THE STORY OF MONETARY POLICY

FEDERAL RESERVE BANK OF NEW YORK
Way, way out, at the edge of the universe...

One vacation, please.
WELL, YOU'VE COME TO THE BEST PLACE!

I recommend starting at the park in the center of town. There's a festival today...

Ooohhhhh... thank you. That sounds incredible.

Perfect.

Novus Park
Festival today!
SEEMS LIKE A REALLY NICE PLACE.
YOU COULD DO A LOT WORSE.

NOVUS IS EXPERIENCING ITS BEST ECONOMIC CONDITIONS IN YEARS!
THAT'S AMAZING. WHAT'S THEIR SECRET?!
I CAN'T RIGHTELY SAY MYSELF...

BUT YOU COULD ASK FLORA OVER THERE. SHE'S ONE OF THE PLANET'S TOP EXPERTS ON MATTERS ECONOMIC AND SUCH.
HI, MR. MURT. WHO'S YOUR NEW FRIEND?
GREETINGS, FLAVOR! WHAT IN THE WORLD KIND OF SPECIES ARE YOU??

OH! THIS IS JUST A COSTUME FOR THE ICE CREAM BUSINESS MY FRIEND AND I OWN.
AND THE NAME'S "FLORA." NICE TO MEET YOU!
IT'S NICE TO MEET YOU TOO! I'M O-SEVEN, A BLUE CUBE FROM THE PLANET ALPHA-NUMERICA.

TELL ME, HOW DOES NOVUS MAINTAIN SUCH A VIBRANT AND HEALTHY ECONOMY?
WELL, THE PEOPLE HERE ARE FRIENDLY, AND WE LIKE DOING BUSINESS WITH EACH OTHER...

PLUS, WE RECENTLY SET UP A CENTRAL BANK THAT HELPS US KEEP OUR ECONOMY RUNNING SMOOTHLY.
A "CENTRAL" BANK?!
OUR CENTRAL BANK IS A BANK THAT PROMOTES MAXIMUM EMPLOYMENT, STABLE PRICES, AND MODERATE LONG-TERM INTEREST RATES.

MAX-MUM... EM-PLOY-MENT...
COME ON, HOW 'BOUT I JUST SHOW YOU?!

NEW FLAVOR ALERT!
NEW FLAVOR ALERT!
HAVING STABLE PRICES MEANS PEOPLE HAVE A GENERAL IDEA OF WHAT THINGS WILL COST FROM DAY TO DAY, SO THEY ARE BETTER ABLE TO PLAN ACCORDINGLY.

I'VE SELLING SO MANY FISH THESE DAYS, I NEED A BIGGER BOAT.

I HAVE JUST THE VESSEL!

NEW FLAVOR ALERT!

I HAVE BUDGETED TWO DOLLARS TO SPEND ON EGGS THIS WEEK.

I CAN WORK WITH THAT. TWO DOLLARS WILL GET YOU TWO DOZEN SMALL EGGS OR ONE GIANTIC EGG.

"A HEALTHY ECONOMY ALSO MEANS BUSINESSES HERE ARE HIRING."

I ONLY HAVE FOUR ARMS, BUT I'M FAST!

NOBODY'S PERFECT!

HELP WANTED
"Older citizens, like my parents, can afford to retire on their savings and investments, and the next generation is able to embark on new business ventures."

Flowers & Fruit

Good news, folks! We've secured your small business loan.

Our own shop? This is our dream come true?

Ours too!

Hello-o-o retirement!

The ice cream business is booming! This is my partner, Glux, and our friend Rallo. Guys, this is Q-Seven.

Welcome to Novus! Want to try our new ice cream flavor?

I've never had ice cream.

New Bradberry

He's never had ice cream?!
YOU’VE NEVER HAD ICE CREAM? WELL, YOU ARE IN FOR A TREAT.

THANK YOU!

GLIX!!!

HE’S OVER THERE!

MOM? DAD? WHAT’S WRONG?

IT’S ZEEBLIX, SON. THERE’S SOME SORT OF ECONOMIC CRISIS!

