



D_0 (from banks short of reserves)

Federal Funds





S_0 (from banks
with excess
reserves)

Federal Funds Rate

ffr

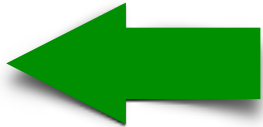
The effect of an increase in **GDP** on the Federal Funds Rate



The public **deposits** a **smaller**
portion of their income in
checking accounts



Deposits decrease



A leftward shift in
the Demand of
funds

$\text{ffr}_e = 3\%$



$Q^s = Q^d$

Assume the
market starts at
equilibrium





D_1 (from banks short of reserves)

$$\text{ffr}_1 = 2\%$$



The Fed Funds
Rate decrease

When GDP decrease,
consumers buy less: The public
need less liquid balances for
fewer transactions

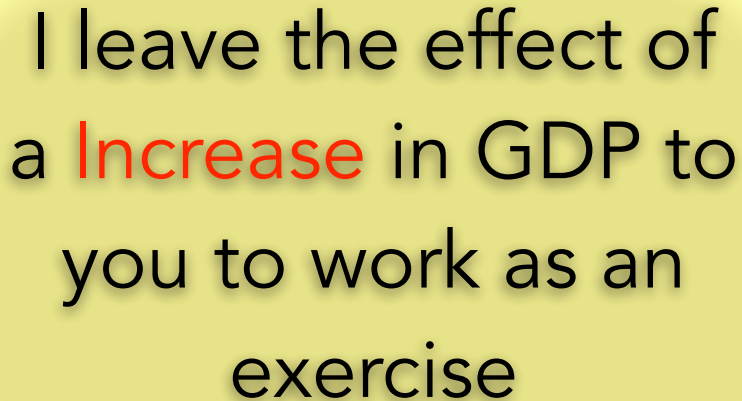


Required Reserves
decrease

Demand for funds
decrease



Fewer banks will end the
day short of reserves



I leave the effect of
a **Increase** in GDP to
you to work as an
exercise

The effect of a decrease in GDP on the Federal Funds Rate

When GDP decrease, consumers buy less: The public need less liquid balances for fewer transactions



