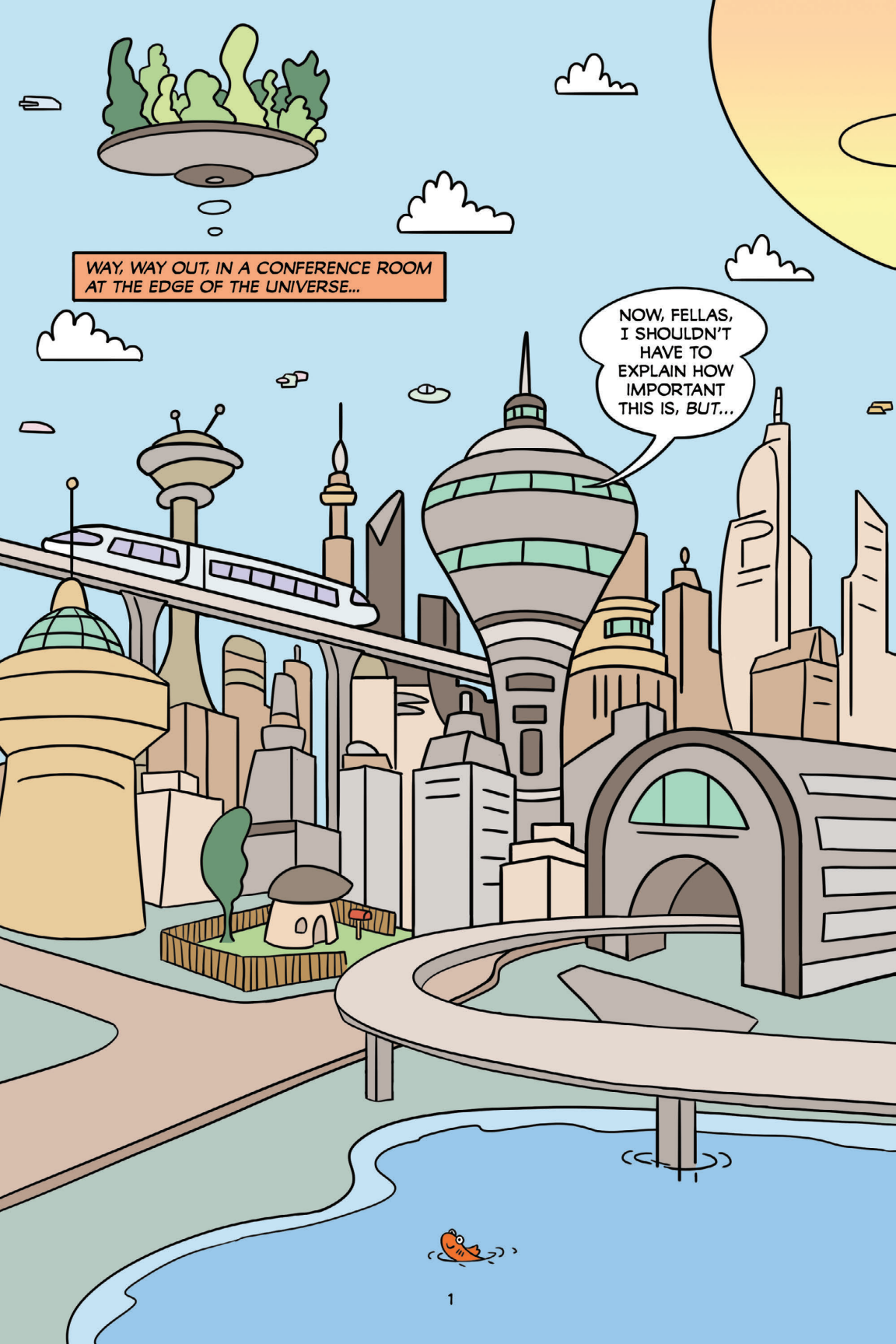


HOW DOES MONETARY POLICY WORK?

AN ECONOMIC ADVENTURE IN
MONETARY POLICY IMPLEMENTATION

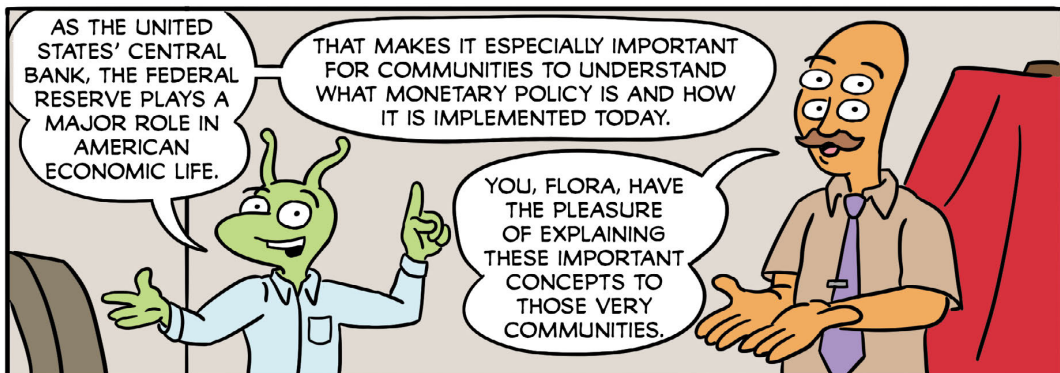
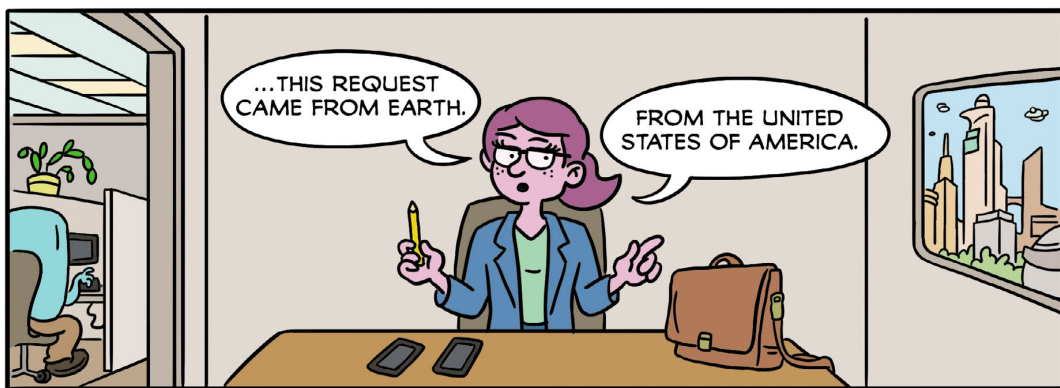