IT JUST KEEPS GETTING WORSE, AND NO ONE KNOWS WHAT TO DO!

Hey, GLIX, uh, aren’t those your parents?

Since you and your friends fixed the crisis on Novus, we thought maybe you could do the same thing for Zeeblix.

Well, I’ll certainly come home and take a look.

Flora? Rallo? New guy? What do you say? Should we try to help?

Flora? Rallo? New guy? What do you say? Should we try to help?

Please!

Since you and your friends fixed the crisis on Novus, we thought maybe you could do the same thing for Zeeblix.

Well, I’ll certainly come home and take a look.

What’s Zeeblix?

That’s GLIX’s home planet.

Ice cream bot! Mind the store, we’ll be right back!

I’ve always wanted to go to planet Zeeblix!

You just found out about Zeeblix ten seconds ago!

Good luck!

Thanks!

...and away they go!
SO HOW DO YOU EVEN BEGIN TO SOLVE AN ECONOMIC CRISIS?

WELL, MOM, YOU’RE A DOCTOR. WHAT’S THE FIRST THING YOU DO WHEN TREATING A SICK PATIENT?

Hmm... first I collect some key bits of information. To help diagnose the problem.

WHAT SORT OF INFORMATION?

I START WITH THE PATIENT’S TEMPERATURE, HEIGHT, WEIGHT, AGE, AND OBSERVE THEIR SYMPTOMS.

That’s similar to how we diagnose an economic problem.

**Diagram:**

**Diagnose a Medical Problem**

- Temperature
- Height
- Weight
- Age

**Diagram:**

**Diagnose an Economic Problem**

- Unemployment
- GDP
- Inflation

But instead of things like temperature, we look at economic indicators, such as unemployment, GDP, and inflation.

I know unemployment all too well. A lot of us are looking for jobs on Zeebux, but can’t find any at the moment.

Inflation measures how much the prices of goods and services are rising.

That’s a big part of our problem! Prices keep going up and up!

That sounds like high inflation, but we’ll need more information to be sure.

**Planet Zeebux**

What’s that second thing you mentioned... GDP? And “inflation?”

GDP stands for “gross domestic product.” That’s the value of all goods and services an economy produces in a period of time—like a year, for example.

Well, we’re almost there. So we can show you the situation firsthand.
SINCE TODAY.

SORRY, WE DON'T USE THE HEAT.
BUT IT'S A HEAT SOON.
FOR ME TO HIRE YOU HIGH.

SINCE WHEN DO EGGS A COST MORE THAN A DOZEN.

PRICES KEEP RISING.
EVERY DAY, ON BOTH SMALL AND LARGE PURCHASES.

I SURE COULD USE A NEW BOY.
BUT THEY'RE SO EXPENSIVE.

"THAT WEREN'T BAD ENOUGH.
BUSINESSES CAN'T AFFORD TO HIRE NEW WORKERS."
"OLDER CITIZENS AREN’T ABLE TO RETIRE ON THEIR SAVINGS AND INVESTMENTS..."

WE’VE SAVED ALL OUR LIVES, BUT MONEY JUST DOESN’T BUY AS MUCH AS IT USED TO.

PLUS, PRICES ARE RISING SO FAST, WHO KNOWS HOW MUCH OUR SAVINGS WILL BE WORTH TOMORROW?

"...AND IT MAKES STARTING A NEW BUSINESS HARDER TO AFFORD."

SORRY, BUT WE AREN’T WILLING TO LEND YOU AS MUCH AS YOU NEED.

*SIGH* THERE GOES THAT PLAN.

AND TO TOP IT ALL OFF, YOUR FATHER HAD TO SHUT DOWN THE SHOP, WHEN THE DEMAND FOR ICE CREAM DROPPED SIGNIFICANTLY.

HOW IS THAT POSSIBLE? MY DEMAND FOR ICE CREAM HAS NEVER BEEN HIGHER!

YOU JUST FOUND OUT ABOUT ICE CREAM A MINUTE AGO!
LATER THAT DAY...

WE'VE COLLECTED DATA ON YOUR GROSS DOMESTIC PRODUCT—YOUR GDP...

