



# Teacher Instructions

This activity and worksheet is designed to allow students to explore types of money and credit and to think about why interest rates differ. The activity covers credit creation in theory, allowing students to calculate and observe the growth in the money supply, then to consider how controlling the reserve ratio may be a tool to help control its growth.

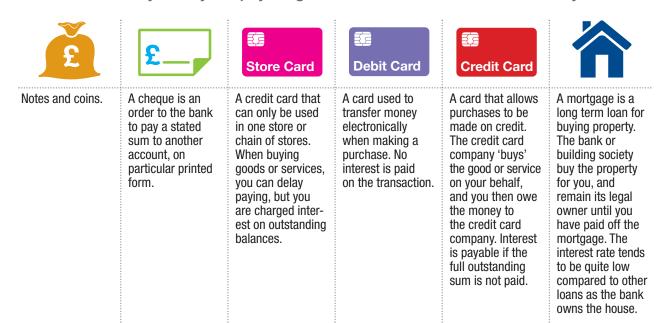
The Goldsmith's Tale is a handy YouTube video, and can be found here: www.youtube.com/watch?v=3HdmA3vPbSU.

It is useful to demonstrate the history of how paper money, and then electronic money, came into existence. The resource then requests students to ponder the validity of credit creation theory. A case study on Northern Rock is included as well as further consideration of international reserve ratios for comparison.





There are a variety of ways to pay for goods and services within an economy.



#### **Interest Rates**

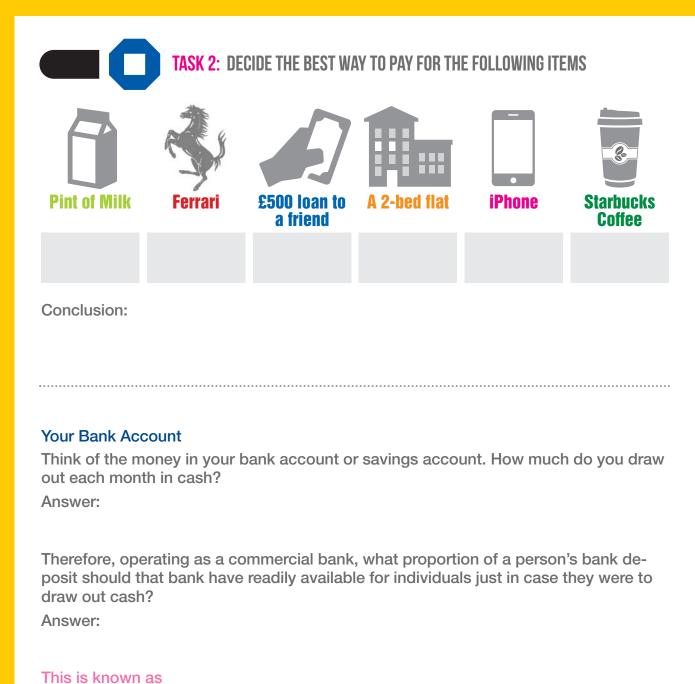
An interest rate is in effect the price of money – it is the amount you have to pay in order to 'buy' the money for your needs. Interest rates vary considerably according to the type of loan, and the amount needed to borrow, and whether the loan is 'secured' on property or not. The basic rule of thumb is that the more risky the customer is percieved the higher the interest rate chargeable.



TASK1: MATCH THE FOLLOWING EXAMPLE INTEREST RATES WITH TYPICAL LOANS OR BORROWING

Type of loan or borrowing/Savings	Typical interest rat
Mortgage	5%
Overdraft	<b>3</b> %
Credit Card	<b>1250</b> %
Store Card	<b>2</b> %
Pay Day Loan	0.5%
Instant access savings account	<b>25</b> %
90 day notice savings account	<b>20</b> %
Bank Loan to buy a new car	19%





# **ACTIVITY: CREDIT CREATION, VERSION 1**

- a You deposit £100 at the bank. Given a reserve ratio of 10%, how much does the bank need to keep for your demand for notes and coins?
- **b** Mr Smith wants to borrow some money. How much can the bank lend them?
- c The bank digitally credits their account by this amount, they withdraw the money and purchase good X from Mr Brown, who now deposits the cash at the bank. How much does the bank have now?

### Answer

a

b

\_

# d How much must the bank keep in case Mr Brown wants some cash?

- e Mrs Jones wants to borrow some money from the bank. How much can the bank lend to her?
- f The bank lends the money to Mrs Jones who buys good Y from Miss Lloyd. Miss Lloyd deposits the cash at the bank. How much does the bank now have?
- g How much money must the bank keep just in case Miss Lloyd wants some cash? How much can they lend out to the next customer?

Answer

d

е

f

g

How long can this process keep going?

1

**Credit Creation Multiplier =** 

**Reserve Ratio** 





TASK 3: GIVEN THE FORMULA ABOVE, AND KNOWING THE RESERVE RATIO IN OUR EXPERIMENT IS 10%, CALCULATE THE CREDIT CREATION MULTIPLIER

Answer:





TASK 4: MULTIPLY THE INITIAL BANK DEPOSIT BY THE CREDIT CREATION MULTIPLIER TO CALCULATE THE AMOUNT OF 'MONEY' NOW IN THE FCONOMY

Answer:

### The Goldsmith's Tale

Watch the following video from YouTube: www.youtube.com/watch?v=3HdmA3vPbSU
Make brief notes from the video here:







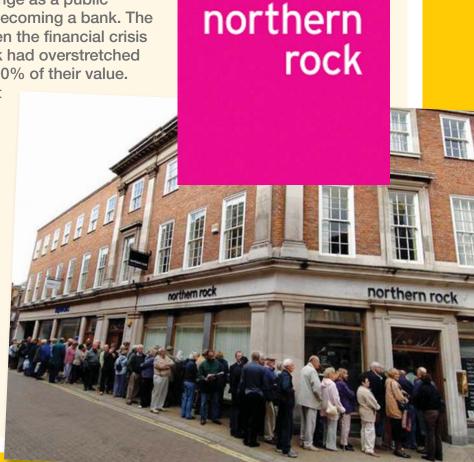
TASK 5: ANSWER THE FOLLOWING QUESTIONS AFTER WATCHING THE VIDEO

- a Name three things that have been used as money in the past
- b Why was 'paper money' more attractive than using gold coins?
- c How does a bank make profit?
- d What is a 'run on the bank'?