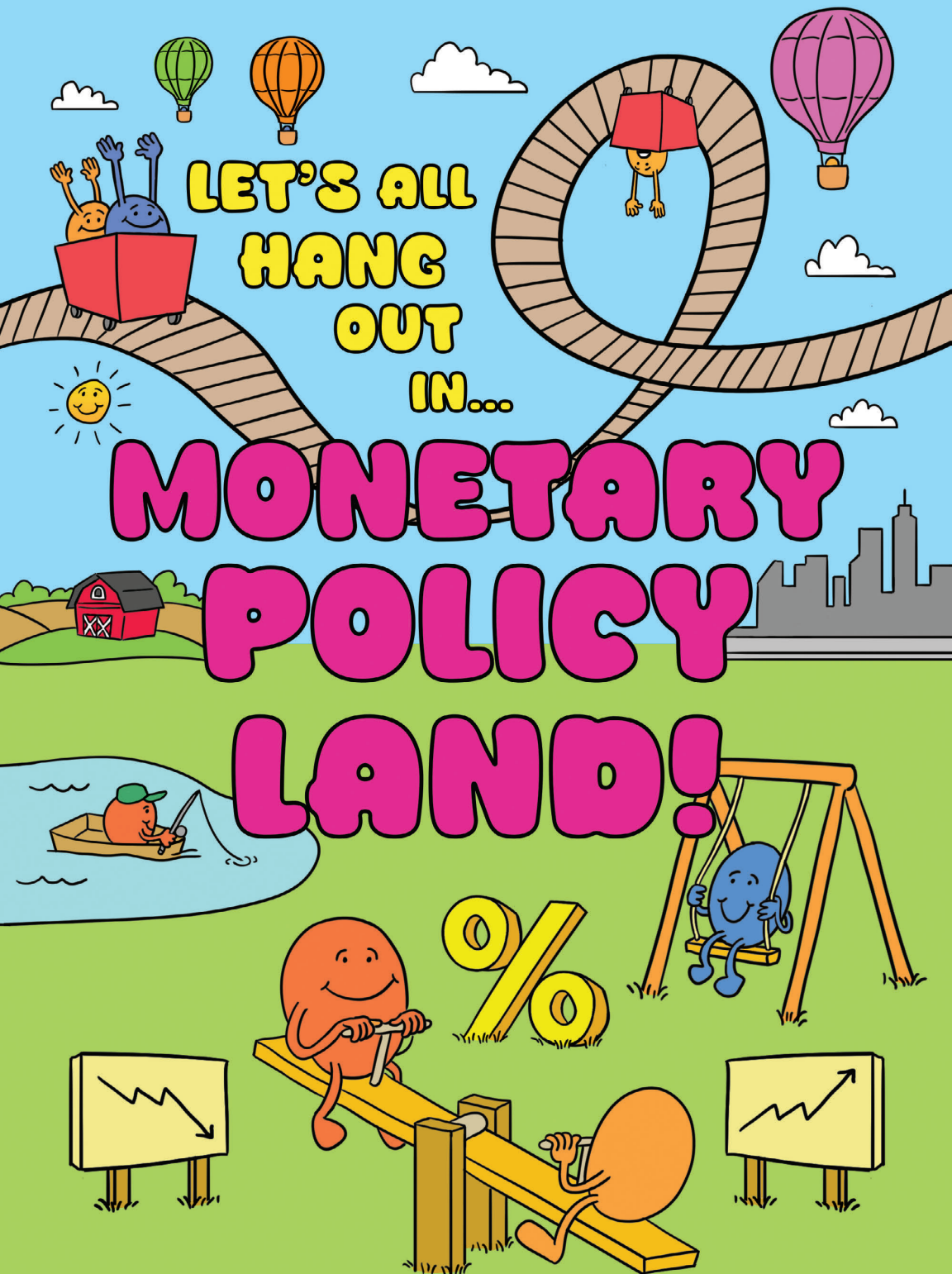
FEDERAL RESERVE BANK OF NEW YORK

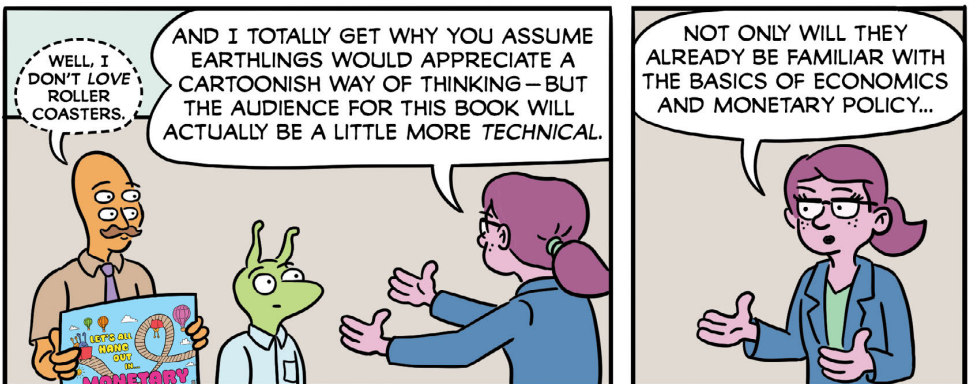
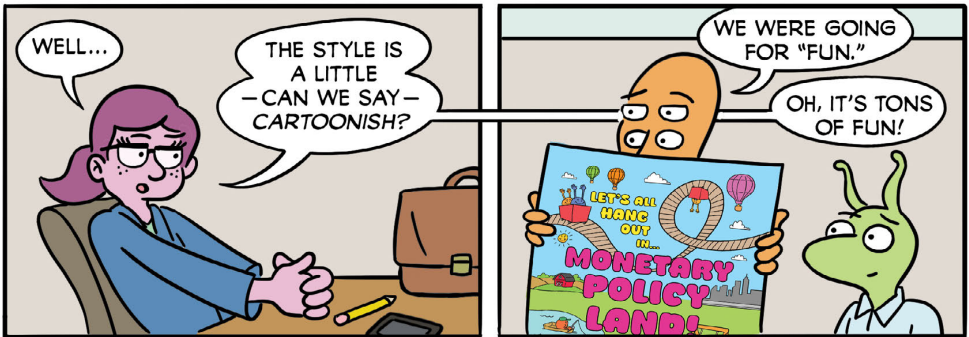
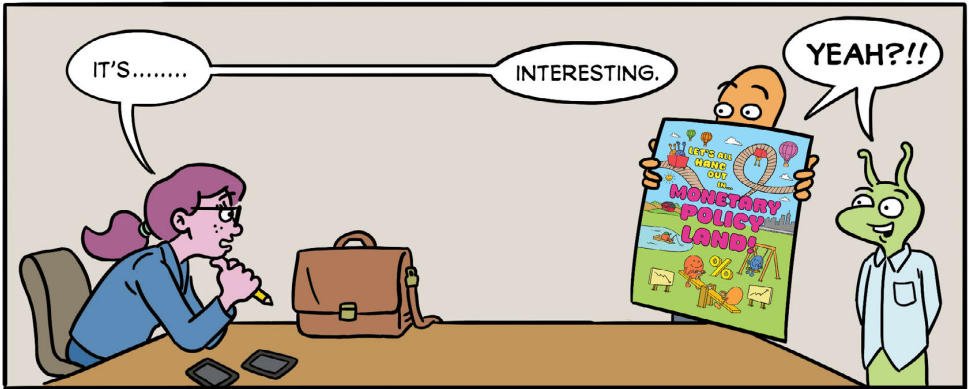


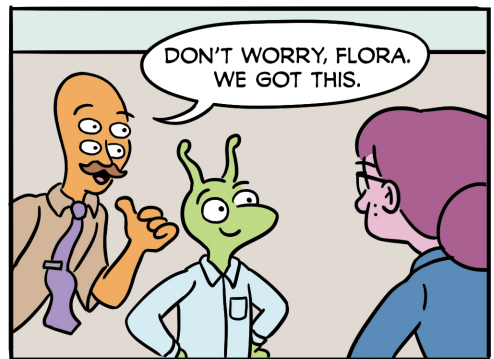
WAY, WAY OUT, IN A CONFERENCE ROOM
AT THE EDGE OF THE UNIVERSE...