...AND AS YOU CAN SEE, PRICES HAVE BEEN RISING DRAMATICALLY, WHILE THE VALUE, OR PURCHASING POWER, OF YOUR MONEY HAS BEEN PLUMMETING.

PRICES

BASED ON WHAT WE'VE OBSERVED AND THE DATA WE'VE COLLECTED, WE'RE READY TO MAKE A DIAGNOSIS.

IS IT THE FLU?!

INFLATION IS THE OVERALL INCREASE IN PRICES. HIGH INFLATION MEANS PRICES ARE GOING UP FAST.

IF HIGH INFLATION ISN'T CORRECTED, IT CAN LEAD TO HYPERINFLATION— WHEN PRICES RISE AT A RATE THAT'S COMPLETELY OUT OF CONTROL! IN YOUR CASE, HIGH INFLATION HAS LED TO WHAT WE REFER TO AS A "RECESSION," A TEMPORARY ECONOMIC DECLINE.

NO, IT'S A CLEAR CASE OF HIGH INFLATION.

SO... BETTER OR WORSE THAN THE FLU?

SO, HOW DO WE BRING IT UNDER CONTROL?
HIGH INFLATION HAPPENS WHEN THE MONEY SUPPLY HAS GROWN TOO QUICKLY. THAT'S WHEN A CENTRAL BANK SHOULD SLOW THINGS DOWN THROUGH CONTRACTIONARY MONETARY POLICY.

SPENDING
BORROWING

WE RECOMMEND RAISING INTEREST RATES.*

*IN THE UNITED STATES, THE FEDERAL RESERVE SYSTEM HAS TRADITIONALLY RAISED OR LOWERED INTEREST RATES BY BUYING OR SELLING GOVERNMENT SECURITIES IN THE OPEN MARKET.

HIGHER INTEREST RATES MEANS PEOPLE AND BUSINESSES WILL SAVE MORE AND BORROW LESS. THIS SLOWS DOWN THE RATE OF ECONOMIC GROWTH AND DECREASES THE MONEY SUPPLY, WHICH BRINGS HIGH PRICES BACK DOWN.

WHEN HIGH INFLATION IS BROUGHT BACK DOWN TO NORMAL LEVELS, PRICES STABILIZE AND PEOPLE FEEL MORE CONFIDENT ABOUT THE ECONOMY. SOON, BUSINESSES WILL START HIRING AGAIN AND THAT WILL BRING DOWN THE RATE OF UNEMPLOYMENT.
HEY, THAT JUST MIGHT WORK!

THIS HAS REALLY TURNED INTO AN INFORMATIVE VACATION!

YOU SEE, MY HOME PLANET'S ECONOMY IS EXPERIENCING SOMETHING SIMILAR...

"...EXCEPT, INSTEAD OF HIGH PRICES CAUSED BY HIGH INFLATION, STUFF BACK HOME IS BEING SOLD AT VERY LOW PRICES..."

HEM DAD, ARE WE ABLE TO AFFORD A TOY SPACESHIP NOW?

"...YET FOLKS STILL CAN'T AFFORD IT BECAUSE MONEY IS EXTREMELY SCARCE!"

I'M AFRAID NOT, SON.

WAAAAAAHHHHHHH!!!

IT'S GOOD TO KNOW THAT IF OUR BANKS RAISE INTEREST RATES OUR ECONOMY WILL BEGIN TO IMPROVE.

THANKS, Y'ALL!

WAIT, NO!

STOP!

WHAT'S UP?
IT SOUNDS LIKE YOUR PLANET IS EXPERIENCING A DIFFERENT KIND OF RECESSION.

Therefore... different monetary policy needs to be implemented to increase the money supply.

Interest rates need to be lowered, not raised! This is expansionary monetary policy.

"Lowering interest rates will encourage people to borrow and invest more."

"Once more, money starts entering the economy. Purchasing power will start to return to normal."

Lending and spending

Lower... Interest... Rate...

Why don't we... ugh... come with you?

We can help you arrive at the right solution for your planet's economy.
Later that day...

As you can see, no one has any money, so sellers continue to slash prices.

Fresh fish—50% off!

