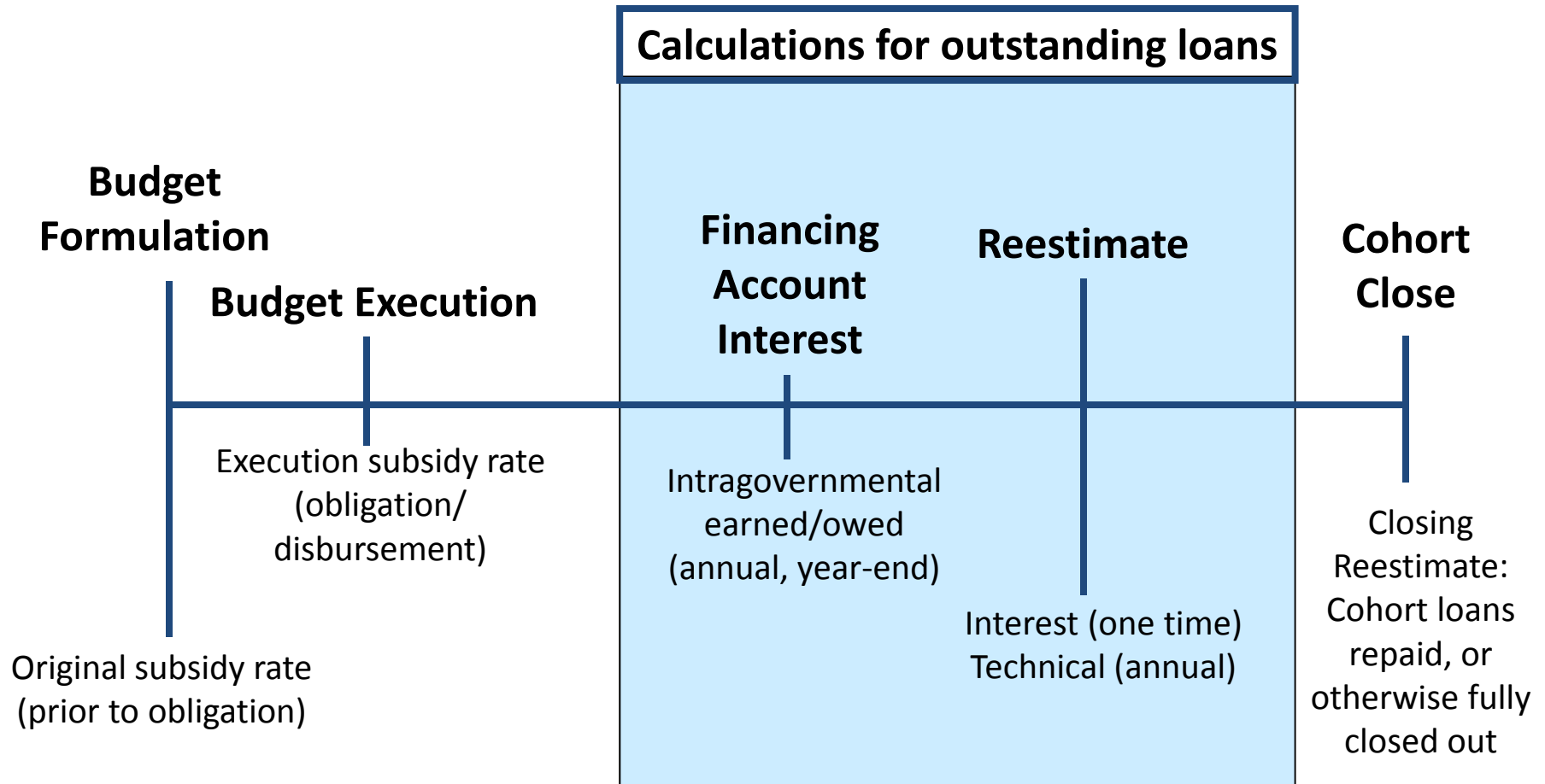
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- An update of the subsidy estimate of a cohort (or risk category) based on information about the actual performance and any updates to future expectations
  - A comparison **for each cohort** of:
    - prior subsidy estimates
- TO--
- actual loan/guarantee cash flows and updated assumptions about expected performance



# Life of a Cohort

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\*First technical following substantial disbursement is used to set the cohort interest rate.



