

## Part 1

### Chapter 1: Why study money, banking and financial markets.

- A security or financial instrument is a claim on the issuer's future income or assets (which is any financial claim or piece of property that is subject to ownership).
- A bond is a debt security that promises to make payments periodically for a specified period of time.
- An interest rate is the cost of borrowing or the price paid for the rental of funds.
- Financial Crises is a major disruption in the financial markets characterised by a sharp decline in asset prices and the failure of many financial and non-financial firms.
- GDP (aggregate output) is the market value of all final goods and services produced in a country during the course of the year, which excludes purchase of goods that have been produced in the past and excludes purchase of stocks or bonds. Intermediate goods are not counted.
- Aggregate income is the total income of factors of production from producing goods and services per country per year. **GDP = Aggregate Income.**
- When GDP is calculate with current prices it is called nominal GDP.
- GDP measured with constant prices is referred to as real GDP. Therefore values only change if actual production changed.
- 3 Aggregate price levels, expressed as price index against base year 100.

$$1) \text{ GDP deflator} = \frac{\text{nominal GDP}}{\text{real GDP}}$$

$$2) \text{ PCE deflator} = \frac{\text{nominal personal consumption expenditures}}{\text{real personal consumption expenditures}}$$

3) Consumer Price Index measured by pricing a basket of goods and services brought by a typical urban household.

- To convert nominal to real divide by price index. Annualised basis is a basis converted to a year.

### Meaning of a security and how it facilitates direct lending and borrowing

- A security or financial instrument is a claim on the issuer's future income or assets.
- To facilitate direct lending securities are sold in financial markets where the lender-savers channel funds to the borrower-spenders.
- Common securities include bonds or stocks.
- Securities are assets to the lender-savers and liabilities to the borrower-spenders.
- Securities facilitate moving funds from people with an excess to the people who have profitable opportunities.

### Common stock, its purpose and how it affects business investment decisions.

- A common stock represents a share of ownership in a company.
- It is a security, and is a claim on the earnings and assets of the corporation.
- Selling stock is way to raise funds for financing the companies activities.
- It affects business decisions as higher stocks prices in the stock market mean that the company will be able to raise more finance through selling stock at higher prices.

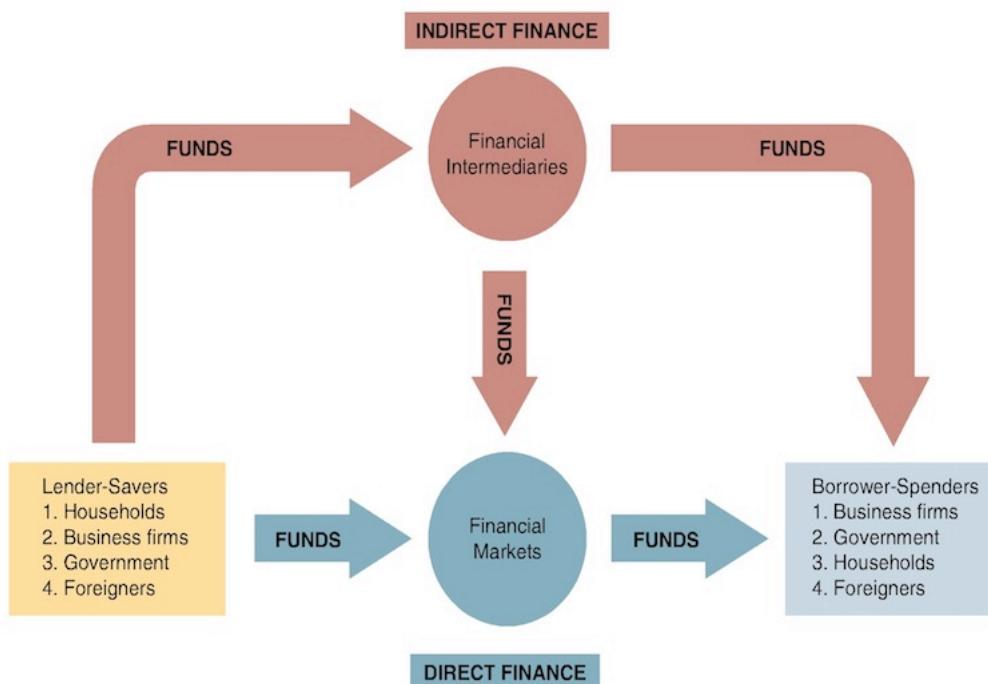
### List two ways in which the quantity of money may affect the economy

- 1) Through the aggregate price level
- 2) Through interest rates.

## Difference between nominal and real GDP and their uses

- Nominal GDP is when the total value of final goods and services is calculated using current prices.
- Real GDP is calculated with constant prices, given at a base year.
- Nominal GDP can be misleading as an increase could be due to a rise in the price level or an actual increase in final good and services.
- An increase in Real GDP can only be from an increase in final goods and services and not an increase in prices.

## Chapter 2: Overview of financial system



- Short-term less than a year. 1-10 years are intermediate.
- Firms or individuals can obtain funds through issuing debt instruments (bonds/mortgage) or issue equities (stock).
- A disadvantage of equities is the holder is a residual claimant, the firm must pay debt holders first before its equity holders.
- A advantage to holding equities is the direct benefit of increased firm profits versus the fixed amounts of debt.
- Primary market for initial issues of securities (Investment banks).
- Secondary markets (JSE) make securities more liquid, also set benchmark prices for the primary market.
- They are organised in 2 ways: exchanges and OTC over-the-counter market.
- Brokers are agents of investors who match buyers with sellers, dealers link buyers and sellers by buying and selling at stated prices.

### Money market short-term debt instruments.

Negotiable Bank Certificates of Deposit: a certificate of deposit (CD) is a debt instrument sold by a bank to depositors that pays annual interest of a given amount and at maturity pays back the original price. Negotiable CD's are traded in secondary markets.

Commercial Paper is a short-term debt instrument issued by large banks and well-known corporations.

Repurchase agreements are effectively short-term loans less than 2 weeks for which Treasury bills serve as collateral.

Federal Funds, overnight loans between banks of their deposit at the fed.

Capital Market for longer term debt. Stocks.

Mortgages are loans to households or firms to purchase housing, land or real structures that serve as collateral. Largest debt market in US.

Corporate Bonds. Issued by corporations with strong credit ratings. Convertible bonds can be changed into stock anytime up till maturity. Principle buyers are life insurance, pension funds households and other large holders.

US Government Securities

US Government Agency Securities

State and Local Government Bonds (Municipal bonds)

Consumer and Bank Commercial Loans.

The process of indirect finance using financial intermediaries is called financial intermediaries.

Transaction Costs, time and money spent in carrying out financial transactions. Intermediaries can reduce transaction costs because they benefit from economies of scale. They can also provide liquidity services that make it easier for customers to conduct transactions. e.g Checking accounts to pay bills.

Risk sharing, They sell less risky investment and then use the funds to purchase more risky investments. They earn profit on the spread of the returns less payments made on debt. Also called asset transformation. They help individuals to diversify and thereby lower the amount of risk through low costs and assets pooling.

Asymmetric information, one party does not know enough about the other party to make accurate decisions.

Adverse selection occurs before the transaction, when the potential borrowers who are the most likely to produce an undesirable outcome are the ones who most actively seek out a loan and are thus most likely to be selected. This results in fewer loans to all.

Moral hazard is created by asymmetric information and occurs after the transaction. The risk that the borrower will engage in activities undesirable to the lender hence increase in chance of default. Reduces loans for all.

Intermediaries are better equipped and can alleviate asymmetric information problems.

Primary Assets and Liabilities of Financial Intermediaries		
Type of Intermediary	Primary Liabilities (Sources of Funds)	Primary Assets (Uses of Funds)
Depository institutions (banks)		
Commercial banks	Deposits	Business and consumer loans, mortgages, U.S. government securities and municipal bonds
Savings and loan associations	Deposits	Mortgages
Mutual savings banks	Deposits	Mortgages
Credit unions	Deposits	Consumer loans
Contractual savings institutions		
Life insurance companies	Premiums from policies	Corporate bonds and mortgages
Fire and casualty insurance companies	Premiums from policies	Municipal bonds, corporate bonds and stock, U.S. government securities
Pension funds, government retirement funds	Employer and employee contributions	Corporate bonds and stock
Investment intermediaries		
Finance companies	Commercial paper, stocks, bonds	Consumer and business loans
Mutual funds	Shares	Stocks, bonds
Money market mutual funds	Shares	Money market instruments

## Questions

**Briefly explain the function of financial markets, the meaning of direct and indirect financing and the meaning of a financial intermediary**

The basic function of financial markets is to channel funds from savers who have excess funds to spenders who have a shortage of funds. Financial markets contribute to economic efficiency, by moving funds from people who have no productive investment opportunities to those who have, and allowing consumers to make purchases when they need them the most. Direct finance is when borrowers borrow funds directly from lenders by selling them securities, while indirect finance involves an intermediary that stands between lenders and borrows and helps transfer funds from one to the other. Financial intermediaries are financial institutions that acquire funds by issuing liabilities and, in turn use those funds to acquire assets by purchasing securities or making loans.

**Explain the functions performed by financial intermediaries and how and why these promote economic efficiency in financial markets.**

Financial intermediaries perform 4 functions in the financial market to increase efficiency. One, financial intermediaries can substantially reduce transaction costs by taking advantage of economies of scale and also by providing customers with liquidity services by making it easier to transact. Two, they reduce the exposure of investors to risk by risk sharing (asset transformation) by selling securities for different risk profiles. Three, they solve information problems by reducing asymmetric information in the financial markets. Four, they achieve economies of scope, by lowering the cost of information production.

**Explain the broad purpose and methods used in government regulation of the financial system.**

The government regulates financial markets to increase information available to investors and to ensure the soundness of the financial system. Provisions of information is improved by requiring companies issuing securities to report details about assets and liability, earnings, sales of stock and preventing insider trading. Soundness is ensured by licensing, periodic inspections of books and provision of deposit insurance.