Um, maybe tomorrow?

"But how low is too low?"

Eggs cost three Q-pennies, I can't go any lower!

I see, then give me one-third of one egg...

I'm sorry, but that's not really how eggs work.

"Businesses are laying off workers, others have shut down completely."

I wish I could tell you something different, but I just don't have any work for you today. I don't even have work for me! The shoppers just aren't coming in like they used to.

Oh, it's... fine...
WHEN WE HELPED ALLEVIATE THE HIGH INFLATION ON ZEELIX, WE USED CONTRACTIONARY MONETARY POLICY, WHICH "COOLED" ITS ECONOMY JUST ENOUGH FOR PRICES TO DECLINE TO A MORE NORMAL RANGE.

**CONTRACTIONARY**

**EXPANSIONARY**

COOL. COOL.

BUT WHAT NEEDS TO BE IMPLEMENTED HERE IS EXPANSIONARY MONETARY POLICY, THAT MEANS POLICIES THAT WILL LOWER INTEREST RATES, MAKE IT EASIER FOR PEOPLE TO GET MONEY, AND TO BUY AND SELL GOODS. POLICIES THAT WILL ENCOURAGE PEOPLE TO BORROW FROM BANKS AND MAKE MORE INVESTMENTS.

WHAT HAPPENS ONCE ALPHA-NUMERICA'S ECONOMY GETS BACK TO NORMAL?

DOES IT STAY THAT WAY FOREVER?

WELL...

NOT ON ITS OWN, BUT THERE ARE MEASURES THAT CAN BE PUT IN PLACE TO HELP YOUR PLANET MAINTAIN A HEALTHY ECONOMY.

COULD WE USE THE DISCOUNT WINDOW?

HMM... INTERESTING IDEA, RALLO.

SO, Q-SEVEN, THERE'S A PHRASE YOU MAY HAVE HEARD BEFORE... "LENDER OF LAST RESORT."

N-N-N-NOPE.

WELL, A CENTRAL BANK CAN BE A LENDER OF LAST RESORT, MEANING IT CAN LEND TO A BANK WHEN OTHERS EITHER CAN'T OR WON'T. PROVIDED THE BANK HAS THE NECESSARY COLLATERAL*.

* COLLATERAL IS SOMETHING GIVEN AS SECURITY THAT WILL BE FORFEITED IF THE LOAN IS NOT PAID BACK.

AND "DISCOUNT WINDOW LENDING" REFERS TO ONE OF THE TRADITIONAL LOAN PROCESSES THAT A CENTRAL BANK USES IN SUCH A CIRCUMSTANCE.

IS IT AN ACTUAL WINDOW?

"WELL, IN THE UNITED STATES, IN THE EARLY DAYS OF ITS CENTRAL BANKING SYSTEM, THERE WERE ACTUAL DISCOUNT WINDOWS THAT LOCAL BANK REPRESENTATIVES COULD WALK UP TO AND REQUEST A LOAN."

"BUT LIKE MOST THINGS THESE DAYS, THE DISCOUNT WINDOW PROCESS IS NOW CONDUCTED ELECTRONICALLY."
"SOMETIMES CIRCUMSTANCES ARISE, SUCH AS BANK RUNS AND PANICS, WHEN EVEN FUNDAMENTALLY SOUND BANKS ARE UNABLE TO PROVIDE THE CASH PEOPLE AND BUSINESSES NEED TO SUSTAIN THE ECONOMY."

"THE RECESSION THAT ALPHA-NUMERICA IS EXPERIENCING COULD POTENTIALLY LEAD TO SUCH CIRCUMSTANCES."

"BUT. ESTABLISHING A CENTRAL BANK WITH DISCOUNT WINDOW LENDING CAPABILITIES COULD HELP PREVENT THINGS FROM GETTING THAT BAD."

"WITH A DISCOUNT WINDOW IN PLACE, YOUR LOCAL BANKS NOW HAVE THE OPTION OF BORROWING MONEY FROM A CENTRAL BANK—WHICH THEY WILL PAY BACK, PLUS INTEREST, OF COURSE."

"OF COURSE!"