# Types of Subsidy Reestimates

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- **Interest rate reestimate**
  - Update for change in the discount rate between time of loan obligation or commitment and disbursement
  - Performed at substantial disbursement (i.e. 90 percent)
- **Technical reestimate**
  - Update for actual cash flows and changes in technical/default assumptions (e.g., forecast technical assumptions)
  - Performed annually



# Interest Rate Reestimates

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- “Trues up” the financing account for the difference between Budget assumption and actual discount rates
  - Replace economic assumption Treasury rates with actual Treasury rates
  - Recalculate the subsidy estimate using the actual Treasury interest rates
  - Federal Credit Supplement shows the percentage point change due to interest









# Original Subsidy Rate

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Pro-rata method.....Construction model  
All content displayed.....See Tips-Views-Limitations menu for potential problems  
Purpose of this calculation..... Budget formulation  
Interest rate assumptions..... Budget forecast rates, Budget 2005 [2003-12-03]

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Year	Total Subsidy	Subsidy components				Single effective Discount rate	
		Financing Subsidy	Default Subsidy	Subsidy Reduction for Fees	All Other components		
2005	12.33	-1.79	14.12	0.00	0.00	3.2566 (C)	

Footnotes:  
The single effect rate is stated in terms of effective annual yield. For more details, see the help topics "How the single effective rate is calculated" or "Definitions related to the discounting method."

- Direct loan with a Budget subsidy rate of 12.33% using the 2005 Budget assumption discount rates.



# IRR Cashflow

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<b>Name:</b>	Direct Loan Example D-1			
<b>Description:</b>	Interest Rate Reestimate			
<b>Program Type:</b>	Direct			
<b>Purpose:</b>	Interest Rate Reestimate			
<b>Budget Year:</b>	2006			
<b>Cohort:</b>	2005			
<b>Reestimate discount rate:</b>	use 90			
	Year 1			Year 4
<b>Obligations (+)</b>	200,000			
<b>Timing</b>	Annual, Beginning			
<b>Disbursements (+)</b>	200,000			
<b>Timing</b>	Annual, End			
<b>Scheduled Principal Payments (+)</b>	50,000			50,000
<b>Scheduled Interest Payments (+)</b>	8,000	6,000	4,000	2,000
<b>Defaults</b>	-20,000	-10,000	-10,000	-10,000
<b>Recoveries</b>	5,000	5,000	5,000	5,000
<b>End</b>				

Set "Purpose" to "Interest Rate Reestimate"

Set "Reestimate Discount Rate" to "use 90"

Do not update cash flows for borrower performance



# Interest Rate Reestimate CSC2 Output

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Pro-rata method.....Construction model
All content displayed.....See Tips-Views-Limitations menu for potential problems
Purpose of this calculation.....Interest Rate Reestimate
Interest rate assumptions.....Reestimate rates may vary by cohort. See PUF display
    
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Subsidy components						
Year	Total Subsidy	Financing Subsidy	Default Subsidy	Subsidy Reduction for Fees	All Other components	Reestimate Discount rate
2005	13.06	-0.95	14.01	0.00	0.00	3.60

Single Effective Rate

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**Footnotes:**  
 The reestimate discount rate is either a weighted average rate or a single effective rate depending on the cohort year of the cash flows. Subsidy reestimates for all cohorts dated prior to FY 2001 are based on a weighted average rate. Both the weighted average rates and the single effective rates are stated in terms of effective annual yield. For more details, see the help topics named "Select weighted average interest rate calculation method" or "Definitions related to the discounting method."

- Using the original budget cash flow (updated for interest) generates an IRR subsidy rate of 13.06% using the actual Treasury rates.
- Percentage point change due to interest = IRR – original subsidy rate.  
 $12.33\% - 13.06\% = -0.73\%$ .



# Technical Reestimate

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- Corrects for changes in actual loan performance from the latest subsidy estimate
- Example:
  - A loan guarantee program fully guarantees a \$10 million loan.
  - Original subsidy estimate is 20%, based on the default risk of the borrower. Agency sets aside \$2 million in a financing account in anticipation of future default.
  - Loan defaults on first payment. Bank places a claim of \$10 million.
  - The reestimate gives the agency permanent indefinite authority to cover the \$8 million shortfall between the claim and the balance of the financing account.