## Chapter 3

Money = Currency + Deposits

### Questions

**Provide a formal definition of money. Then explain how the money stock is measured in principle.**

Money is defined as anything that is generally accepted in payments for goods or services. It is measured as currency plus deposits. In South Africa currency is all the paper money and coins in circulation less cash held in bank vaults. Deposits are all domestic private non-bank deposits in banks. Government bank deposits are excluded. There are 4 levels of deposit inclusion being M1A, M1, M2 and M3.

**Briefly distinguish between money and income, and money and wealth**

Money as above, whereas wealth is the total collection of pieces of property of store value, which includes money, bonds, common stock, art, land, furniture, car and houses. Money is a stock variable and is measured at a specific time, while income is a flow variable and is measured over a portion of time.

**List and explain the three primary functions of money.**

One, medium of exchange, money is used to pay for goods and services and minimising the costs involved in transacting. Two, unit of account, it is used to measure value in the economy and reduce costs. Three, store of value, it's a repository of purchasing power over time, and enables delayed purchases.

Commodity, fiat, checks, Electronic payments are online, e-money: debit cards and pre-loaded smart cards.

**Explain the meaning and implications of the government "printing" money**

Government does not print money SARB does. 1) Printed money goes to Government bank account to replace old currency or issue cash, and only increase M when government pays for goods or services. 2) SARB buys government securities which are then used to pay. 1 and 2 can lead to hyperinflation if mismanaged because of MV=PY. Zimbabwe as case study.

## Part 2

## Chapter 4

### Measuring Interest Rates

$$PV = \frac{CF}{(1+i)^n}$$

$$\text{Yield to maturity (IRR), PV of all future payments. } LV = \sum_{n=1}^N \frac{C_n}{(1+r)^n}$$

#### 4 types of credit market instruments:

1) Simple loan such as many money market instruments. simple interest rate equals yield to maturity.

Use NPV

2) fixed-payment loan (fully amortised loan), same payment every month, includes interest and principal, such as mortgages. Use IRR

3) Coupon bond, pays a fixed coupon payment every year until maturity when face/par value is repaid, such as us treasury bonds, corporate bonds. Use IRR, but remember the face value payment at maturity must also be discounted.

4) Discount bond, (zero coupon bond) bought at a discount of its face-value and then repaid at face value at maturity, us treasury bills, savings bonds.

Current bond prices and interest rates are negatively related. When the interest rate rises, the price of the bond falls and vice versa. The yield to maturity is greater than the coupon rate when the bond price is below its face value.

$$\text{Perpetuity (consol) aka current yield: } i_c = \frac{C}{P_c}$$

## The distinction between interest rates and returns

$$\text{Rate of return: } R = \frac{C + P_{t+1} - P_t}{P_t}$$

Rate of return is defined as the payments to the owner plus the change in value, expressed as a fraction of its purchase price.

The return on a bond will not necessarily equal the yield to maturity on that bond, due to price fluctuations giving higher or lower capital gains. Prices and returns for long-term bonds are more volatile than those of shorter term bonds.

The only bond whose return equals the initial yield to maturity is one whose time to maturity is the same as the holding period.

A rise in interest rates is associated with a fall in bond prices, resulting in capital losses on bonds whose terms to maturity are longer than the holding period.

The more distant a bond's maturity, the lower the rate of return that occurs as a result of the increase in the interest rate.

**Interest rate risk:** Prices and returns for long-term bonds are more volatile than those for shorter-term bonds due to the sensitivity of longer term bonds to interest rate changes. Due in large part to the term to maturity being more than the holding period.

## The distinction between real and nominal interest rates

Real interest rate(ex ante real interest rate)  $r = i - \pi^e$

When the real interest rate is low there are greater incentives to borrow and fewer incentives to lend.

More accurate indicator of the tightness of credit market conditions.

Indexed bonds: Interest and principal payments are adjusted for changes in the price level. They are useful because to monetary policy makers because subtracting their interest rates from a nominal rate on a non-indexed bond they give insight into expected inflation.

## Chapter 5

### Determinants of asset demand

**Wealth.** An increase in wealth raises the quantity demanded of an asset, ceteris paribus.

**Expected Return** An increase in an asset's expected return relative to that of an alternative asset raises the quantity demand, ceteris paribus.

**Risk** If an asset's risk rises relative to that of alternative assets, its quantity demanded will fall, ceteris paribus.

**Liquidity.** The more liquid an asset is relative to alternative assets, ceteris paribus, the more desirable it is, and the greater will be the quantity demanded.

**Theory of Portfolio choice** How much of an asset people want to hold in their portfolios and is a summary of the above conditions.

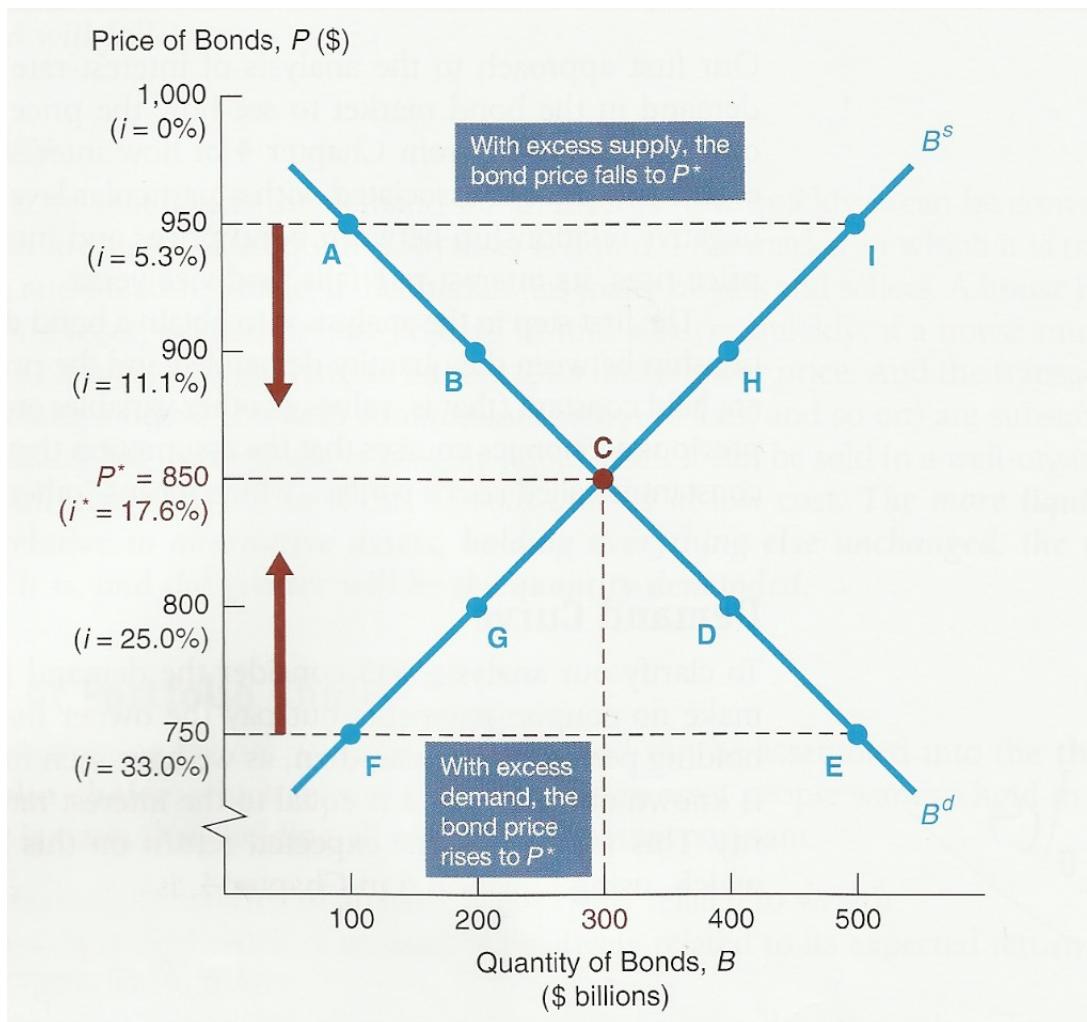
## Supply and demand in the bond market

**Demand curve**, relationship between quantity demanded and price or interest rate. It has a downward slope indicating lower prices for the bond the quantity demand is higher, *ceteris paribus*.  
**Supply curve**, relationship between quantity supplied and price, *ceteris paribus*. Higher prices means higher supply.

**Market Equilibrium**. Clearing price. Quantity of bonds demanded equals quantity of bonds supplied. The market head towards this point and settles.  $B^d = B^s$

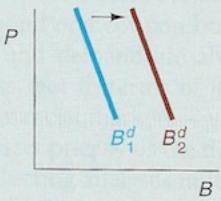
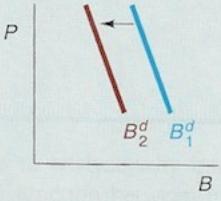
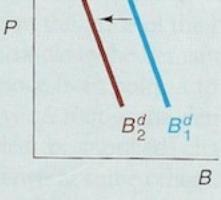
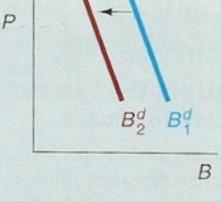
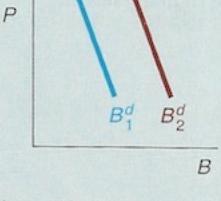
**Excess supply**, people want to sell more bonds than others want to buy. **Excess demand**, people want to buy more bonds than others want to sell.

Given diagram, the asset market approach, which are in terms of stocks of assets and not flows. If households save more, wealth increases.



