Financial Literacy Capacity Assessment

LEARNING BOOK

PART II: ADVANCED LEVEL

Chapter 4: Housing

Housing has become a serious concern for people around the world, as prices and rents have risen steeply in recent years, making good housing in attractive locations increasingly hard to afford. Young people in particular worry about finding suitable accommodation and are keen to get a foot on the property ladder.

Buying a home is the single largest investment most people make in their lifetime. It should be planned and researched carefully. You should try to understand the main forces shaping the housing market and the main personal considerations that impact on the decision to buy or rent.

HOUSING DEMAND

Demand for housing depends on many factors, including:

- ***Demography**: when population increases, for example because of immigration or because people live longer, demand for housing increases; on the other hand, falling birth rates reduce population growth and the demand for housing*
- ***Social trends**: if couples divorce more often, more housing units will be needed, though of smaller size*
- ***Economic growth**: rising incomes translate into greater willingness and ability to pay high prices or rents*
- ***Geography**: as growth industries tend to concentrate in clusters, property in or near these areas becomes more expensive*
- ***Interest rates**: since most buyers borrow to buy a home, the interest rate on mortgages is an important part of total housing cost*
- ***Taxation**: when mortgage interest is deductible from income tax, it can provide a strong incentive for people to buy*
- ***Investment demand**: factors like low interest rates or stock markets that seem expensive can raise demand for housing for investment purposes*

Supply of housing normally tracks demand, but regulations like zoning laws or green belts can hamper construction, especially in areas where demand is strongest. This can further boost prices.

If prices keep rising, does it mean you should buy as soon as possible in order to get a "foot on the property ladder"? Perhaps, but you first need to assess whether you can afford it, whether it makes sense for you, and whether the market seems reasonably valued.

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A useful tool to assess market prices is to compare house prices to rents and salaries. If the ratio of house prices to rents and to salaries is significantly above the long-term average, it may mean that buying is no longer affordable nor attractive for the average wage-earner, especially compared with renting.

Whatever the state of the market, you must carefully assess the condition of any particular house of flat that strikes your fancy. Structural soundness, floor space, design, view, greenery, location, etc. are all important factors. And keep in mind that location is more than being close to Old Trafford or Madison Square Garden – proximity to things like jobs, schools, hospitals, and transport also matters! 😊

If you've finally found your dream home, you need to ask yourself some hard questions regarding your personal and financial situation:

- Am I likely to stay in this location in the medium to long term? Do I really like this town and will I be able to work there or within commuting distance?
- Is my family situation stable? Is my family size likely to increase so I'll need larger accommodation?
- Do I like to be a homeowner? Are repairing the roof or painting the walls things I enjoy doing on weekends?
- Is my professional and income situation reasonably stable and predictable?
- Do I have enough cash or other liquid assets to make a substantial down-payment, normally at least 10-20% of home value?
- Am I eligible to get a mortgage? Relevant factors include steady income, credit score, existing indebtedness, loan-to-value ratio (mortgage as a percent of home price), debt servicing ratio (mortgage payments as percent of income), etc.
- Can I afford monthly payments, i.e., will all my debt payments be less than 36% of my gross (pre-tax) income?

If the answer to all these question is yes, you can start getting down to the fun part: negotiating a mortgage! 😊

MORTGAGES

Here are a few basic things you need to know about mortgages:

- *A mortgage is a **loan** granted by a lender, like a bank, building society (UK), savings & loan (US), or other institution to a home buyer for financing part of the purchase*
- *Mortgages are **secured** against the value of the home; if you fail to repay, the lender can repossess the home, i.e., take ownership and force you to move out*
- *Mortgages can cover up to **80-90%** of home value, in some cases more (not that we recommend it)*
- *You also need to take into account **closing costs**, which includes legal fees, valuation, survey costs, etc., and can easily add 2-5% of home price to the cost*
- *Mortgages are repaid through **monthly payments** that include both a principal and an interest component*
- *The principal repayment goes toward reducing the amount of money you owe, hence it increases your **home equity** (the market value of your home minus the mortgage debt you owe)*
- *The mortgage **interest** depends on the general level of interest, the terms of the mortgage, quality of the collateral, and your personal creditworthiness*
- *Mortgages have different **maturities**, typically from 15 years up to 20 years (UK) or 30 years (US); longer maturities mean lower monthly payments, but also more interest paid over time*
- *Mortgages can have **fixed or variable** interest rates: fixed rates are set at the beginning and offer greater certainty; variable rates include a spread over a fluctuating government bond rate*

While most people buy a home for residential purposes, you can invest in other forms of real estate:

- Vacation homes or time-shares
- Raw land
- Buy-to-let: these may be especially attractive when rental returns exceed interest on savings accounts or bonds, as they often have in recent years
- Commercial property: real estate used for business purposes, such as office buildings, retail shops, or warehouses
- Real estate investment trusts (REIT): mutual funds that own and manage property on behalf of investors

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A final word of advice: owning a home is a worthwhile objective. It can provide financial security and personal comfort, and unlike rents, mortgage payments help build your "home equity", i.e., the value of your home minus the debt you owe. But while home prices have exceeded inflation over long periods of time, and risen particularly sharply in recent years, they offer no guaranteed path to riches and can tie you down in debt for many years. Study the market, analyze the implications, and consider all relevant factors before taking the plunge!