# Reestimate Execution

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- Upward reestimate
  - The subsidy cost is higher than previously estimated
  - Liabilities exceed assets
  - Permanent indefinite authority to cover the upward reestimate, comes through the program account
- Downward reestimate
  - The subsidy cost is lower than previously estimated
  - Assets exceed liabilities
  - The downward reestimate must be returned to the general fund via the downward reestimate receipt account



# CSC2 Reestimate Approaches

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The CSC2 calculates reestimates with 2 different approaches:

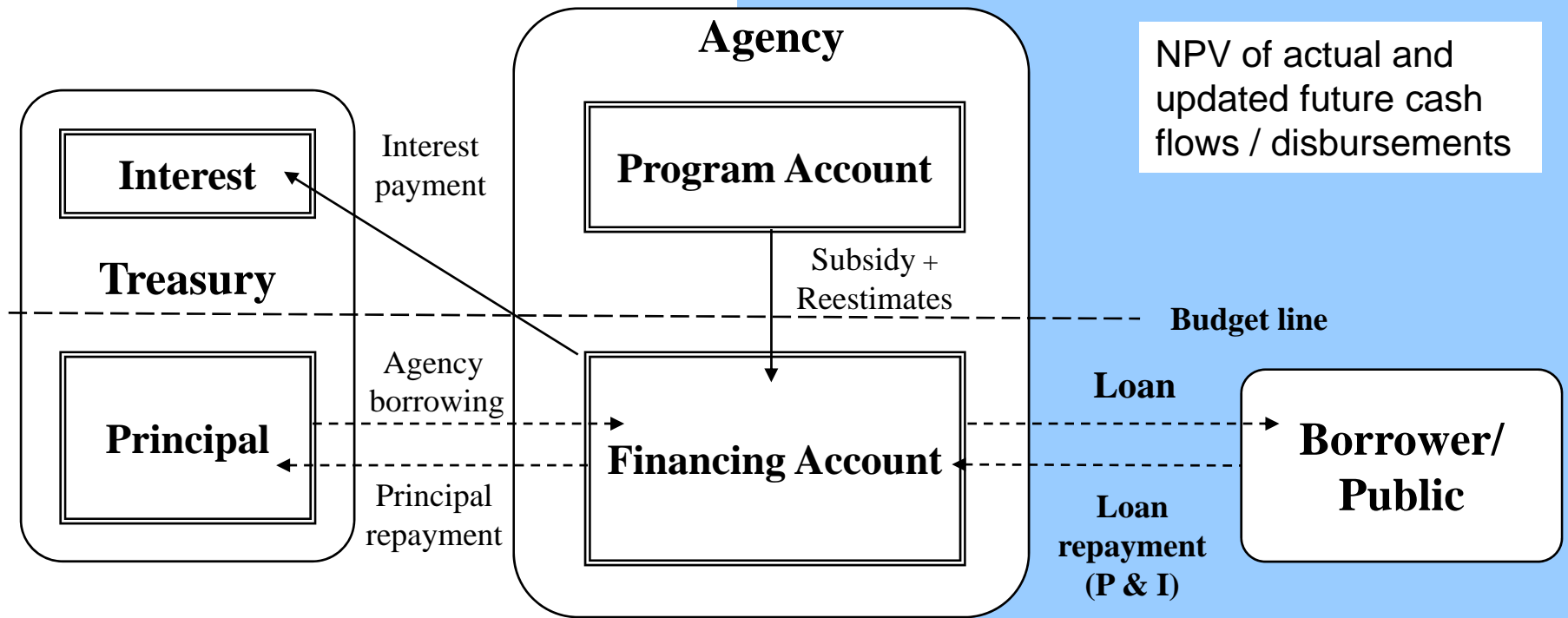
- Traditional approach
  - Reflects the cash flows to and from the Public
- Balances approach
  - Reconciles intergovernmental assets and liabilities