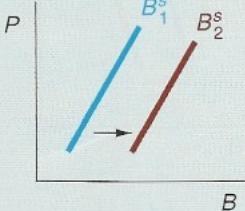
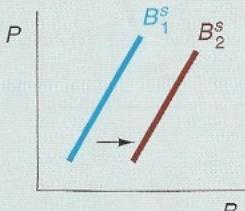
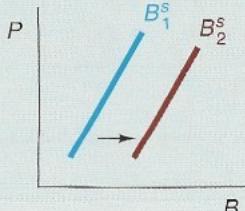
# Changes in Equilibrium interest rates

## Factors That Shift the Demand Curve for Bonds

Variable	Change in Variable	Change in Quantity Demanded at Each Bond Price	Shift in Demand Curve
Wealth	increase from business cycle expansion or increase propensity to save.	↑	
Expected interest rate	higher expected interest rates lowers expected return and hence demand higher expected returns in other assets lowers demand for bonds.	↑ ↓	
Expected inflation	higher expected inflation leads to higher returns from other assets hence lower relative returns from bonds and hence lower demand higher expected inflation leads to lower real interest rates and lower relative bond returns	↑ ↓	
Riskiness of bonds relative to other assets		↑ ↓	
Liquidity of bonds relative to other assets		↑	

Note: Only increases in the variables are shown. The effect of decreases in the variables on the change in demand would be the opposite of those indicated in the remaining columns.

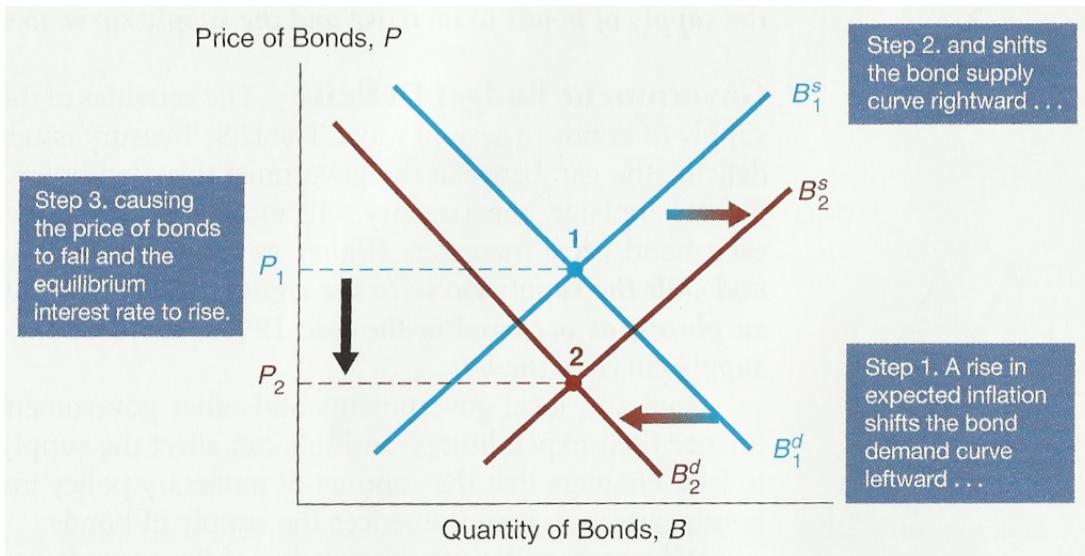
### Factors That Shift the Supply of Bonds

Variable	Change in Variable	Change in Quantity Supplied at Each Bond Price	Shift in Supply Curve
Profitability of investments in a business cycle expansion the supply of bonds increase due to increase investment	↑	↑	
Expected inflation  when inflation increases the real cost of borrowing falls and	↑	↑	
Government deficit  during a deficit governments increase the sale bonds to obtain more financing.	↑	↑	

Note: Only increases in the variables are shown. The effect of decreases in the variables on the change in supply would be the opposite of those indicated in the remaining columns.

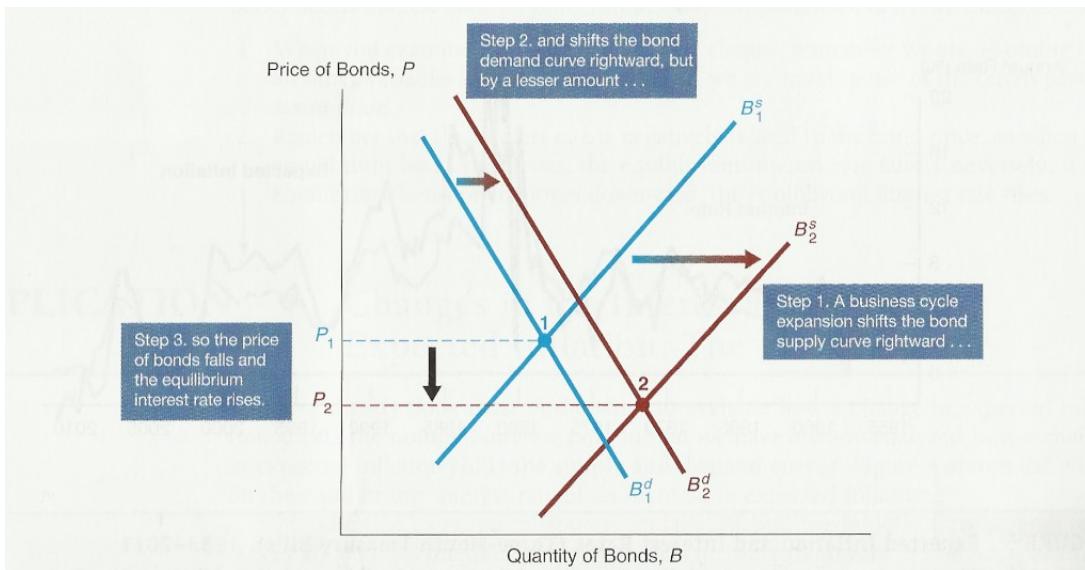
## Changes in the interest rate due to expected inflation, the Fisher Effect

When expected inflation rises, interest rates will rise, also called the Fisher Effect. Ambiguous change in quantity, but certain increase in interest rate.



## Changes in the interest rate due to a business cycle expansion

Amounts of goods and services rise with a corresponding increase in national income and business has more opportunities to expand, therefore they increase the supply of bonds, further the increase in wealth will, via the theory of portfolio choice, increase the demand for bonds. Ambiguous change in interest rate but certain increase in quantity.



## Supply and demand in the market for money: The liquidity preference framework

$$B^S + M^S = B^d + M^s$$

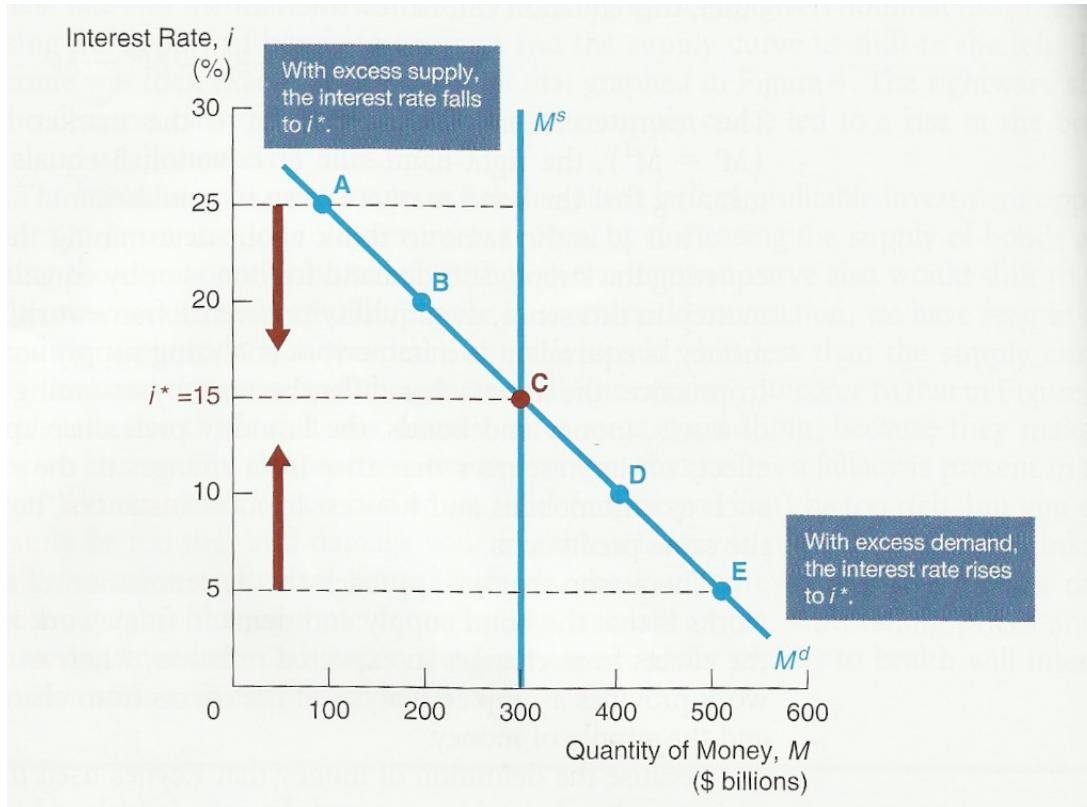
Simplifying assumptions: Assumes there are only two kinds of assets, money and bonds and implicitly ignores any effects in interest rates from changes in expected returns on real assets such as cars. Assumes money as a zero rate of return as it earns no interest. Supply curve is vertical which is not the case in South Africa.

Demand curve: As the interest rate rises the expected return of money relative to bonds falls and the demand for bonds increases. The quantity of money demand and interest rate are negatively related because of the opportunity cost.

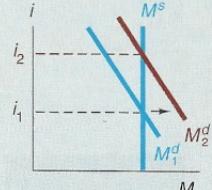
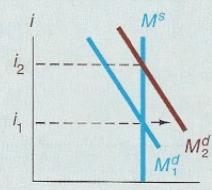
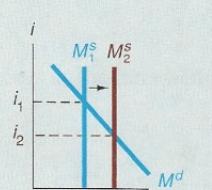
Supply curve: Central bank supplies a fixed quantity.

Equilibrium:  $M^s = M^d$  at the intersection of the supply and demand curves.

When the price level increase more money will be demanded to restore purchasing power.