# **Case Study: Northern Rock**

Northern Rock began as a building society in 1965, and floated on the Stock Exchange as a public limited company in the 1990s, becoming a bank. The bank grew very rapidly, and when the financial crisis hit in 2007, it was clear the bank had overstretched itself and their shares had lost 90% of their value.

Many customers tried to extract their life savings in a 'run on the bank'. It was nationalised in February 2008, when the government took ownership away from shareholders, without reimbursement. In 2010 the bank was split into two sections, assets and banking. Virgin Money bought the banking part of Northern Rock in 2012.







TASK 6: ANSWER THE FOLLOWING QUESTION WITH AS MUCH DETAIL AS POSSIBLE:

Do modern banks need to wait for the initial cash deposit before making loans to other customers, or can they just make loans by adjusting digital numbers?

### Reserve Ratio and the Supply of Money

Bank reserve ratios are central bank regulations that set the minimum reserves that a commercial bank must hold as a percentage of its deposits and notes. Some governments use the 'reserve ratio' in order to control the money supply. By raising the ratio, the amount of lending by banks is restricted, and the growth of the money supply can be reduced. By lowering the ratio, banks can lend more by keeping a smaller amount in reserve, thus accelerating the growth of the money supply.

#### The Reserve Ratio and the UK

In Britain until 1981, the BoE specified the total amount of notes and coins a bank must have available at its branches. This meant that if at any time the BoE felt that the amount of money in circulation was too high and was causing inflation, it could force banks to reduce their lending by raising the reserve ratio. A reduction in the reserve ratio from 20:1 to 10:1 would have halved the total of the amount of money that banks could create.

That system still applies but in a less rigid form. Responding to pressure from the commercial banks (who argued that they would otherwise lose overseas business to foreign banks), the BoE abolished its minimum reserve ratio in 1981. It now agrees a reserve requirement individually with each bank, but there is no set amount required. The banks are required to keep a 'prudent' level of reserves. Clearly in the run up to the financial crisis, the banks decided their reserves need only be very small indeed, thus allowing them to keep lending more and more, right up to the global financial crisis. The reason so many banks went 'bust' is that they just did not have enough money to pay back customers when the customers demanded their deposits back.



## TASK 7: MATCH THE FOLLOWING RESERVE RATIOS WITH THE COUNTRIES:

Country	Reserve Ratio
UK	<b>2.5</b> %
Eurozone	3%
USA	18.5%
China	0%
Switzerland	4%
Russia	1%



# **CREDIT CHECK ANSWERS**



TASK 1: MATCH THE FOLLOWING EXAMPLE INTEREST RATES WITH TYPICAL LOANS OR BORROWING

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TASK 2: DECIDE THE BEST WAY TO PAY FOR THE FOLLOWING ITEMS

Pint of Milk	Ferrari	£500 loan to a friend	A 2-bed flat	iPhone	Starbucks Coffee
CASH	LOAN	CHEQUE	MORTGAGE	CREDIT CARD	CASH

Conclusion:

Cash is only used for minor purchases

## Your Bank Account

Think of the money in your bank account or savings account. How much do you draw out each month in cash?

Answer: About 10%

Therefore, operating as a commercial bank, what proportion of a person's bank deposit should that bank have readily available for individuals just in case they were to draw out cash?

Answer: **Keep about 10%** 

The reserve ratio

This is known as



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- d How much must the bank keep in case Mr Brown wants some cash?
- e Mrs Jones wants to borrow some money from the bank. How much can the bank lend to her?
- f The bank lends the money to Mrs Jones who buys good Y from Miss Lloyd.
  Miss Lloyd deposits the cash at the bank. How much does the bank now have?
- g How much money must the bank keep just in case Miss Lloyd wants some customer?

1	0
g	0

190

9

Ω1

8.10

72.90



TASK 3: GIVEN THE FORMULA ABOVE, AND KNOWING THE RESERVE RATIO IN OUR EXPERIMENT IS 10%, CALCULATE THE CREDIT CREATION

Answer: 1



TASK 4: MULTIPLY THE INITIAL BANK DEPOSIT BY THE CREDIT CREATION MULTIPLIER TO CALCULATE THE AMOUNT OF 'MONEY' NOW IN THE

**FCUNUMY** 

Answer:  $£100 \times 10 = £1000$ 

#### The Goldsmith's Tale





TASK 5: ANSWER THE FOLLOWING QUESTIONS AFTER WATCHING THE VIDEO

- a Name three things that have been used as money in the past **Feathers. cocoa beans. precious stones**
- b Why was 'paper money' more attractive than using gold coins? **Portable, convenient, can write out exact amounts**
- c How does a bank make profit?

Charges a higher interest on loans that it offers to savers

d What is a 'run on the bank'?

When all savers want their money back on the same day.



# **CREDIT CHECK ANSWERS**



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