# Traditional Approach Reestimate

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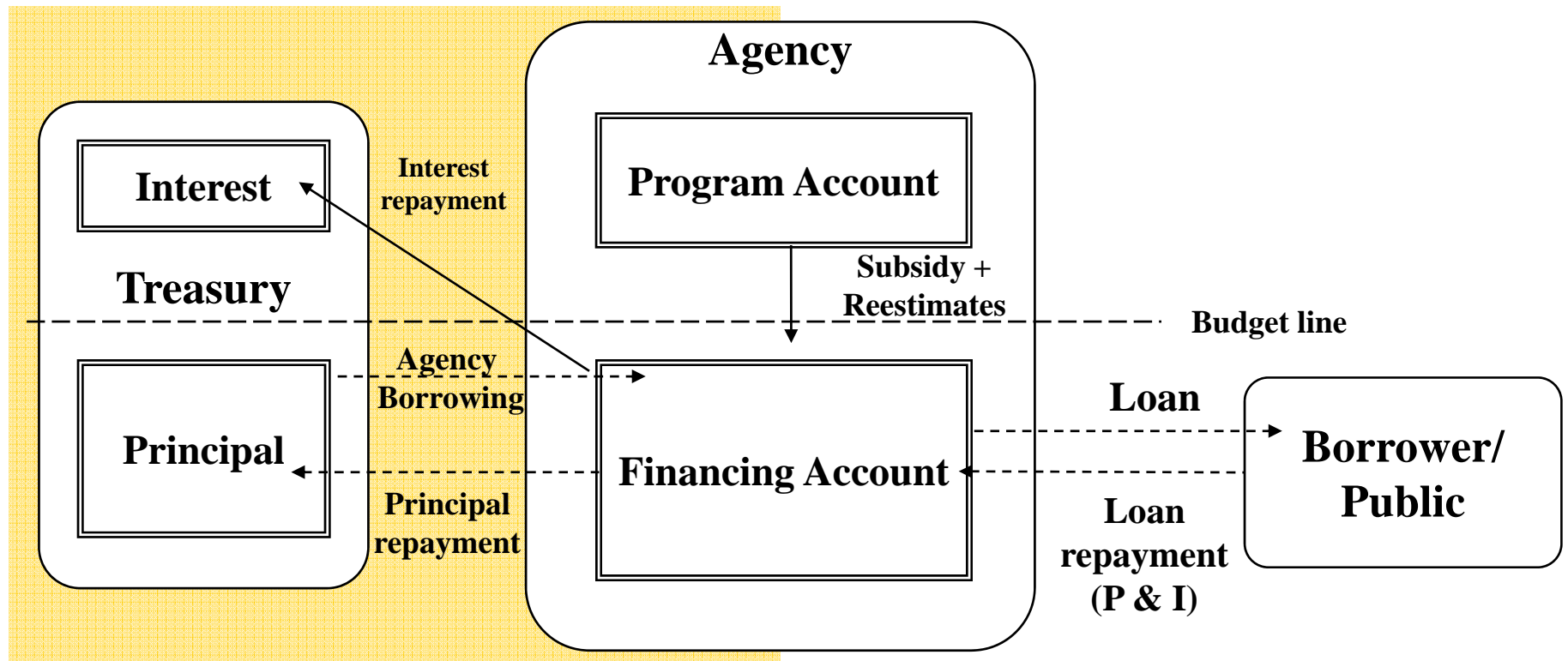






# Balances Approach Reestimate

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# Calculating Balances Approach Reestimates