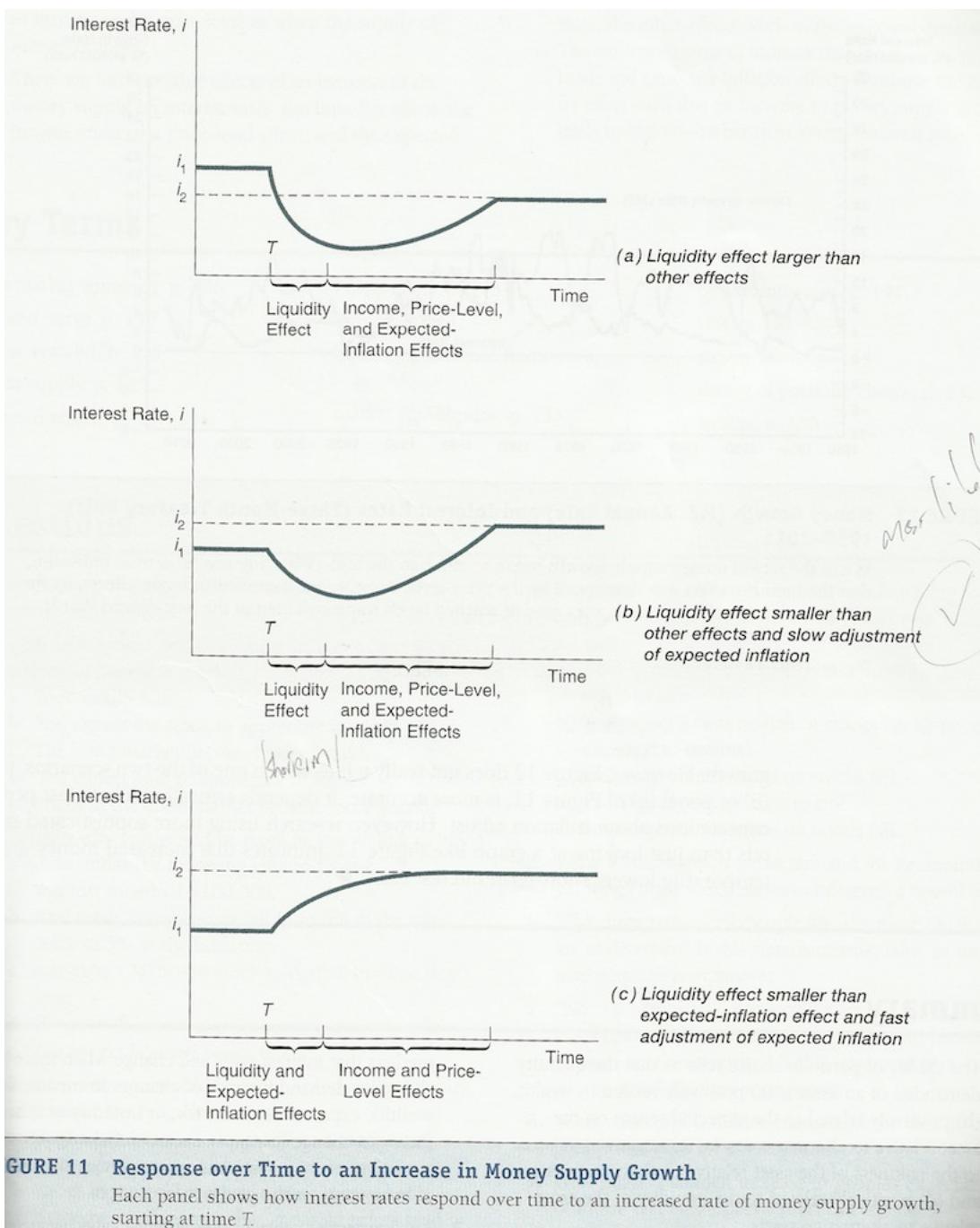


## Factors That Shift the Demand for and Supply of Money

Variable	Change in Variable	Change in Money Demand ( $M^d$ ) or Supply ( $M^s$ ) at Each Interest Rate	Change in Interest Rate	
Income	↑	$M^d \uparrow$	↑	
Price level	↑	$M^d \uparrow$	↑	
Money supply	↑	$M^s \uparrow$	↓	

Note: Only increases in the variables are shown. The effect of decreases in the variables on the change in demand would be the opposite of those indicated in the remaining columns.

- 1) The income effect of an increase in the money supply is a rise in interest rate in response to the higher level of income.
- 2) the price-level effect from an increase in the money supply is a rise in interest rates in response to the rise in price level.
- 3) the expected-inflation effect of an increase in money supply is a rise in interest rates in response to the rise in the expected inflation rate.



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## Chapter 6

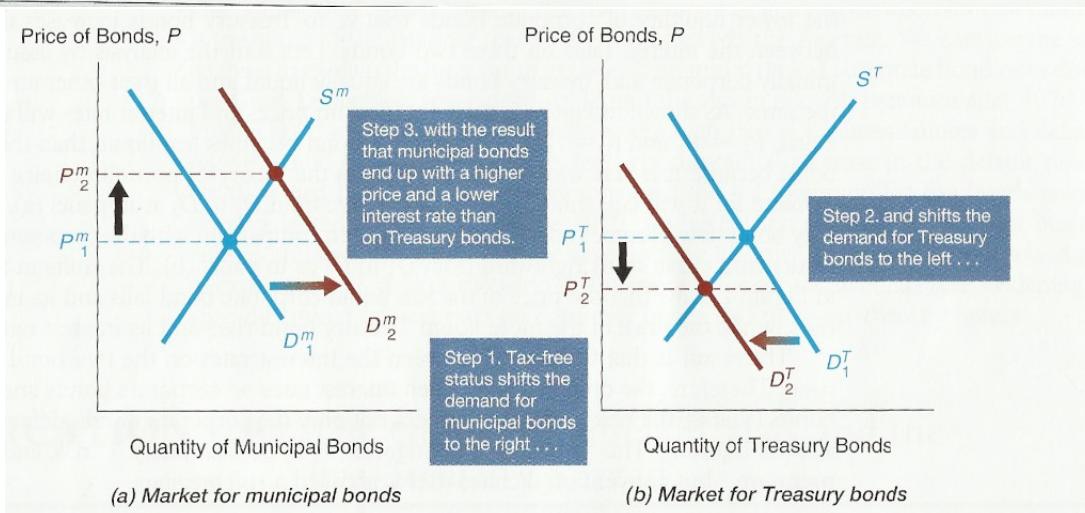
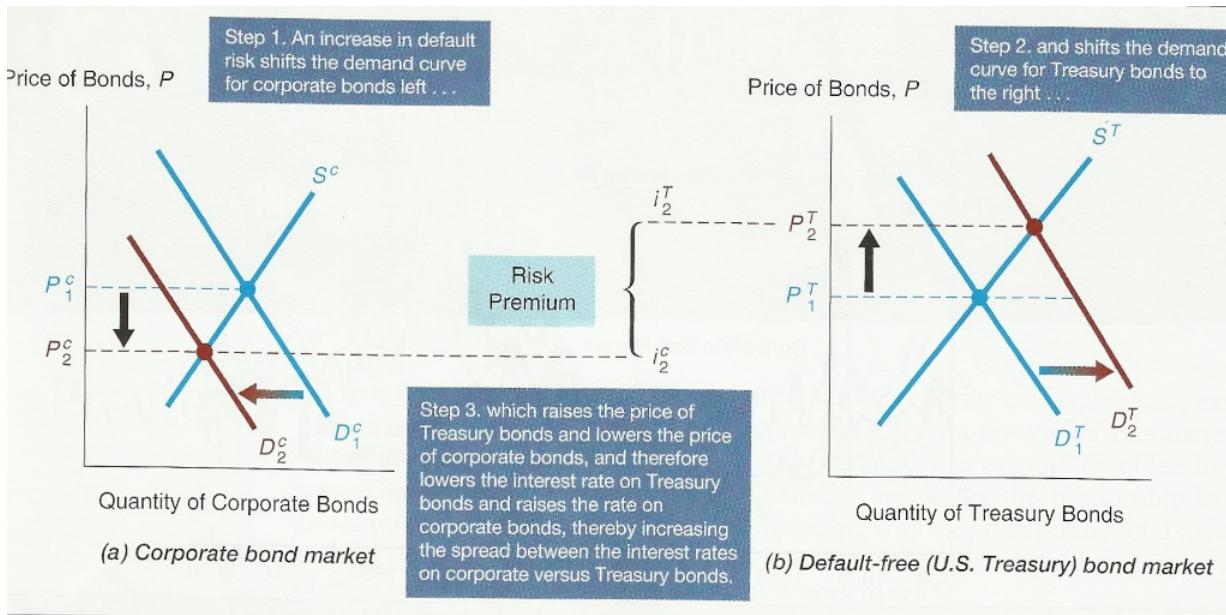
### Questions

Explain the meaning of the risk structure of interest rates. List and explain the three factors which affect the risk structure of interest rates using a supply of/demand for bonds-framework.  
The risk structure of interest rate is the relationship among interest rates on bonds with the same maturity.

3 Factors affecting risk structure 1) Default risk. Default risk is the risk of the issuer of the bond being unable or unwilling to make interest payments or pay off the face value when the bond matures.  
Bonds are such as US Treasury bonds are considered default free, as they are backed by the US

government which can increase taxes or print money to meet its obligations. The risk premium is the difference between bonds with default risk and bonds that are default free. A bond with default risk will always have a positive risk premium and an increase in its default risk will raise the risk premium. Credit ratings agencies provide information about the likelihood of a bond issuer defaulting.