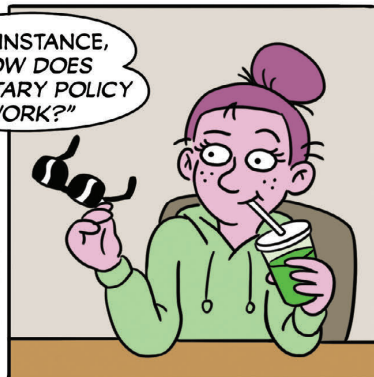
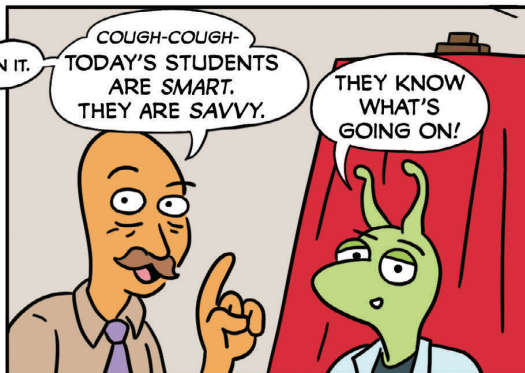
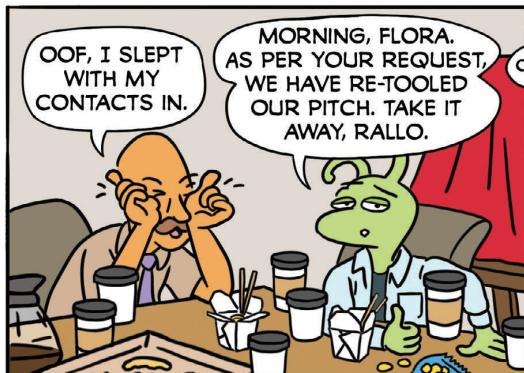
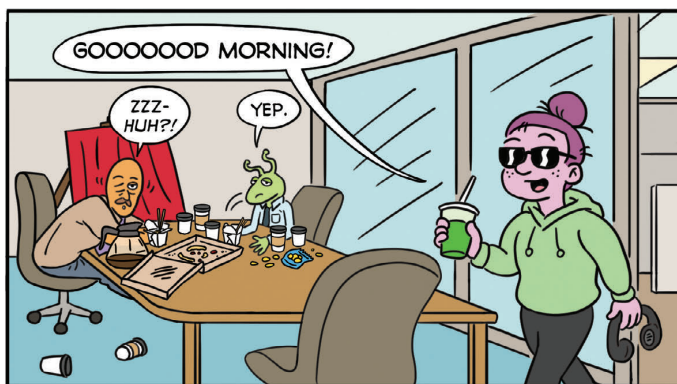
NOW, FELLAS,
I SHOULDN'T
HAVE TO
EXPLAIN HOW
IMPORTANT
THIS IS, BUT...





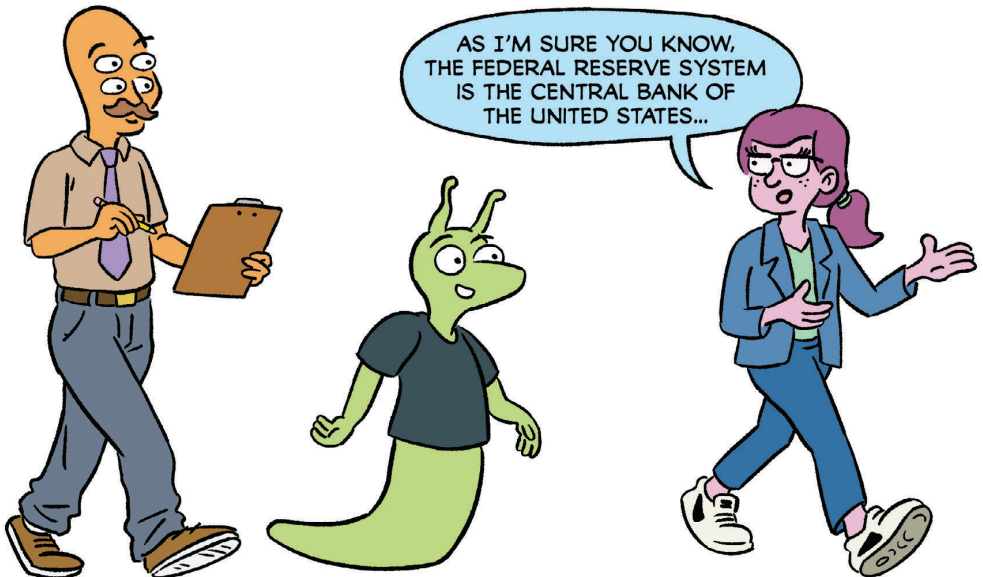






HOW DOES MONETARY POLICY WORK?

**AN ECONOMIC ADVENTURE IN
MONETARY POLICY IMPLEMENTATION**



The **Federal Reserve System**

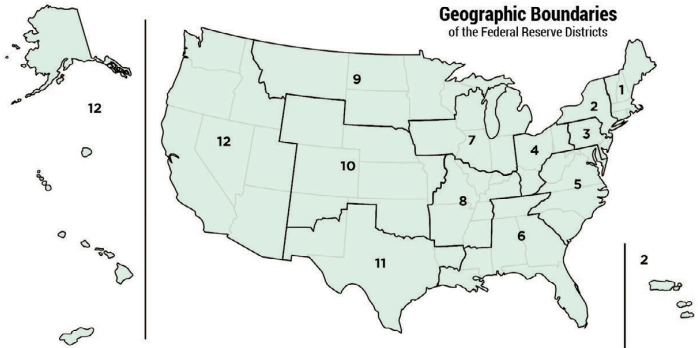
is the central bank of the United States.

ITS KEY ENTITIES ARE:

**THE BOARD OF
GOVERNORS**
(in Washington, D.C.)



**12 REGIONAL
FEDERAL RESERVE
BANKS**
(across the U.S.)

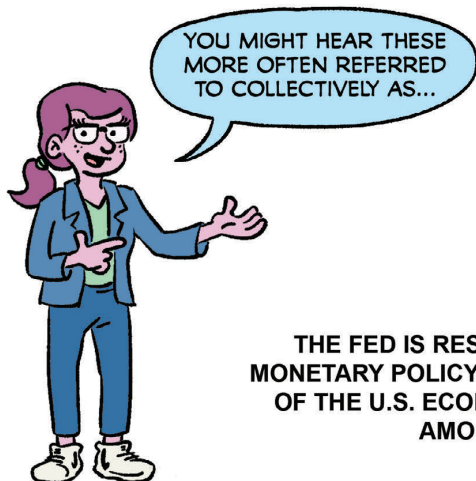


AND THE

**FEDERAL
OPEN MARKET
COMMITTEE.....**

(FOMC)*

*THE FOMC INCLUDES MEMBERS OF THE BOARD OF GOVERNORS, THE PRESIDENT OF THE FEDERAL RESERVE BANK OF NEW YORK, AND FOUR OTHER REGIONAL RESERVE BANK PRESIDENTS WHO SERVE ON A ROTATING BASIS.