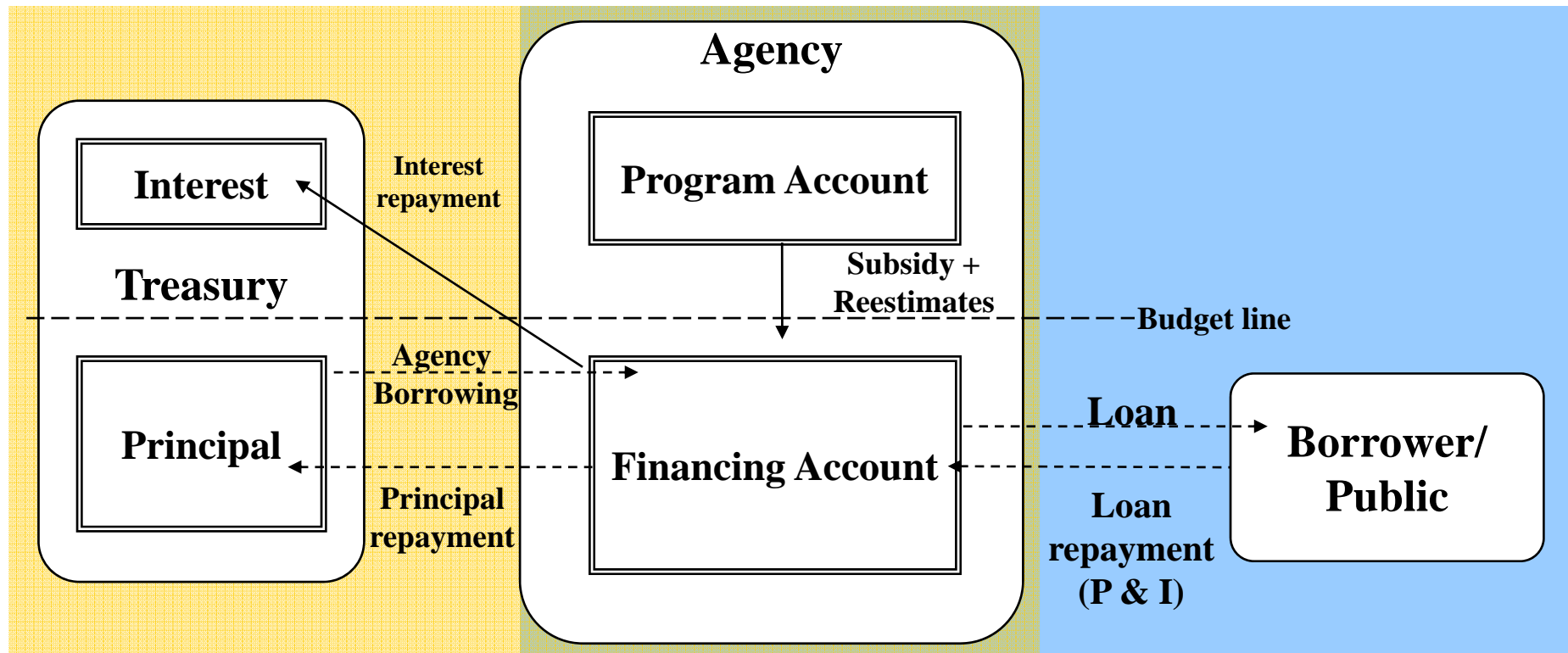
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- **Assets**
  - Balance of funds on deposit with Treasury
  - For direct loans, the present value of remaining cash flows from the public
- **Liabilities**
  - Balances owed to Treasury
  - For loan guarantees, the present value of remaining cash flows



# CSC2 Treatment of Reestimates

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Transactions with Treasury exactly match transactions with the public.

Or: Liabilities (debt to Treasury) equal assets (loan to public)

Or: Net position is zero

Or: The financing account has no debt or cash at the end of the life of the loan.



# CSC2 Reestimate

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- Consistent data for credit calculations
- Disconnects in financing account balances are transparent
- Accounting differences are transparent
- Cost accurately reflects long term cost to government

Transactions to and from public  
+ Intragovernmental transactions  
= Financing account balance