2) Liquidity, the higher the bond's liquidity the more appealing it is and therefore there would be a rightward shift in the demand for bonds curve the more liquid bond. US Treasury bonds are the most liquid of all bonds. (use graph below to show increased spread due to liquidity) 3) Income tax considerations. Bonds that are exempt from tax have higher expected returns and hence there is an increased demand for them. (use graph below to show)

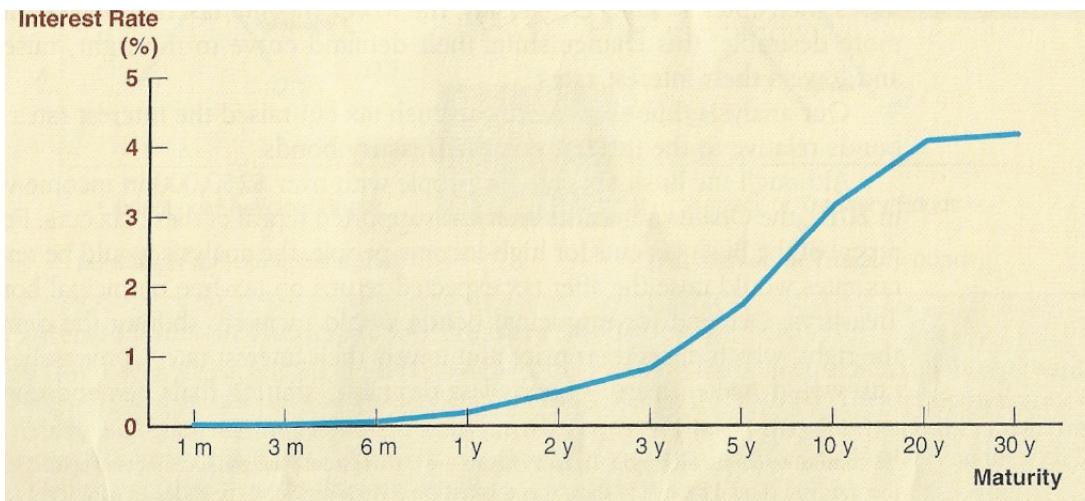


### E 3 Interest Rates on Municipal and Treasury Bonds

When the municipal bond is given tax-free status, demand for the municipal bond shifts rightward from  $D_1^m$  to  $D_2^m$  and demand for the Treasury bond shifts leftward from  $D_1^T$  to  $D_2^T$ . The equilibrium price of the municipal bond rises from  $P_1^m$  to  $P_2^m$ , so its interest rate falls, while the equilibrium price of the Treasury bond falls from  $P_1^T$  to  $P_2^T$  and its interest rate rises. The result is that municipal bonds end up with lower interest rates than those on Treasury bonds.

Explain the meaning of the term structure of interest rates and the yield curve. Draw a normal yield curve and explain why its shape applies. List three empirical observations of the yield curve.

Bonds with identical risk, liquidity and tax characteristics may have different interest rates because their time remaining to maturity is different. A plot of the yield is called a yield curve. Yield curves can slope up, flat or downward (inverted). Upward sloping yield curves indicate long-term interest rates are higher than short term interest rates. 3 empirical observations are that 1) interest rates on bonds of different maturities move together over time, 2) when short-term interest rates are low, yield curves are more likely to have an upward slope and vice-versa 3) yield curves almost always slope upward.



**Explain the assumptions and predictions of the expectations theory and how well it explains the three empirical observations of the yield curve.**

The interest rate on a long term bond will equal an average of the short-term interest rates that people expect to occur over the life of the long-term bond. The key assumption is that buyers of bonds do not prefer bonds of one maturity over another, so they will not hold any quantity of a bond if its expected return is less than that of another bond with a different maturity, i.e. perfect substitutes (same expected return). When the yield curve is upward sloping short term interest rates are expected to rise. When the yield curve is inverted the average of future short-term interest rates is expected to be lower than the current short-term rate, implying that short-term interest rates are expected to fall. If the yield curve is flat short-term interest rates are not expected to change. Fact 1) A rise in short term rates will raise people's expectation of future short-term rates and given that long-term rates are an average of short-term rates they will rise and hence move together. Fact 2) When short term rates are low people will expect them to rise and the average of future short-term rates is high relative to the current short-term rate hence upwards sloping and conversely for the inverted yield curve. Fact 3) It cannot explain this fact as it predicts a typical curve would be flat.

**Explain the assumptions and predictions of the segmented market theory and how well it explains the three empirical observations of the yield curve.**

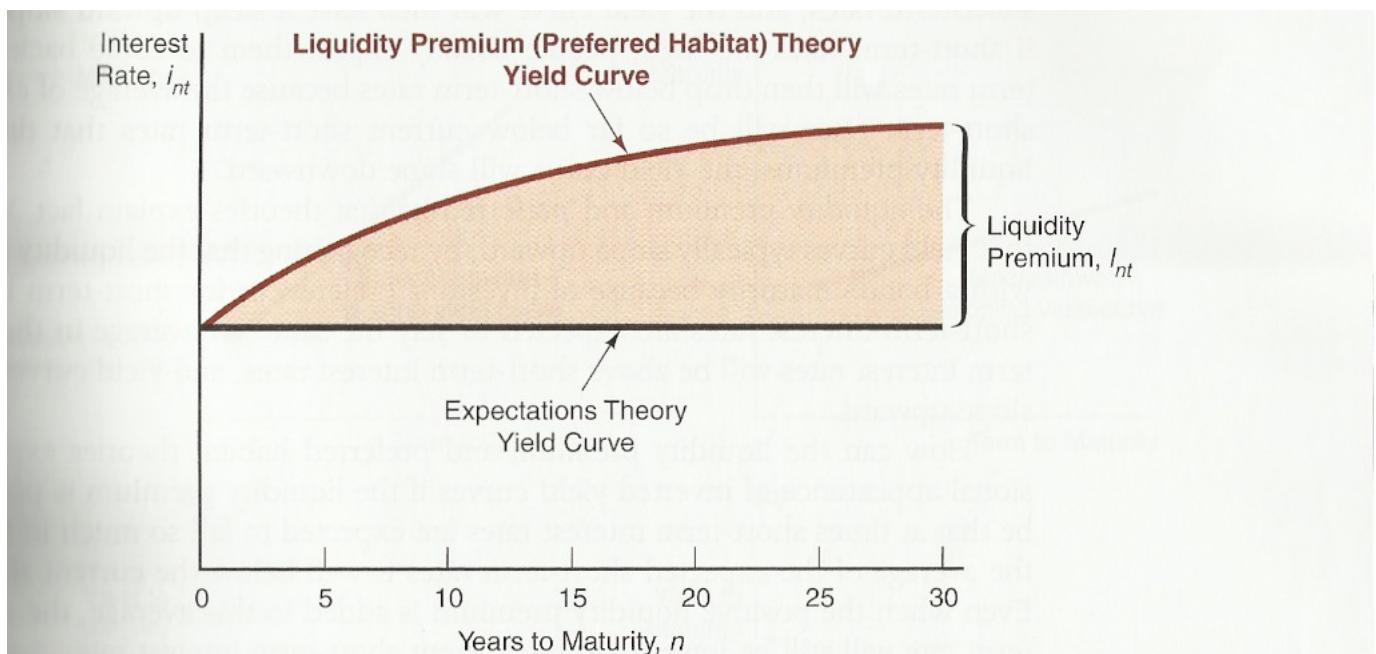
Sees markets for different-maturity bonds as completely separate and segmented. The interest rate for each bond with a different maturity is then determined by supply and demand for that bond with no effect from expected returns. Bonds are not substitutes at all due to the fact that investors have a strong preference for bonds of one maturity but not for another and are only concerned with the expected returns of their preference. This is due to the preference for a certain holding period. It explains fact 3) as the demand for short-term bonds is higher due to the lower risk hence higher prices and lower interest rates and similarly with long term bonds. This explains the normal upward slope. This theory is unable to explain fact 1) and 2), due to the fact that different maturity bonds

having no influence on each others interest rates, and it is not clear how demand and supply for short-term bonds changes with the level of short term interest rates.

**Explain the assumptions and predictions of the liquidity premium theory of the term structure and the preferred habitat theories of the term structure and how well they explain the three empirical observations of the yield curve.**

The liquidity premium theory states the the interest rate on a long-term bond will equal an average of short-term interest rates expected to occur over the life of the long-term bond plus a liquidity premium (term premium) that responds to supply and demand. Key assumption is that bonds of different matures are substitutes with their expected returns influencing one another, they are not perfect substitutes.

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#### The Relationship Between the Liquidity Premium (Preferred Habitat) and Expectations Theory

Because the liquidity premium is always positive and grows as the term to maturity increases, the yield curve implied by the liquidity premium and preferred habitat theories is always above the yield curve implied by the expectations theory and has a steeper slope. For simplicity, the yield curve implied by the expectations theory is drawn under the scenario of unchanging future one-year interest rates.

## Part 3

# Chapter 8

## Asymmetric Information Problems and Tools to Solve Them

Asymmetric Information Problem	Tools to Solve It	Explains Fact Number
Adverse selection	Private production and sale of information	1, 2
	Government regulation to increase information	5
	Financial intermediation	3, 4, 6
	Collateral and net worth	7
Moral hazard in equity contracts (principal–agent problem)	Production of information: monitoring	1
	Government regulation to increase information	5
	Financial intermediation	3
	Debt contracts	1
Moral hazard in debt contracts	Collateral and net worth	6, 7
	Monitoring and enforcement of restrictive covenants	8
	Financial intermediation	3, 4

Note: List of facts:

1. Stocks are not the most important source of external financing.
2. Marketable securities are not the primary source of finance.
3. Indirect finance is more important than direct finance.
4. Banks are the most important source of external funds.
5. The financial system is heavily regulated.
6. Only large, well-established firms have access to securities markets.
7. Collateral is prevalent in debt contracts.
8. Debt contracts have numerous restrictive covenants.

## Questions

### List eight basic facts about financial structure throughout the world

- 1) Stocks are not the most important source of external financing for business
- 2) Issuing marketable debt and equity securities is not the primary way in which businesses finance their operations.
- 3) Indirect finance is more important than direct finance
- 4) Banks are the most important source of indirect finance
- 5) The financial system is heavily regulated
- 6) Only large well-established companies have easy access to securities markets
- 7) Collateral is a prevalent feature of debt contracts
- 8) Debt contracts are complicated legal documents placing substantial restrictions on borrowers

### Explain the role of financial intermediaries by referring to the problem of high transaction costs in financial transactions and the role of financial expertise

Financial intermediaries stand between lender-savers and borrow-spenders. They enable funds to be transferred from people with non-productive opportunities to people with productive opportunities. In financial markets the costs of transacting is high. Financial intermediaries reduce transaction costs by taking advantage of economies of scales. They bundle funds together like mutual funds. The costs of a small transaction is similar to the cost of a large transaction. They

increase diversification of risk, by purchasing a range of securities, as small investors would be compelled to keep all their eggs in the same basket, to keep costs down. They have developed better expertise, such as computer technology, help desks and liquidity services (more transactions or being able to pay bills).

