Federal Reserve Monetary Intermediation Cost to the American Economy
Fractional Reserve Loan Analysis with 10% Reserve Requirement (Example)

No Financial Intermediary Analysis

When no financial intermediary is involved, intermediation must be real direct asset lending. In this example, Manufacturer as Intermediary lends Farmer a tractor to use for $500. Farmer rents the tractor from Manufacturer and grows a crop which is sold. In this system $1,500 of wealth is created from crop sale split $1,000 to Farmer and $500 to Manufacturer for use of the tractor with financial intermediary not participating at $0.

I. No Financial Intermediary (Real Asset Tractor Lending)	Farmer	Manufacturer	Intermediary	Total	
Start (Cash)	$475	$475	$50	$1,000	Begin Cash
Tractor Rent	($500)	$500		$0	
Sell Crop	$1,500			$1,500	
End (Cash)	$1,475	$975	$50	$2,500	End Cash
Direct Net Earnings	$1,000	$500	$0	$1,500	Earnings ($)
% Earnings	66.67%	33.33%	0.00%	100.0%	Earnings (%)

II. With 10% Reserve Financial Intermediation Added (10% Real Backing)	Farmer	Manufacturer	Intermediary	Total	
Start (Cash)	$475	$475	$50	$1,000	Begin Cash
Direct Net Earnings(Above)	$1,000	$500	$0	$1,500	
Loan	$500		$500	$500	
Loan Interest	($25)		$25	$0	
Pay Back Loan	($500)		$500	$0	
End (Cash)	$1,450	$975	$525	$2,950	End Cash
Net Earnings	$975	$500	$475	$1,950	Earnings ($)
% Earnings	50.00%	25.64%	24.36%	100.0%	Earnings (%)
Wealth Transfer=(Principal+Interest) x (1- RR). Inflation is Principal portion wealth transfer.				18.0%	**Inflation Cash**

10% Fractional Reserve Requirement Financial Intermediation/Wealth Transfer Impact						
		(A)=(a) x (1-RR)	(B)= Item x (1-RR)	= (1 - RR)	(C)=Item x RR	(D) = (B) + (C)
Item	**Item $ Amount**	**Inflation**	**$ Unearned**	**% Unearned**	**$ Earned**	**Total Return**
Loan Principal (a)	$500.0	$450.0	$450.00	90.0%		$450.0
Interest (Loan(a) x (c))	$25.0		$22.50	90.0%	$2.50	$25.0
Total	$525.0	$450.0	$472.50	90.0%	$2.50	$475.0

Wealth Transfer (Unearned Return = ∑(B))	$472.50
Financial Intermediation Unearned Return % (Unearned Return/Total Return = ∑(B)/∑(D))	99.5%
Intermediary Return on $50 Required Reserve Investment (Total Return/Start Cash)	950.0%
Earned Financial Intermediation (Interest x Reserve Requirement = ∑(C))	$2.50
Earned Financial Intermediation % of Total Return of $475 (Earned Return/Total Return)	0.5%

10% Fractional Reserve Financial Intermediation Analysis

In this 10% fractional reserve system the Financial Intermediary adds a $500 loan into the system 90% (1-reserve requirement) backed by no real or financial assets, increasing fractional reserve returns by $450 to $1,950 from the sale of the exact same crop now split $975 to Farmer, $500 to Manufacturer and $475 to the intermediary that added 10% real credit. Farmer pays back a $500 loan and pays interest of $25 for 10% ($50) of true credit intermediation. Farmer would not borrow this way if he understood that the money borrowed was transferring a portion of his return, the amount of the new money created, to the Financial Intermediary. The Financial Intermediary loan captures 24.36% of the system earnings in the form of inflation and interest in a 90% direct transfer of wealth since the same crop is produced.

Fractional Reserve Intermediation Analysis

In this system Wealth Transfer is (Loan Principal + Interest) x (1-Reserve Requirement)). Inflation is Principal portion of wealth transfer. In a 10% reserve system 90% of the loan repayment results in inflation with interest payments as direct wealth transfer without added inflation. In a 100% reserve system there is no inflationary wealth transfer and 100% of the interest earned is true credit intermediation.	

Assumptions

Initial System Cash	$1,000
Tractor Rent $	$500
Crop Sale Price	$1,500
(a)-Loan Amount $	$500
(b)-Reserve Requirement (RR)	10.00%
(c)-Interest Rate	5.00%