The public deposits a smaller portion of their income in checking accounts



Deposits decrease

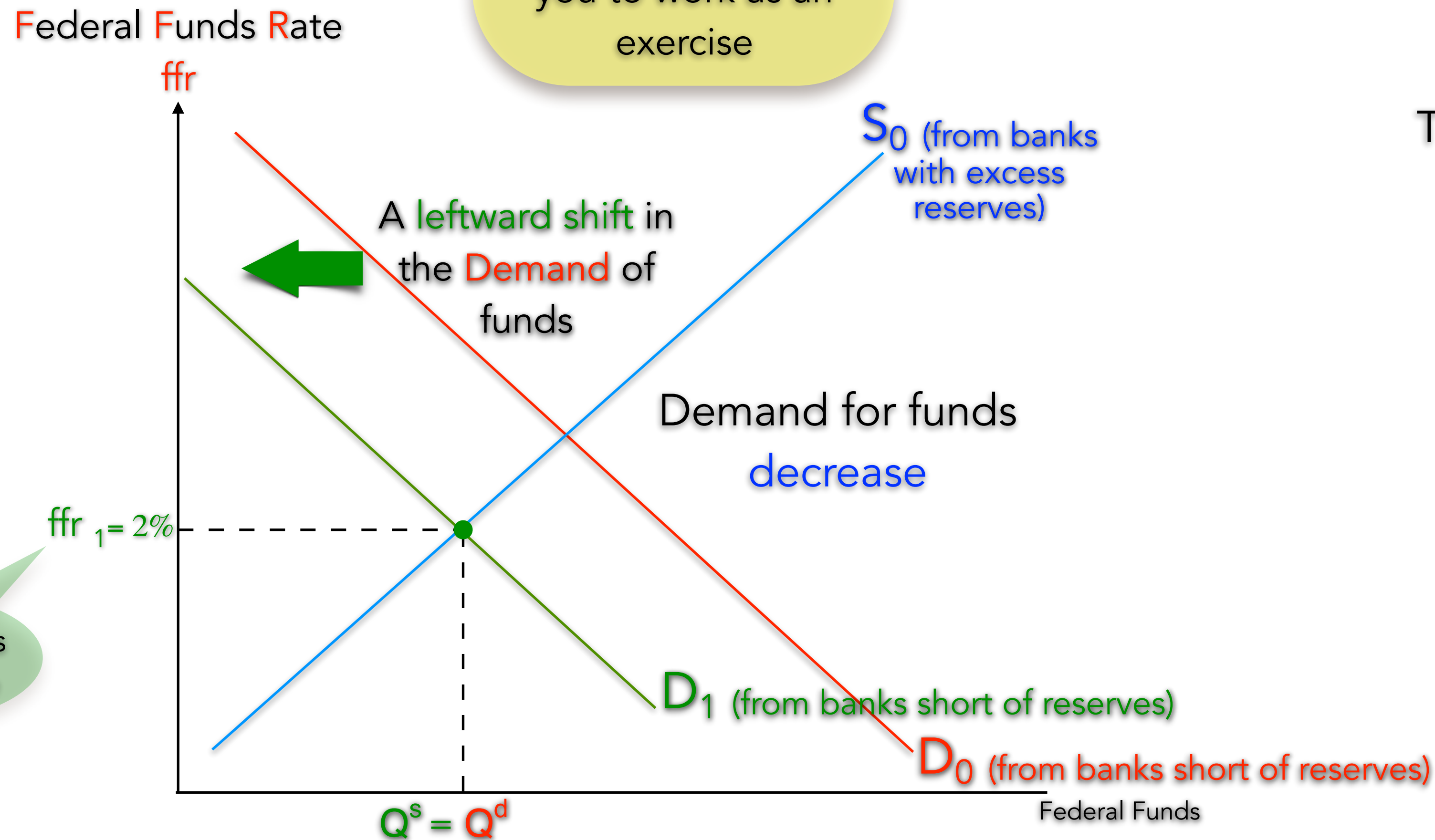


Required Reserves decrease



Fewer banks will end the day short of reserves

I leave the effect of a **Increase** in GDP to you to work as an exercise



The Fed Funds Rate decrease

**TREASURY BOND
OF 2002-2007**

Dated February 15, 1977
Due February 15, 2007

CUSIP 912810 BX 5

Redeemable on call on and after
February 15, 2002
CIRCULAR No. 4-77



7461A

5 341 4 **THE UNITED STATES OF AMERICA**

FOR VALUE RECEIVED PROMISES TO PAY TO THE BEARER THE SUM OF
ONE THOUSAND DOLLARS

ON THE DUE DATE, AND TO PAY INTEREST ON THE PRINCIPAL SUM FROM THE DATE HEREOF, AT THE RATE SPECIFIED HEREON. THIS BOND AND INTEREST COUPONS ARE PAYABLE AT THE DEPARTMENT OF THE TREASURY, WASHINGTON, D.C., OR AT ANY FEDERAL RESERVE BANK OR BRANCH. THIS BOND IS ONE OF A SERIES OF BONDS, AUTHORIZED BY THE SECOND LIBERTY BOND ACT, AS AMENDED, ISSUED PURSUANT TO THE DEPARTMENT OF THE TREASURY CIRCULAR REFERRED TO HEREON. ALL OR ANY OF THE BONDS OF THIS SERIES MAY BE REDEEMED, AT THE OPTION OF THE UNITED STATES, ON AND AFTER FEBRUARY 15, 2002, AT PAR AND ACCRUED INTEREST, ON ANY INTEREST DAY OR DATE, ON FIVE MONTHS' NOTICE OF REDEMPTION GIVEN IN SUCH MANNER AS THE SECRETARY OF THE TREASURY SHALL PRESCRIBE. IN CASE OF PARTIAL REDEMPTION THE BONDS TO BE REDEEMED WILL BE DETERMINED BY SUCH METHOD AS MAY BE PRESCRIBED BY THE SECRETARY OF THE TREASURY. FROM THE DATE OF REDEMPTION DESIGNATED IN ANY SUCH NOTICE, INTEREST ON THE BONDS CALLED FOR REDEMPTION SHALL CEASE. THE INCOME DERIVED FROM THIS BOND IS SUBJECT TO ALL TAXES IMPOSED UNDER THE INTERNAL REVENUE CODE OF 1984. THIS BOND IS SUBJECT TO ESTATE, INHERITANCE, GIFT OR OTHER EXCISE TAXES, WHETHER FEDERAL OR STATE, BUT IS EXEMPT FROM ALL TAXATION NOW OR HEREAFTER IMPOSED ON THE PRINCIPAL OR INTEREST HEREOF BY ANY STATE, OR ANY OF THE POSSESSIONS OF THE UNITED STATES, OR BY ANY LOCAL TAXING AUTHORITY. THIS BOND IS ACCEPTABLE TO SECURE DEPOSITS OF PUBLIC MONIES. IT IS NOT ACCEPTABLE IN PAYMENT OF TAXES.

WASHINGTON, D. C., FEBRUARY 15, 1977.

William E. Fisher
SECRETARY OF THE TREASURY

1000

ONE THOUSAND DOLLARS

1000