THE FED

...FOR SHORT.

THE FED IS RESPONSIBLE FOR CONDUCTING
MONETARY POLICY AND PROMOTING THE STABILITY
OF THE U.S. ECONOMY AND FINANCIAL SYSTEM,
AMONG OTHER THINGS.

MONETARY POLICY

REFERS TO ACTIONS TAKEN TO INFLUENCE THE AVAILABILITY
AND COST OF MONEY AND CREDIT IN THE U.S. ECONOMY.



BY LAW, THE FOMC SETS MONETARY POLICY TO PROMOTE

**MAXIMUM
EMPLOYMENT**

AND

**STABLE
PRICES**

THESE GOALS ARE
MORE COMMONLY
KNOWN AS...

The “Dual Mandate”

NOW, IN ORDER TO ACHIEVE THIS DUAL MANDATE, THE FOMC IS
RESPONSIBLE FOR SETTING THE STANCE OF MONETARY POLICY.

AND WHAT IS MEANT BY THE
“STANCE” OF MONETARY POLICY
IS WHETHER MONETARY POLICY IS...

...**EXPANDING**
OR
CONTRACTING...



...THE LABOR MARKET
AND INFLATION.

THE STANCE
IS PRIMARILY SET
BY ESTABLISHING
A TARGET RANGE FOR...

THE FEDERAL FUNDS RATE

THE FEDERAL FUNDS RATE IS THE INTEREST RATE AT WHICH BANKS
CAN BORROW RESERVES IN PRIVATE MARKETS ON A TEMPORARY
(OR OVERNIGHT) BASIS.

AND RESERVES?



RESERVES ARE DEPOSITS THAT BANKS HOLD AT THE FED. THEY ARE USED FOR ACTIVITIES LIKE MANAGING LIQUIDITY (OR THE AVAILABILITY OF READY CASH TO CONDUCT BANK BUSINESS), MAKING PAYMENTS, AND MEETING REQUIREMENTS SET BY BANK REGULATORS.

MOVING RIGHT ALONG...

WITH A TARGET RANGE FOR THE FEDERAL FUNDS RATE ESTABLISHED, MAKING ADJUSTMENTS TO THAT RANGE WILL IMPACT A BROADER SET OF INTEREST RATES AND OVERALL FINANCIAL CONDITIONS IN THE ECONOMY.

CHANGES IN INTEREST RATES INFLUENCE DECISIONS MADE BY



PEOPLE
(OR HOUSEHOLDS)

AND



BUSINESSES

— AND THEREFORE THE BROADER ECONOMY.

%

IN GENERAL...

%

HIGHER ↑ INTEREST RATES

TEND TO REDUCE INFLATION AND THE PACE OF GROWTH OF ECONOMIC ACTIVITY BY DISCOURAGING BORROWING AND SPENDING

WHILE...

LOWER ↓ INTEREST RATES

TEND TO PREVENT INFLATION FROM BEING TOO LOW AND INCREASE THE PACE OF GROWTH OF ECONOMIC ACTIVITY BY PROVIDING MORE INCENTIVE FOR BORROWING AND SPENDING

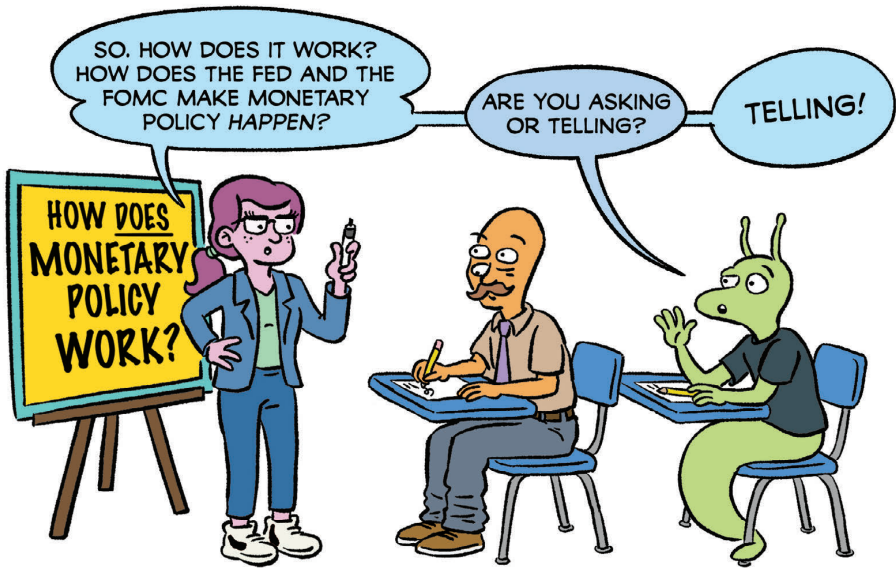


BUT IS THAT...
FOR REAL? I JUST
DON'T SEE HOW SOME
TINY FINANCIAL DECISION
I MAKE AS AN
INDIVIDUAL CAN AFFECT
THE WHOLE ENTIRE
ECONOMY.



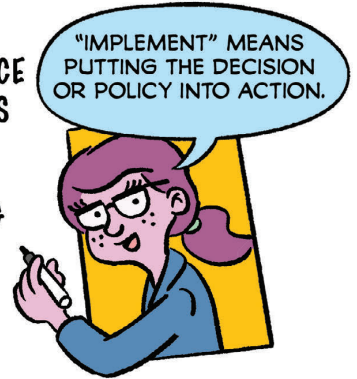
IT CAN. IT
CONTRIBUTES!

EACH INDIVIDUAL AND
BUSINESS MAKING SUCH
DECISIONS—ABOUT WHAT TO
SPEND, WHAT TO BUY, AND
WHETHER TO BORROW —
WHEN COMBINED TOGETHER,
CAN HAVE AN IMPACT.

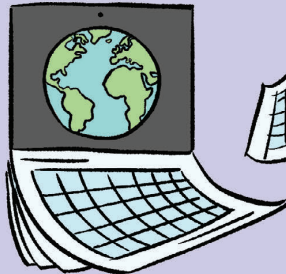


ONCE THE FOMC DECIDES ON THE APPROPRIATE STANCE OF MONETARY POLICY, THE FED USES VARIOUS TOOLS TO IMPLEMENT THAT MONETARY POLICY STANCE.

A KEY ASPECT OF SUCCESSFULLY IMPLEMENTING MONETARY POLICY IS THE ABILITY TO CONTROL SHORT-TERM INTEREST RATES, MEANING THAT THE FEDERAL FUNDS RATE REMAINS WELL WITHIN THE FOMC'S TARGET RANGE.



BEFORE THE GLOBAL FINANCIAL CRISIS IN 2008, THE FRAMEWORK FOR IMPLEMENTING MONETARY POLICY WAS DIFFERENT.