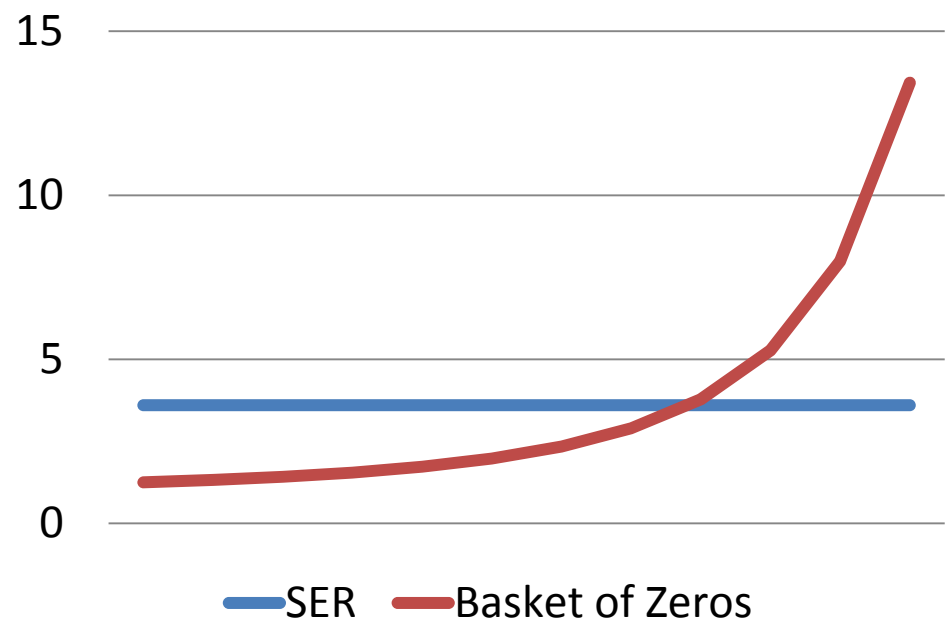


# Technical Reestimate: Actual SER I

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- **Single Effective Rate (SER)** is a constant discount rate that reproduces the subsidy rate that was obtained using the “basket-of-zeros” method of discounting employed by the CSC2
- “**Basket-of-zeros**” discounting method defines the present value of a series of payments as the value today of a collection of zero-coupon bonds that, at maturity, exactly match the cash flow observations.

Discount Rates: SER vs. Basket of Zeros





# Technical Reestimate: Actual SER II

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- The Single Effective Rate is the one rate used to discount cashflows, and earn/pay financing account interest. This simplified method, using one rate, fosters easier execution.
- Performed when loan is substantially disbursed
- Performed after the Interest Rate Reestimate
- The SER should not change after it is established.





# CSC2: Single Effective Rate

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<b>Name:</b>	Direct Loan Example D-1			
<b>Description:</b>	Interest Rate Reestimate			
<b>Program Type:</b>	Direct			
<b>Purpose:</b>	Cohort Interest Rate			
<b>Budget Year:</b>	2006			
<b>Cohort:</b>	2005			
<b>Reestimate discount rate:</b>	use 90			
	Year 1	Year 2	Year 3	Year 4
<b>Obligations (+)</b>	200,000			
<b>Timing</b>	Annual, Beginning			
<b>Disbursements (+)</b>	200,000			
<b>Timing</b>	Annual, End			
<b>Scheduled Principal Payments (+)</b>	50,000	50,000	50,000	50,000
<b>Scheduled Interest Payments (+)</b>	8,000	6,000	4,000	2,000
<b>Defaults</b>	-20,000	-15,000	-15,000	-15,000
<b>Recoveries</b>	5,000	5,000	5,000	5,000
<b>End</b>				

Set purpose to "Cohort Interest Rate"

Set reestimate discount rate to "use 90"

Update cash flows for borrower performance and technicals





# CSC2: Single Effective Rate output

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Pro-rata method.....Construction model  
 All content displayed.....See ~~Tips Views Limitations~~ menu for potential problems  
 Purpose of this calculation.....Cohort Interest Rate (SER)  
 Interest rate assumptions.....Reestimate rates may vary by cohort. See PUF display f

Subsidy components						
Year	Total Subsidy	Financing Subsidy	Default Subsidy	Subsidy Reduction for Fees	All Other components	Reestimate Discount rate
2005	19.80	-0.95	20.75	0.00	0.00	3.60

Footnotes:  
 The reestimate discount rate is either a weighted average rate or a single effective rate depending on the cohort year of the cash flows. Subsidy reestimates for all cohorts dated prior to FY 2001 are based on a weighted average rate. Both the weighted average rates and the single effective rates are stated in terms of effective annual yield. For more details, see the help topics named "Select weighted average interest rate calculation method" or "Definitions related to the discounting method."



# Technical Reestimate with the CSC2

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## Update:

- Borrower cash flows (to or from the public) for actual performance
- Estimated future borrower cash flows
- Financing account balances
  - End of year debt/cash balance in the financing account
- Intragovernmental transactions
  - Includes borrowing, repayments, subsidy, financing account interest, modifications, and prior reestimates