**Explain why marketable securities (debt and equity) are not the primary source of financing for businesses and how financial intermediaries and government regulation can partly overcome the problem of asymmetric information (adverse selection).**

The presence of the lemons problems keeps markets from being effective. Buyers will only buy if compensated for average default risk, knowledgeable buyers will realise they would be paying too much and therefore not buy. Only bad firms would buy at the lower average than what should be charged for their riskier investments, but investors would not want to sell therefore efficiency is reduced.

Lemons problems is a adverse selection problem, i.e. more high risk borrowers and fewer low risk borrowers leads to less lending overall. Asymmetric information problem.

Government regulations can reduce adverse selection by forcing audit and reporting of internal financial details. Government cannot produce ratings as this would be politically difficult.

Government regulations can go only so far because companies would always have more information than investors and bad firms make themselves look good.

Financial intermediaries are experts at producing information about firms and can get better returns hence produce more information, they overcome the free-rider problem by primarily making private non-traded loans so other investors cannot bid up prices.

**Explain, in general, why indirect financing is more important than direct financing and, in particular, why banks are the most important source of external finance for financing businesses.**

Then comment on the two statements: "The role of banks in lending will probably decline in future" and "The more established a firm is, the more likely it will issue securities to raise funds".

Banks hold large portions of non-traded loans and not subject to free-rider therefore collect more info. Adverse selection is reduced by banks. Also banks have a collective reputation like car dealers.

A better known company has more information available thereby reducing asymmetric information and investor are more willing to invest hence easier access to stocks.

As information about firms becomes easier to obtain the roles of bank will decline, largely in part due to technology.

## Chapter 9

1. A financial crisis occurs when a particularly large disruption to information flows occurs in financial markets, with the result that financial frictions increase sharply, thereby rendering financial markets incapable of channeling funds to households and firms with

productive investment opportunities, and causing a sharp contraction in economic activity.

2. Financial crises can start in advanced countries like the United States in several possible ways: mismanagement

of financial liberalization/innovation, asset-price booms and busts, or a general increase in uncertainty when major financial institutions fail. The result is a substantial increase in adverse selection and moral hazard problems that lead to a contraction of lending and a decline in economic activity. The worsening business conditions and deterioration in bank balance sheets then triggers the second stage of the crisis, the simultaneous failure of many banking institutions, a banking crisis. The resulting decrease in the number of banks causes a loss of their information capital, leading to a further decline of lending and a spiraling down of the economy. In some instances, the resulting economic downturn leads to a sharp slide in prices, which increases the real liabilities of firms and households and therefore lowers their net worth, leading to a debt deflation. The further decline in borrowers' net worth worsens adverse selection and moral hazard problems, so that lending, investment spending, and

aggregate economic activity remain depressed for a long time.

- 3.** The most significant financial crisis in U.S. history, that which led to the Great Depression, involved several stages: a stock market crash, bank panics, worsening of asymmetric information problems, and finally a debt deflation.
- 4.** The global financial crisis of 2007–2009 was triggered by mismanagement of financial innovations involving subprime residential mortgages and the bursting of a housing price bubble. The crisis spread globally, with substantial deterioration in banks' and other financial institutions' balance sheets, a run on the shadow banking system, and the failure of many high-profile firms.
- 5.** The 2007–2009 financial crisis did not lead to a depression because of aggressive Federal Reserve actions and worldwide government intervention through bailouts of financial institutions.

## Chapter 10

- 1.** Financial crises in emerging market countries develop along two basic paths: one involving the mismanagement of financial liberalization/globalization that weakens bank balance sheets and the other involving severe fiscal imbalances. Both lead to a speculative attack on the currency, and eventually to a currency crisis in which there is a sharp decline in the value of the domestic currency. The decline in the value of the domestic currency causes a sharp rise in the debt burden of domestic firms, which leads to a decline in firms' net worth, as well as increases in inflation and interest rates. Adverse selection and moral hazard problems then worsen, leading to a collapse of lending and economic activity. The worsening economic conditions and increases in interest rates result in substantial losses for banks, leading to a banking crisis, which further depresses lending and aggregate economic activity.
- 2.** The financial crisis in South Korea follows the pattern described previously. It started with a mismanagement of financial liberalization and globalization, followed by a stock market crash and a failure of firms that

increased uncertainty, a worsening of adverse selection problems, a currency crisis, and then a full-fledged financial crisis. The financial crisis led to a sharp contraction in economic activity and a rise in inflation, as well as a weakening of the social fabric.

- 3.** In contrast to the crisis in South Korea, the Argentine financial crisis started with severe fiscal imbalances. The recession, which had been ongoing since 1998, along with the deterioration of bank balance sheets when the fiscal imbalances led to losses from government bonds, which the banks had on their balance sheets, led to a worsening of adverse selection and moral hazard problems, a bank panic, a currency crisis, and then a full-fledged financial crisis. As in South Korea, the financial crisis led to a decline in economic activity and a rise in inflation in Argentina, but the economic contraction and rise in inflation was even worse.
- 4.** Policies to prevent financial crises in emerging market economies include improving prudential regulation and supervision, limiting currency mismatch, and sequencing of financial liberalization.

# Chapter 11

- |  |  |
|--|--|
| <p>1. The balance sheet of commercial banks can be thought of as a list of the sources and uses of bank funds. A bank's liabilities are its sources of funds, which include checkable deposits, time deposits, discount loans from the Fed, borrowings from other banks and corporations, and bank capital. A bank's assets are its uses of funds, which include reserves, cash items in process of collection, deposits at other banks, securities, loans, and other assets (mostly physical capital).</p> <p>2. Banks make profits through the process of asset transformation: They borrow short (accept short-term deposits) and lend long (make long-term loans). When a bank takes in additional deposits, it gains an equal</p> | <p>amount of reserves; when it pays out deposits, it loses an equal amount of reserves.</p> <p>3. Although more-liquid assets tend to earn lower returns, banks still desire to hold them. Specifically, banks hold excess and secondary reserves because they provide insurance against the costs of a deposit outflow. Banks manage their assets to maximize profits by seeking the highest returns possible on loans and securities while at the same time trying to lower risk and making adequate provisions for liquidity. Although liability management was once a staid affair, large (money center) banks now actively seek out sources of funds by issuing liabilities such as negotiable CDs or by actively borrowing</p> |
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## Part 4

# Chapter 14

### Central Bank Independence:

**FOR:** Political pressures would impart an inflationary bias due to their short-term focus on winning the next election; this could lead to a political business cycle, with expansionary policy just before an election and contraction policy after. It could also be used to fund budget deficits. Politicians also lack the ability to control monetary policy, and suffer larger affects of the agency problem. Empirical evidence suggest Independence is best for targeting inflation but central banks should be accountable to parliament.

### AGAINST:

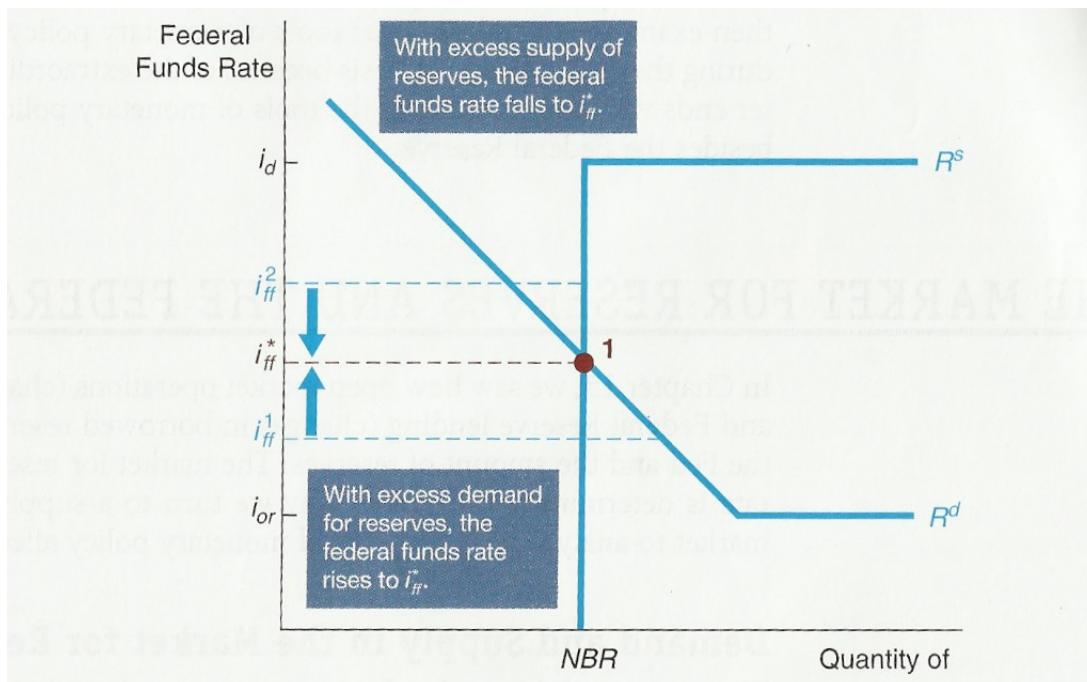
Undemocratic to be controlled by a few elites, with a lack of accountability. There needs to be a coordinated effort between fiscal and monetary policy. Central banks may pursue narrow self interests and can be bureaucratic.