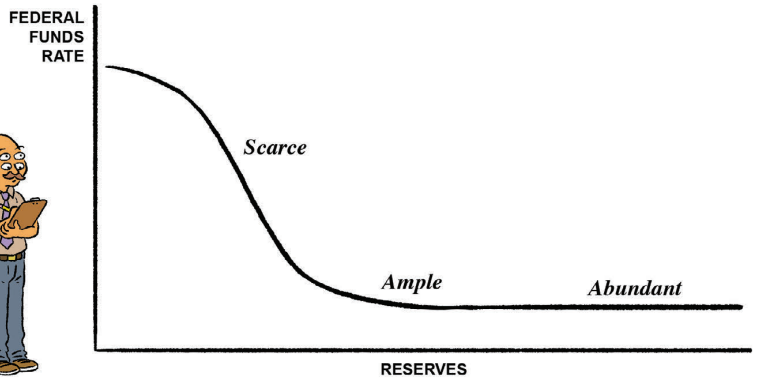
BUT SINCE THEN, INTEREST RATE CONTROL HAS BEEN ACHIEVED THROUGH A...

"FLOOR SYSTEM"

...THAT RELIES ON MAINTAINING AN AMPLE LEVEL OF RESERVES HELD AT THE FED.

THAT'S WHAT I WANT TO FOCUS ON NEXT...

HERE IS A CHART WHICH SHOWS AN EXAMPLE OF A DEMAND CURVE FOR RESERVES FROM BANKS:



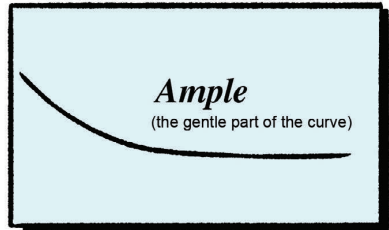
Ample Reserve Supply...

CREATES AN ENVIRONMENT IN WHICH THE FEDERAL FUNDS INTEREST RATE (THAT IS, THE COST OF BORROWING RESERVES IN THE FEDERAL FUNDS MARKET) IS NOT PARTICULARLY SENSITIVE TO SHORT-TERM CHANGES IN THE SUPPLY OF RESERVES.

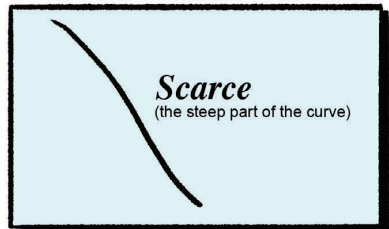


THIS MEANS THAT THE FEDERAL FUNDS INTEREST RATE WON'T CHANGE MUCH WHEN THERE ARE TEMPORARY CHANGES IN THE SUPPLY OF RESERVES BECAUSE THERE ARE A LOT OF RESERVES IN THE SYSTEM.

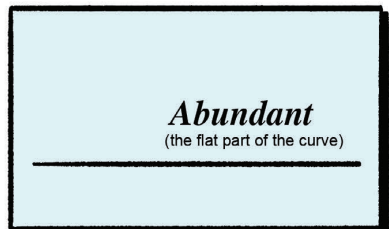
THIS CAN BE SEEN IN THE GENTLY SLOPED PORTION OF THE CURVE...

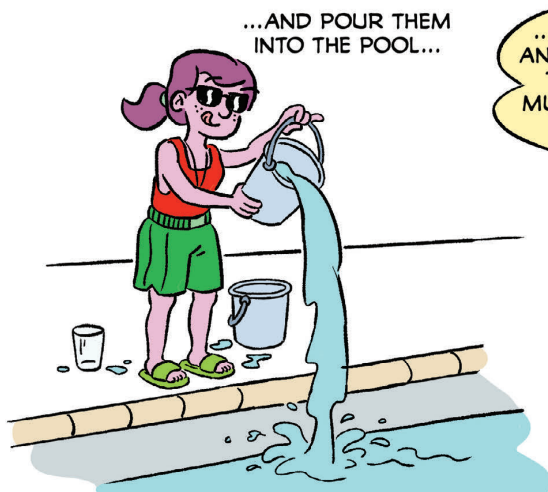
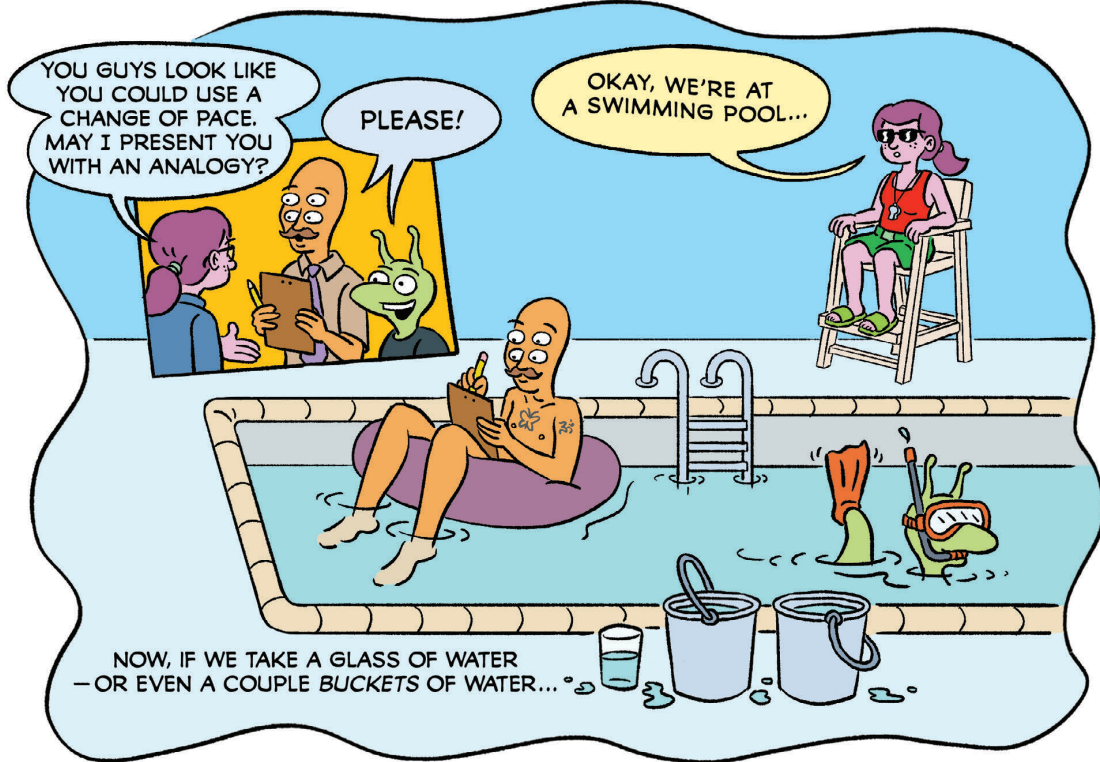


THIS CONTRASTS WITH PERIODS OF SCARCE RESERVES, IN WHICH THE INTEREST RATE IS HIGHLY REACTIVE TO CHANGES IN SUPPLY AND DEMAND...



...AND ABUNDANT RESERVES, IN WHICH THE INTEREST RATE IS HARDLY REACTIVE AT ALL TO SUCH CHANGES.





SIMILARLY, WHEN YOU HAVE AMPLE RESERVES, CHANGES IN THE LEVEL OF RESERVES MAY NOT MAKE ENOUGH OF A DIFFERENCE TO CAUSE LARGE MOVES IN INTEREST RATES.

HENCE, THE AFOREMENTIONED...

FLOOR SYSTEM

WHICH THE FED INTRODUCED TO
HELP IMPLEMENT MONETARY POLICY.

IN A FLOOR SYSTEM, THE FEDERAL FUNDS RATE IS PRIMARILY CONTROLLED BY OTHER INTEREST RATES THAT ARE SET BY FED POLICYMAKERS.