Name:	Direct Loan Example D-1			
Description:	2010 Technical Reestimate			
Program Type:	Direct			
Purpose:	Reestimate			
Budget Year:	2010			
Latest completed fiscal year	2008			
Cohort:	2005			
Reestimate discount rate:	3.6			
Original Subsidy Rate:	12.33			
Interest Rate Reestimated Sub Rate	13.06			
	Year 1	Year 2	Year 3	Year 4
Outstanding Obligations (+)	200,000			
Timing	Annual, Beginning			
Disbursements (+)	200,000			
Balances with Treasury				
Debt to Treasury EOY	-138,652	-72,043	-35,714	0
Cash balance EOY	0	0	0	0
Intragovernmental Transactions				
Borrowings from Treasury SOY	-175,340	0	0	0
Borrowings from Treasury EOY	-6,312	-4,102	-2,596	0
Repayments of Treasury Debt MOY	0	0	0	0
Repayments of Treasury Debt EOY	43,000	70,711	38,925	35,714
Financing Account Interest	-6,312	-4,102	-2,596	-12,866
Financing Account Interest Adjustments		0	0	0
Reestimate SOY		14,945	-70	0
Interest on Reestimate SOY		538	-5	0
Subsidy transfer [annual, beginning]	24,660	0	0	0
Modification	0	9,155	0	0
Modification Adjustment transfer	0	72	0	0
Borrower Cashflows	Year 1	Year 2	Year 3	Year 4
Timing	Annual, End			
Scheduled Principal Payments (+)	50,000	50,000	50,000	50,000
Scheduled Interest Payments (+)	8,000	6,000	4,000	2,000
Defaults	-20,000	-15,000	-15,000	-15,000
Recoveries	5,000	5,000	0	0



# Reestimates with Cohorts with Future Disbursements

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- Typically construction or infrastructure loans
- Subsidy is equal to the long term cost of the cohort –not just the amount disbursed
- Set the “interest rate reestimated subsidy rate” equal to the original subsidy rate
- Future subsidy outlays/receipts must be reflected and consistent with the disbursements



# CSC2 Output: Technical Reestimate I

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## CSC2 Output for First Budget

2a) Reestimate Summary by Cohort (Thousands of dollars)					(Including interest)	(Including interest)	(Excluding interest)	
	Original Subsidy Rate	Current year Reestimate rates	% Change due to Interest	% Change due to Technical	Current year Reestimates	Net lifetime Reestimates	Net lifetime Reestimates	Actual Disbursements
<b>2005</b>	<b>12.33</b>	<b>19.8</b>	<b>0.73</b>	<b>6.74</b>	<b>15.48</b>	<b>15.48</b>	<b>14.95</b>	<b>200</b>
Total					15.48	15.48	14.95	200



# CSC2 Output and the Federal Credit Supplement

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**Table 7. DIRECT LOANS: SUBSIDY REESTIMATES <sup>1</sup>**  
(In percentages, unless noted otherwise)

Agency, Bureau, Program, Risk Category, and Cohort Year	Characteristics of Subsidy Reestimates							
	Original subsidy rate	Current reestimated rate	Percentage point change due to interest rates	Percentage point change due to technical assumptions	Current reestimate amount <sup>2</sup> (\$ thousands)	Net lifetime reestimate amount <sup>3</sup> (\$ thousands)	Net lifetime reestimate amount, excluding interest (\$ thousands)	Total disbursements to date (\$ thousands)
<b>Department of Agriculture</b>								
<b>Farm Service Agency:</b>								
Agricultural Credit Insurance Fund:								
Farm Ownership								
FY 1992	22.64	18.64	-2.27	-1.73	30	-7,082	244	65,611
FY 1993	8.50	12.82	6.38	-2.06	-38	-8,849	-3,765	66,128
FY 1994	9.81	16.09	7.95	-1.67	564	-2,074	288	80,218
FY 1995	22.31	16.74	1.17	-6.74	112	-3,744	-2,159	55,033
FY 1996	19.04	14.80	1.16	-5.40	286	-4,305	-2,043	86,955
FY 1997	21.03	12.41	2.14	-10.76	250	-10,122	-6,500	78,529
FY 1998	13.04	10.48	8.09	-10.65	633	-3,362	-1,247	80,585
FY 1999	14.97	7.97	5.73	-12.73	710	-18,840	-4,699	160,245
FY 2000	3.77	8.89	10.20	-5.08	-80	13,217	1,842	225,954
FY 2001	10.77	2.52	-6.80	-1.45	-346	-16,267	-13,707	160,440
FY 2002	2.63	0.10	-1.91	-0.62	254	-6,654	-5,665	173,368
FY 2003	11.61	-0.24	-8.04	-3.81	-198	-23,504	-14,158	164,246
FY 2004	22.08	-0.63	-0.57	-22.14	-62	-35,789	-27,150	140,044
FY 2005	5.35	-1.38	-4.40	-2.33	2,615	-18,877	-12,315	263,980
FY 2006	5.12	-0.23	-0.91	-4.44	1,885	-14,623	-12,501	269,837
FY 2007	4.19	-3.23	-2.47	-4.95	2,462	-23,567	-20,751	297,394
FY 2008	4.45	-1.05	-8.75	3.25	1,725	-24,292	-19,058	373,841
FY 2009	6.35	2.45	-13.00	9.10	3,596	-26,768	-18,613	545,985
FY 2010	4.08	2.44	4.98	-6.62	20,645	-13,303	-11,416	686,202
FY 2011	6.92	5.15	-5.50	3.73	-6,896	-6,896	-6,651	383,287