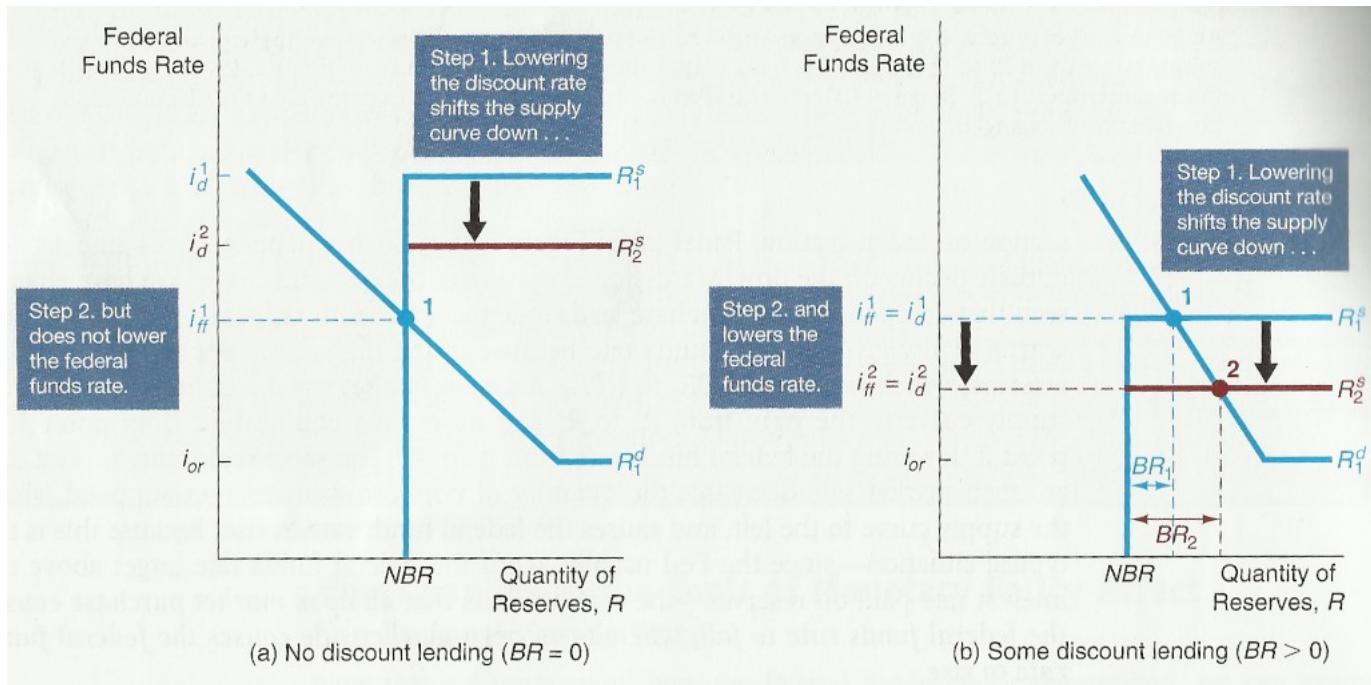
# Chapter 15

Money Supply Response				
Player	Variable	Change in Variable	Money Supply Response	Reason
Federal Reserve System	Nonborrowed monetary base, $MB_n$	↑	↑	More MB for deposit creation
	Required reserve ratio, $rr$	↑	↓	Less multiple deposit expansion
Banks	Borrowed reserves, $BR$	↑	↑	More MB for deposit creation
	Excess reserves	↑	↓	Less loans and deposit creation
Depositors	Currency holdings	↑	↓	Less multiple deposit expansion

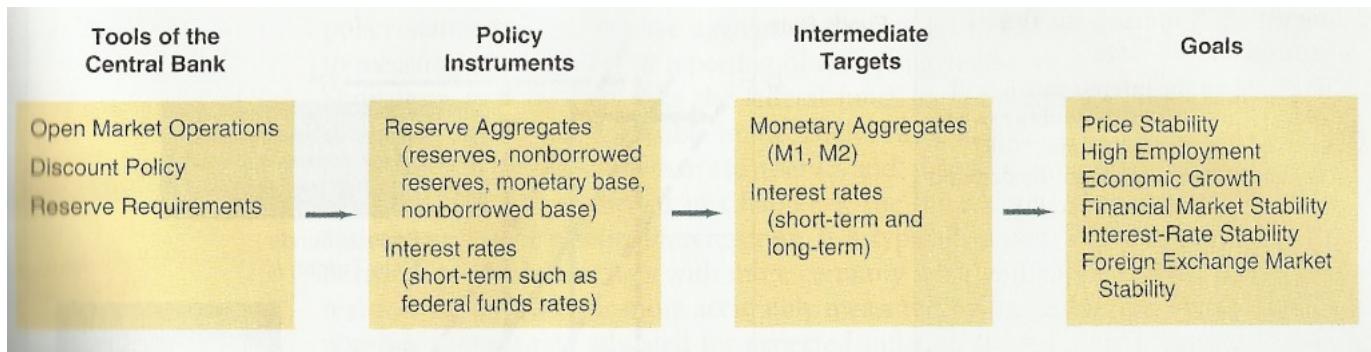
Note: Only increases (↑) in the variables are shown. The effects of decreases on the money supply would be the opposite of those indicated in the "Money Supply Response" column.

# Chapter 16

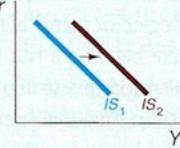
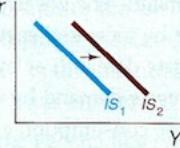
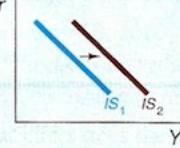
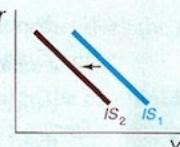
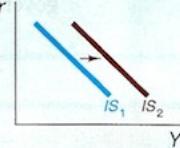
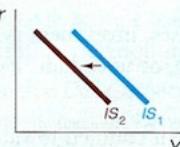




## Chapter 17



Shifts in the *IS* Curve from Autonomous Changes in  $\bar{C}$ ,  $\bar{I}$ ,  $\bar{G}$ ,  $\bar{T}$ ,  $\bar{NX}$ , and  $\bar{f}$ 

Variable	Change in Variable	Shift in <i>IS</i> Curve	Reason
Autonomous consumption expenditure, $\bar{C}$	↑		$C \uparrow Y \uparrow$
Autonomous investment, $\bar{I}$	↑		$I \uparrow Y \uparrow$
Government spending, $\bar{G}$	↑		$G \uparrow Y \uparrow$
Taxes, $\bar{T}$	↑		$T \uparrow \Rightarrow C \downarrow Y \downarrow$
Autonomous net exports, $\bar{NX}$	↑		$NX \uparrow Y \uparrow$
Financial frictions, $\bar{f}$	↑		$I \downarrow Y \downarrow$

Note: Only increases (↑) in the variables are shown; the effects of decreases in the variables on aggregate output would be the opposite of those indicated in the last two columns.

**Part 6****Chapter 20**

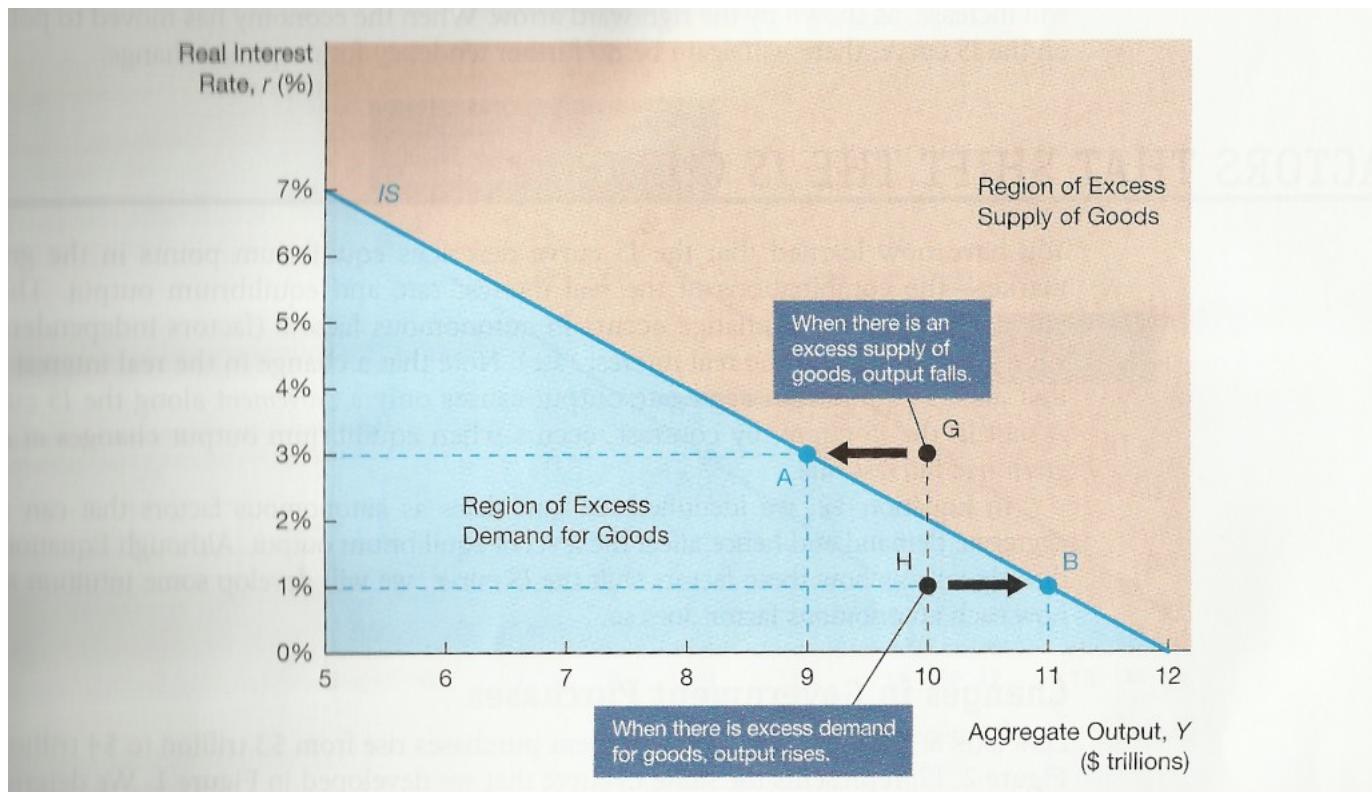
$$\text{Velocity of Money} = \frac{P \times Y}{M}$$