THERE ARE
TWO KEY INTEREST RATES
THAT SET THIS FLOOR.

ONE IS THE INTEREST
RATE ON RESERVE
BALANCES, OR...

IORB

...FOR SHORT.

AND THE OTHER IS THE
ONE PLACED ON THE OVERNIGHT
REVERSE REPO FACILITY, OR...

ON RRP

...FOR SLIGHTLY-LESS-SHORT.

CAN WE TALK
ABOUT IORB
FIRST?



WE SURE
CAN!



IORB THE FED PAYS THIS INTEREST RATE TO BANKS ON THE AMOUNT OF MONEY, OR RESERVES, THAT THEY KEEP AT THE FED. BY PAYING INTEREST ON RESERVES, THE FED CAN ENCOURAGE BANKS TO KEEP MORE RESERVES AVAILABLE TO MEET THE NEEDS OF THEIR CUSTOMERS AND ESTABLISH A "FLOOR" TO KEEP THE FEDERAL FUNDS RATE IN ITS TARGET RANGE.

THIS WORKS BECAUSE BANKS ARE UNLIKELY TO LEND OUT THEIR RESERVES TO OTHERS IN THE PRIVATE MARKET AT A RATE LOWER THAN THE INTEREST RATE THEY CAN EARN FROM THE FED.

IT ACTS AS AN INCENTIVE FOR THE BANKS NOT TO LEND BELOW THE IORB RATE.

NOW I BET YOU'RE
WONDERING WHAT
"ON RRP" DOES THAT
"IORB" DOESN'T?



OF COURSE
I AM.



I GOT
YOU.

REMEMBER THAT ONLY BANKS ARE ELIGIBLE TO EARN IORB. HOWEVER, THERE ARE OTHER FINANCIAL INSTITUTIONS OUT THERE IN THE ECONOMY THAT ARE NOT BANKS. SOME OF THEM DON'T DEPOSIT WITH THE FED, OR THEY HAVE DEPOSITS AT THE FED THAT ARE NOT ELIGIBLE TO EARN INTEREST.

AS A RESULT, THOSE FINANCIAL INSTITUTIONS COULD THEN BE WILLING TO LEND FUNDS AT INTEREST RATES LOWER THAN THE IORB OR FEDERAL FUNDS RATES.

AND, TOO MUCH OF THIS TYPE OF LENDING COULD KNOCK THE FEDERAL FUNDS RATE OUT OF THE TARGET RANGE.

Enter ON RRP!

ON RRP THE FED OFFERS THE OVERNIGHT REVERSE REPO FACILITY AS A TEMPORARY INVESTMENT OPPORTUNITY FOR NON-BANK FINANCIAL INSTITUTIONS PARTICIPATING IN MONEY MARKETS. THESE INSTITUTIONS AREN'T ELIGIBLE TO EARN INTEREST ON RESERVE BALANCES, OR IORB.

BUT JUST LIKE IORB FOR BANKS, THE ON RRP FACILITY INTEREST RATE PROVIDES AN INCENTIVE FOR CERTAIN NON-BANKS NOT TO LEND AT A LOWER RATE.

ON RRP REINFORCES THE FLOOR SET BY IORB.

SO—TOGETHER—IORB AND ON RRP PROVIDE THE FLOOR SYSTEM FOR THE FED TO CONTROL THE FEDERAL FUNDS RATE.

BINGO!



HOW'RE WE ALL DOING?
DO WE NEED A BREAK?

HOW MANY
PAGES DO WE
GOT LEFT?

LIKE, FIVE?
MAYBE SIX.



BET. LET'S
POWER
THROUGH.

ROGER
THAT!



OPEN MARKET OPERATIONS

AND THE DISCOUNT WINDOW!

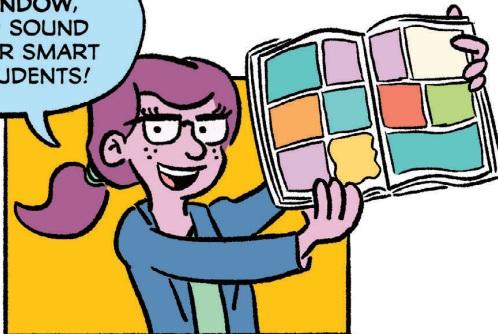
IN ADDITION TO THE FLOOR SYSTEM, THERE ARE OTHER TOOLS THAT HELP EFFECTIVELY IMPLEMENT MONETARY POLICY AND ENSURE THE STABILITY OF THE BANKING AND FINANCIAL SYSTEM.



FINANCIAL INSTITUTIONS OCCASIONALLY REQUIRE ADDITIONAL READY CASH TO BETTER SERVE THEIR CUSTOMERS - THE PEOPLE (OR HOUSEHOLDS) AND BUSINESSES MAKING THEIR EVERYDAY DECISIONS IN THE ECONOMY.

ONE WAY TO DO THIS IS THROUGH **OPEN MARKET OPERATIONS** CONDUCTED WITH PRIMARY DEALERS BY THE NEW YORK FED OPEN MARKET TRADING DESK, IN WHICH THE FED INCREASES LIQUIDITY EITHER TEMPORARILY OR MORE PERMANENTLY.

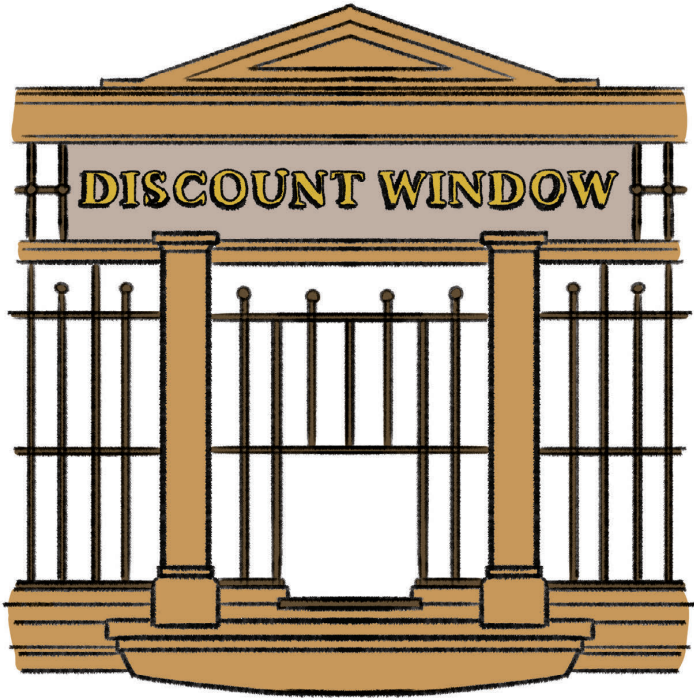
ANOTHER WAY IS THE DISCOUNT WINDOW, WHICH SHOULD SOUND FAMILIAR TO OUR SMART AND SAVVY STUDENTS!