# CSC2 Output: Technical Reestimate II

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## Screen Shot from the Summary Tab

2b) Reestimate Detail by Cohort (current portion to be apportioned and executed) \*  
(Dollars)

Cohort	Current Reestimate	Current Interest on Reestimate	FAI adjustment	Total Reestimate	Footnotes
1992	0	0	0	0	
1993	0	0	0	0	
1994	0	0	0	0	
1995	0	0	0	0	
1996	0	0	0	0	
1997	0	0	0	0	
1998	0	0	0	0	
1999	0	0	0	0	
2000	0	0	0	0	
2001	0	0	0	0	
2002	0	0	0	0	
2003	0	0	0	0	
2004	0	0	0	0	
2005	14945.44	538.04	-0.00	15483.48	
Total	14945.44	538.04	-0.00	15483.48	

3) Current Reestimate Totals  
(Amounts to be apportioned and executed)  
Interest on reestimate includes FAI adjustment, which may be positive or negative

MAX P&F Entries: Thousands of dollars

PROGRAM ACCOUNT (upward (+) reestimates)

0705 or 0707 Reestimates of subsidy.....	14.95
0706 or 0708 Interest on reestimates.....	0.54

FINANCING/RECEIPT ACCOUNTS (downward (-) reestimates)

0742 Payment of downward reestimate to receipt account.....	0.00
0743 Payment of interest on downward reestimate to receipt account.....	0.00





# Interest on the Reestimate

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- Interest on Reestimate: An update for interest to account for the difference between the original subsidy cost and the current estimate
- Interest on the reestimate is calculated using the cohort interest rate: the disbursement weighted average rate (cohorts 1992-2000) or single effective rate (cohorts 2001-present).
- Example:
  - A \$100 direct loan with a 10% original subsidy rate
  - Receive \$10 from the program account, borrow \$90 from Treasury
  - After reestimates the reestimated subsidy rate is 20%
  - We've been paying interest to Treasury on \$90 when we should have paying interest on just \$80



# Financing Account Interest Adjustment

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- Adjustment for financing account interest that should have been earned/paid, and what was actually paid
- Corrects for the differences due to budget cohort interest rate (SER) vs. actual, e.g., for cohorts that disburse over several years
- Corrects for prior fiscal years where estimated data was used for financing account interest
- Corrects for errors in earning or paying financing account interest in the past (e.g., agency forgot to earn interest from FMS)



# Reestimate Requirements

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- With OMB approval, agencies may use actual data through June 30 and estimate remainder of year.
  - Agencies must update any estimated data during the following year reestimate process
- Discount rates for calculating the cohort interest rate are released about 10 days before the end of the fiscal year.



# Helpful Hints

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## **To Avoid Additional Budget Season Headaches, check:**

- Input cashflows have been correctly read into the CSC2
- Original subsidy rates have not changed
- For all cohorts that are substantially disbursed:
  - Percentage point change due to interest has not changed
  - The SER is consistent with last year's reestimates
- Disbursements through Sept. 30 are equal to or greater than last year's reestimates
- All the cohorts/risk categories reflected that we expect
- No reestimates for cohorts that have not yet disbursed
- To make sure a summary of major changes from prior reestimates is included that explains the differences in reported vs. calculated balances, and of drivers of reestimate amount (up or down)



# Guidance on Reestimates

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- Federal Credit Reform Act
- OMB Circular A-11, Ch. 185, especially Section 185.6
  - [http://www.whitehouse.gov/sites/default/files/omb/assets/a11\\_current\\_year/s185.pdf](http://www.whitehouse.gov/sites/default/files/omb/assets/a11_current_year/s185.pdf)
- Federal Credit Support Page:
  - <https://max.omb.gov/community/x/6gLuFQ>
  - OMB Credit Subsidy Calculator 2 User Guide