$$\text{Equation of Exchange: } M \times V = P \times Y$$

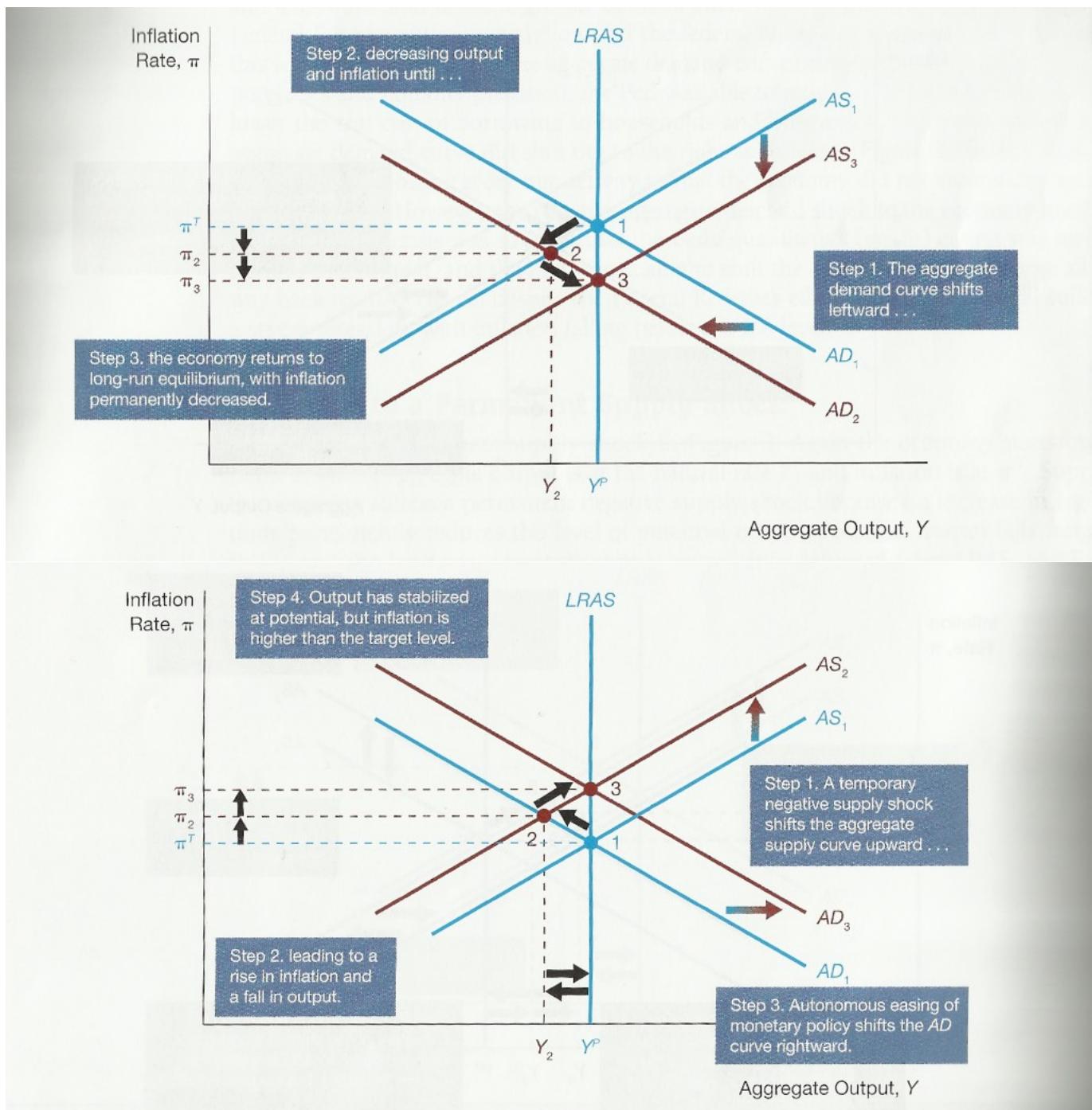
### Factors That Determine the Demand for Money

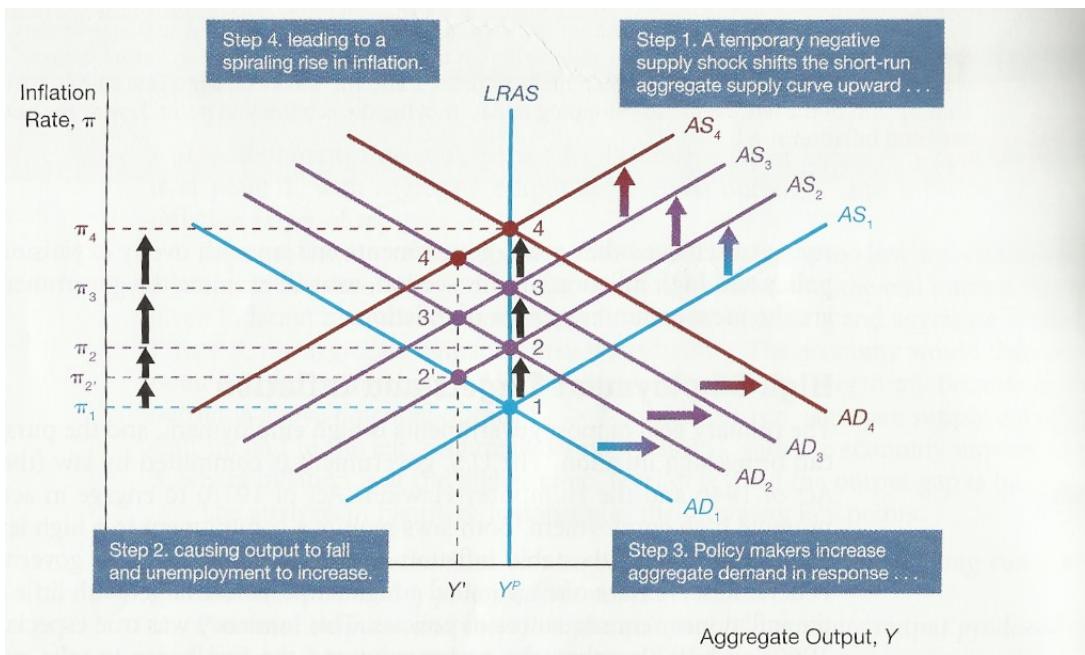
Variable	Change in Variable	Money Demand Response	Reason
Interest rates	↑	↓	Opportunity cost of money rises
Income	↑	↑	Higher transactions
Payment technology	↑	↓	Less need for money in transactions
Wealth	↑	↑	More resources to put into money
Risk of other assets	↑	↑	Money relatively less risky and so more desirable
Inflation risk	↑	↓	Money relatively more risky and so less desirable
Liquidity of other assets	↑	↓	Money relatively less liquid and so less desirable

## Chapter 21



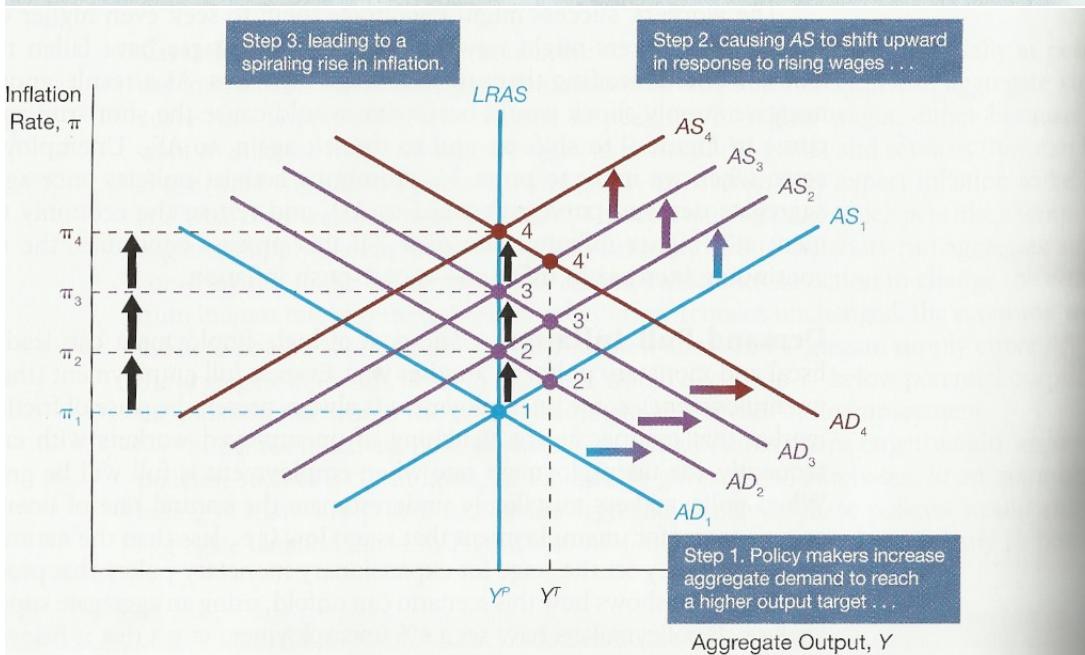
# Chapter 24





### Cost-Push Inflation

A cost-push shock (which acts like a temporary negative supply shock) shifts the short-run aggregate supply curve up and to the left to  $AS_2$ , and the economy moves to point 2'. To keep aggregate output at  $Y^P$  and lower the unemployment rate, policymakers shift the aggregate demand curve to  $AD_2$  so that the economy will return quickly to potential output at point 2 and an inflation rate of  $\pi_2$ . Further upward and leftward shifts of the short-run aggregate supply curve to  $AS_3$  and so on cause the policymakers to keep on increasing aggregate demand, leading to a continuing increase in inflation—a cost-push inflation.



### Demand-Pull Inflation

Too low an unemployment target (too high an output target of  $Y^T$ ) causes the government to increase aggregate demand, shifting the  $AD$  curve rightward from  $AD_1$  to  $AD_2$  to  $AD_3$  and so on. Because the unemployment rate is below the natural rate level, wages will rise and the short-run aggregate supply curve will shift up and leftward from  $AS_1$  to  $AS_2$  to  $AS_3$  and so on. The result is a continuing rise in inflation known as a demand-pull inflation.

definitely lots of marks here

# Chapter 25

# Chapter 26