SEE:

"THE STORY OF MONETARY POLICY"
(PAGES 15 - 17)

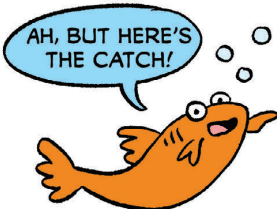
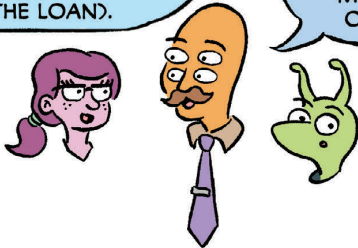
THE FED'S DISCOUNT WINDOW DATES BACK TO THE BEGINNING OF THE FEDERAL RESERVE SYSTEM. THOUGH NOT LITERALLY A WINDOW ANYMORE, THE "DISCOUNT WINDOW" REFERS TO THE LOANS THAT CENTRAL BANKS CAN USE TO PROVIDE FUNDS TO COMMERCIAL BANKS SO THEY CAN MEET THE NEEDS OF THEIR HOUSEHOLD AND BUSINESS CUSTOMERS.



INSTITUTIONS BORROW FROM THE DISCOUNT WINDOW FOR A VARIETY OF REASONS, INCLUDING TEMPORARY FUNDING NEEDS IN PERIODS OF MARKET STRESS.

THERE ARE DIFFERENT PROGRAMS CURRENTLY IN OPERATION AT THE DISCOUNT WINDOW. THE IMPORTANT THING TO KNOW IS THAT THEY ALL PROVIDE A BACKUP SOURCE OF LIQUIDITY TO BANKS, LENDING CASH AGAINST A WIDE RANGE OF ELIGIBLE COLLATERAL (OR, ASSETS PLEDGED BY A BANK TO SECURE THE LOAN).

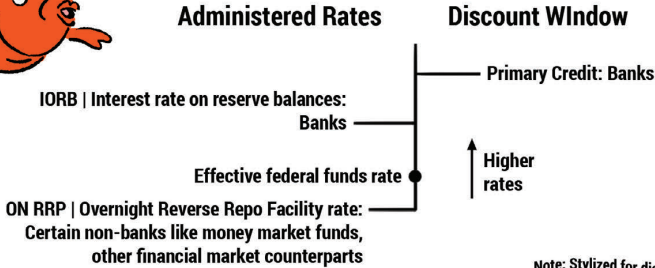
WHY IS IT A BACKUP? COULDN'T THE BANKS JUST GO TO THE FED FOR DISCOUNT WINDOW LOANS ANY TIME THEY NEED CASH? AND SKIP THE FEDERAL FUNDS MARKET OR BORROWING IN OTHER PRIVATE MARKETS?



THE CATCH:

THE DISCOUNT WINDOW OFFERS COLLATERALIZED LOANS TO COMMERCIAL BANKS. HOWEVER, THE INTEREST RATE ON THOSE LOANS (SOMETIMES REFERRED TO AS THE DISCOUNT RATE OR PRIMARY CREDIT RATE) IS TYPICALLY HIGHER THAN OTHER RATES AVAILABLE.

LOOK AT OUR HANDY COMPARISON OF SOME OF THE INTEREST RATES WE HAVE DISCUSSED SO FAR:



Note: Stylized for display purposes

THANKS, FISHES!

NOW, IF YOU ARE A BORROWING BANK AND THE INTEREST RATE TO BORROW FROM THE FED IS HIGHER THAN OTHER LOAN OPPORTUNITIES, WOULD YOU WANT TO PAY A HIGHER OR LOWER INTEREST RATE?

LOWER!

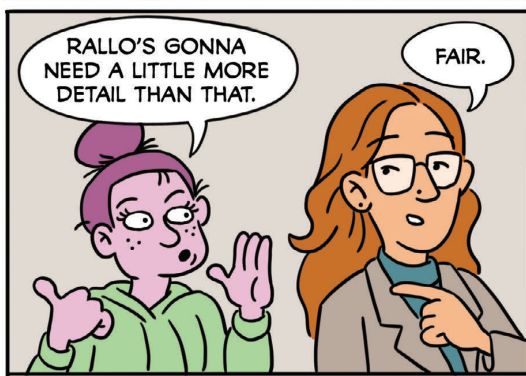
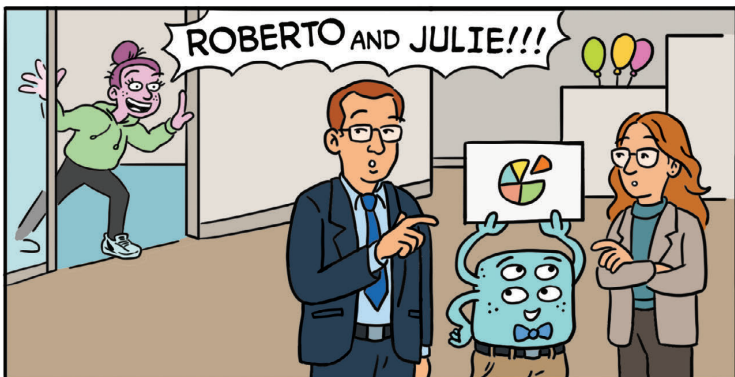
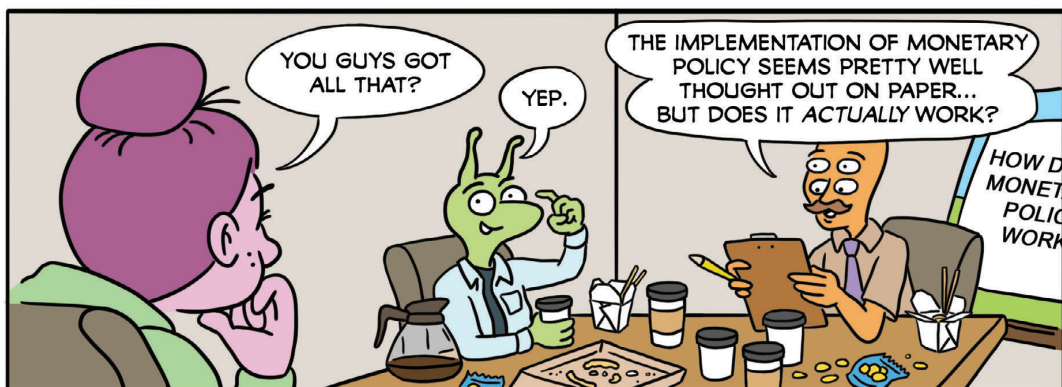
SO, TO GET A BETTER DEAL AND PAY LESS INTEREST FOR THE PRINCIPAL BORROWED, A BORROWING BANK WOULD NOT WANT TO PAY THE HIGHER INTEREST RATE FROM THE FED IF A LOWER INTEREST RATE IS AVAILABLE IN THE PRIVATE MARKET.

THE DISCOUNT WINDOW IS ALSO AN IMPORTANT TOOL FOR MAINTAINING THE FEDERAL FUNDS RATE WITHIN ITS TARGET RANGE.

REMEMBER HOW IORB AND ON RRP HELP TO SET A FLOOR FOR THE FEDERAL FUNDS RATE RANGE? THE DISCOUNT WINDOW HELPS TO REDUCE PRESSURE WHEN MARKET RATES WOULD OTHERWISE GO ABOVE THE TOP OF THE TARGET RANGE.

THIS WORKS BECAUSE BANKS ARE UNLIKELY TO BORROW FROM OTHERS IN THE PRIVATE FEDERAL FUNDS MARKET AT A RATE HIGHER THAN THE INTEREST RATE THEY CAN PAY IF THEY BORROW FROM THE FED.