"THIS COMES IN HANDY DURING TIMES OF WIDESPREAD ECONOMIC HARDSHIP, WHEN MANY BANKS MAY BE LOW ON CASH, ALSO CALLED "RESERVES.""
IT'S GOOD TO KEEP IN MIND THAT NOT EVERY LOCAL BANK THAT IS EXPERIENCING HARDSHIP MAY DECIDE TO GO THE DISCOUNT WINDOW ROUTE. SOME LOCAL BANKS MAY WORRY THAT TAKING OUT SUCH A LOAN MAY SIGNAL TO OTHER BANKS, AND TO THE PUBLIC AT LARGE, THAT THEY ARE NOT COMPLETELY HEALTHY.

CUSTOMERS MAY BE INCLINED TO TAKE THEIR BUSINESS ELSEWHERE.

EXCELLENT POINT, RALLO, AND THAT IS WHY RELYING ON ONE MONETARY POLICY TOOL IS OFTEN NOT ENOUGH.

FOR INSTANCE, IN ORDER TO HELP PREVENT A LOCAL BANK FROM NEEDING AN EMERGENCY LOAN, A CENTRAL BANK COULD REQUIRE THAT BANK TO HAVE A CERTAIN AMOUNT OF RESERVES ON HAND AT ANY GIVEN TIME.

THAT WAY IT'LL BE BETTER PREPARED FOR ANY UNFORESEEN CIRCUMSTANCES.

IF YOU HEAR PEOPLE SAY "RESERVE REQUIREMENTS," THAT IS WHAT THEY'RE TALKING ABOUT.

"IN THE UNITED STATES, THE FEDERAL RESERVE BANKS WILL PAY LOCAL BANKS INTEREST ON ANY RESERVES HELD ABOVE THE REQUIREMENT. THIS IS CALLED 'INTEREST ON EXCESS RESERVES,' OR 'IOER' FOR SHORT. IT ACTS AS AN INCENTIVE FOR THE BANKS NOT TO LEND MONEY BELOW A CERTAIN INTEREST RATE."

IT'S VITAL FOR A CENTRAL BANK TO HAVE MULTIPLE TOOLS IN ITS TOOLBOX TO KEEP AN ECONOMY HEALTHY.
Uh-Oh. It looks like word of our expertise has spread across the galaxy.

You're not all having economic crises, are you?

No, but we want to know if monetary policy can help us prevent a crisis before one happens.

Absolutely! That's good thinking. But every economy is different, so we'll have to visit your planets one by one.

Gulp! Rallo, what have you gotten yourself into?

Wow, you have the most beautiful gardens I've ever seen. Mind if I paint them?

Help yourself. We're pretty good gardeners, but we don't have a clue about monetary policy.

In some ways, monetary policy is a lot like gardening...

"But too much water... and the same thing occurs. The plant dies this way too. The trick is watering plants just the right amount."

Think of an economy like a garden. Plants need water to survive.

And if they don't get enough water, plants die.

So, if we observe and study and make changes when needed, our economy will improve?

Yes, though just like in a garden, change is gradual. It doesn't happen overnight.

"A good gardener relies on observation and experience, and we economists rely on data, like GDP, inflation, and employment."

But, given time...
"...CONTRACTIONARY MONETARY POLICY CAN REDUCE HIGH INFLATION..."

"...AND EXPANSIONARY MONETARY POLICY CAN GET A SLOW ECONOMY MOVING AGAIN."
AND WITH THAT, OUR BRAVE HEROES SET THEIR SIGHTS ON SPREADING GOOD ECONOMIC SENSE ACROSS THE GALAXY...
BY GATHERING DATA...

...AND ANALYZING THE RESULTS...

...ECONOMIC FORECASTS CAN BE MADE...

...AND PROBLEMS CAN BE ANTICIPATED...

...AND HOPEFULLY AVOIDED!

ECONOMISTS CAN REACH INFORMED DECISIONS...

...AND IMPLEMENT APPROPRIATE MONETARY POLICIES!
STAY TUNED!

MORE ECONOMIC ADVENTURES ARE ON THE WAY!

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