IT ACTS AS AN INCENTIVE FOR THE BANKS NOT TO LEND RESERVES TO EACH OTHER AT RATES ABOVE THE DISCOUNT WINDOW OR PRIMARY CREDIT RATE.



THE FOMC SETS MONETARY POLICY TO PROMOTE MAXIMUM EMPLOYMENT AND STABLE PRICES. THESE GOALS ARE MORE COMMONLY KNOWN AS THE "DUAL MANDATE."

AND THE POLICY STANCE IS SET BY ESTABLISHING A TARGET RANGE FOR THE FEDERAL FUNDS RATE. THE STANCE IS SET TO EITHER SPEED UP (TARGET RANGE IS SET LOWER), SLOW (TARGET RANGE IS SET HIGHER), OR MAINTAIN (NO CHANGE TO THE TARGET RANGE) THE PACE OF ECONOMIC ACTIVITY AT LEVELS TO MAXIMIZE EMPLOYMENT WHILE KEEPING PRICES STABLE.

MONETARY POLICY IS IMPLEMENTED BY SETTING THE IORB, ON RRP, AND PRIMARY CREDIT (DISCOUNT WINDOW) RATES AND CONDUCTING OPEN MARKET OPERATIONS TO HELP KEEP THE FEDERAL FUNDS RATE IN ITS TARGET RANGE.

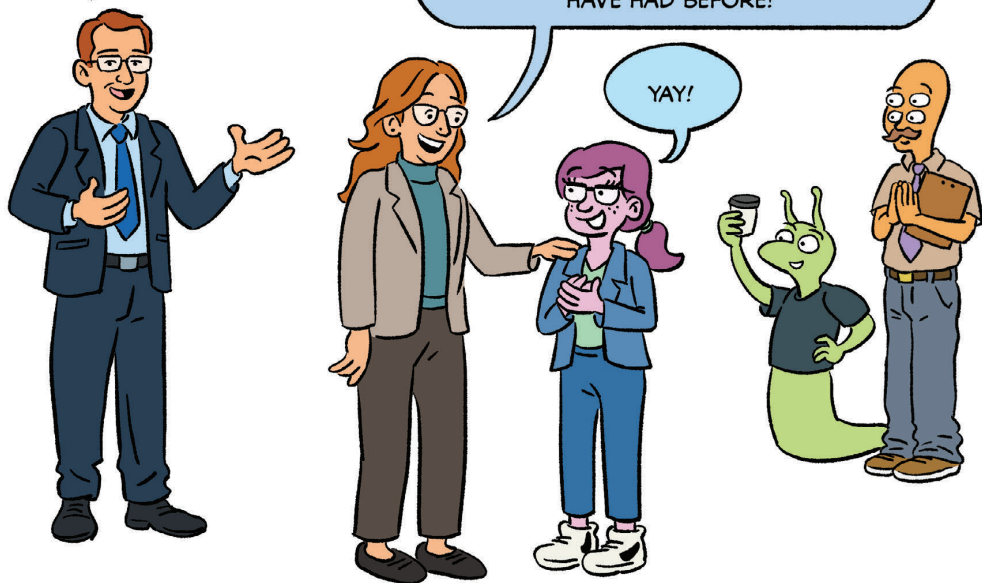
THE FEDERAL FUNDS RATE AND ACTIONS OF THE FED AND FOMC THEN IMPACT OTHER INTEREST RATES IN THE ECONOMY. NOT TO MENTION ALL OF THE INDIVIDUAL DECISIONS WE ALL MAKE EVERY DAY ABOUT WHAT TO SPEND, WHAT TO BUY, AND WHETHER TO BORROW. EACH HOUSEHOLD AND BUSINESS MAKING THOSE DECISIONS (AND ALL OF OUR EXPECTATIONS ABOUT HOW THE ECONOMY WILL PERFORM) WILL TRANSMIT MONETARY POLICY ACROSS THE ECONOMY.

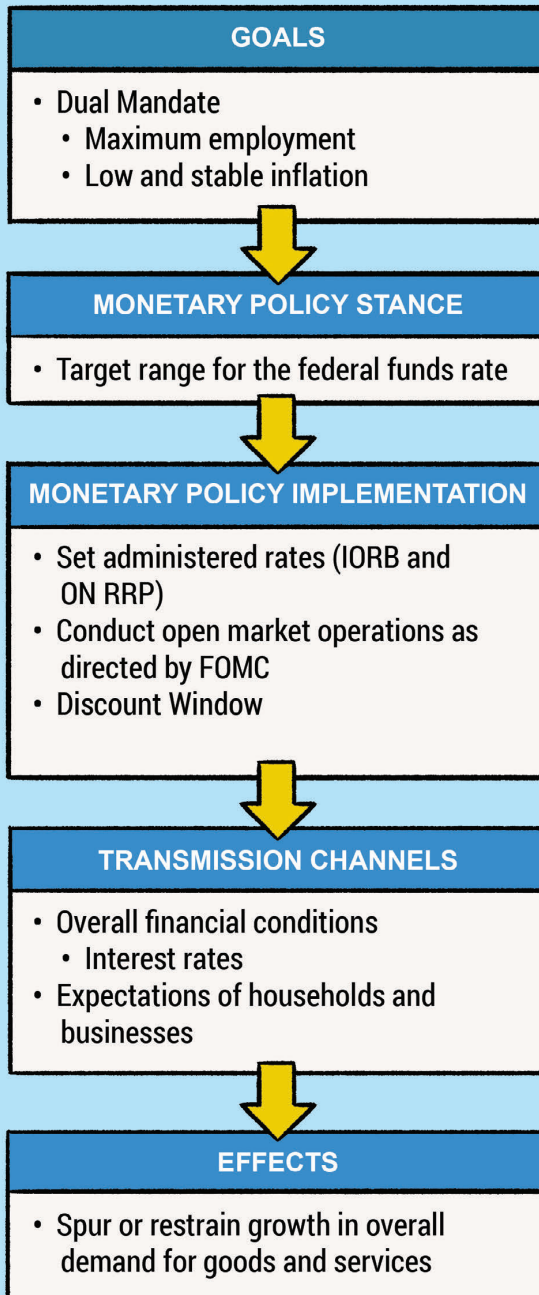
OVER TIME, WE WILL SEE IF AND HOW THE STANCE OF MONETARY POLICY (ALONG WITH A LOT OF OTHER ECONOMIC FACTORS!?) HELPS TO INCREASE OR DECREASE DEMAND FOR GOODS AND SERVICES.

IT IS IMPORTANT FOR COMMUNITIES TO UNDERSTAND WHAT MONETARY POLICY IS AND HOW IT IS IMPLEMENTED TODAY.

THANK YOU FOR HELPING TO GIVE STUDENTS A BETTER UNDERSTANDING OF MONETARY POLICY IMPLEMENTATION THAN THEY MIGHT HAVE HAD BEFORE!

YAY!





FOR MORE INFORMATION, VISIT:

NEW YORK FED ECONOMIC EDUCATION
[NYFED.ORG/ECON-ED](https://nyfed.org/econ-ed)

MARKETS & POLICY IMPLEMENTATION
[NYFED.ORG/MARKETS](https://nyfed.org/markets)

FEDERAL RESERVE EDUCATION
[FRE.ORG](https://fre.org)

FEDERAL RESERVE BANK OF NEW YORK
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