Chapter 5: Retirement

Retirement planning is an important part of personal finance at every age. In the past, people could rely on company pensions and/or government provision for safe and adequate retirement income. But things are more complicated today: company pensions have declined along with long-term jobs, and generous "defined benefit" plans have been replaced by riskier "defined contribution" plans. At the same time, government coffers are under strain with rising longevity and health care costs, making pension promises harder to fulfill.

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The upshot is that people need to increasingly provide for their own retirement. If you think this is not a big concern for young people, who often can't make ends meet and have other things to worry about, think again! Retirement is something you need to start preparing for when you're in your 20s or 30s, not when you're 50. The earlier you start saving and accumulating wealth, the more likely you are to retire before you reach age 90...

Here are the main sources of retirement income and what you should know about them:

1. **GOVERNMENT PROVISION**, like State Pension in the UK or Social Security in the US: provides basic retirement income to all eligible citizens or residents. You need to understand the conditions and criteria in the place you live in. Even if you are eligible, don't rely on it exclusively: public budgets are under strain as populations age, and there are many competing demands on government spending. This is even more true in emerging economies, where public pensions are often small or non-existent. Keep yourself informed of changes in policies, as they may have a big impact on your retirement. And ask tough questions, for example, how are promised future benefits funded, and will they be fully adjusted for inflation?

2. **COMPANY PENSIONS**: they are a key source of retirement income in many countries. There are two problems: (a) they have become less easy to obtain, as permanent jobs are replaced by short-term or temporary employment; and (b) they have become less generous, as "defined benefit" plans (where retirement income depends on years of service and final salary) are replaced by "defined contribution" plans (where income depends on the money contributed and returns it generates, without any guarantees). Company pensions are still great if you can get them, but you may need to supplement them with other retirement income.

3. **PERSONAL WEALTH**: being rich is a good thing as far as personal finance is concerned... If you have accumulated assets, you could sell some of them or rely on the income they generate for your retirement living. But you need to take a few things into account: (a) living off interest is not easy as interest rates have been very low in recent years and often do not or barely cover inflation; (b) dividends can be a good source of income, but they are not guaranteed as companies can reduce or eliminate them anytime; (c) income-generating property (like buy-to-lets) can provide rental income, but need to be managed, e.g., finding reliable tenants, arranging for repairs, etc.

4. **ANNUITIES**: they pay regular income and can be bought through a lump sum or a series of payments. Annuities can be fixed or variable, depending on whether the amount they pay is fixed or changes with the performance of an investment portfolio. Annuities can be

complex and you need to review and fully understand their features.

5. **HOME EQUITY**: for retirees who are less concerned about bequeathing wealth, there are tools to generate income from assets like homes during their lifetime. For example, reverse mortgages or equity release options can provide cash to homeowners without requiring monthly payments; instead, they are repaid from the value of the home when the owner dies or the home is sold.

6. **GUARANTEED INCOME**: while this does not yet exist in most parts of the world, the idea of guaranteeing a universal basic income for everybody regardless of employment is debated in many places. Some of this may become reality by the time today's youths retire. It would not be wise to rely on a distant future possibility, but it is good to know about it and keep track of developments.

What is a comfortable retirement income? Financial advisors used to recommend around 70% of your previous salary, on the grounds that you have less needs when children are self-dependent and you are older. However, there are no fixed rules: it all depends on your level of income, standard of living, and personal circumstances and preferences. Reading books or going for walks is cheaper than touring the world on a catamaran! You also need to take into account the potential need for long-term care or nursing help. Medical advances have lengthened human life with amazing new technologies, but you need to think who and how this will be paid for.

If the retirement income you expect does not meet your requirements, you could try **to retire later or shift gradually from full to partial retirement.** Many part-time jobs are available for people who do not want to work full time but seek to complement their retirement income and remain active. The growth in part-time jobs, outsourcing, and distance working facilitates this trend.

If you rely on your savings and investments for part or all of your retirement income, here are some core principles that you should follow:

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1. **START EARLY**: the time to start saving is when you're young, especially when you start earning "serious" money beyond your most pressing needs—not 10 years before you want to retire!

2. **DON'T WITHDRAW** money from your retirement account unless you absolutely have to, and reinvest all interest and dividends—they accumulate and compound over time, making a big difference to your ultimate retirement pot.

3. Take full advantage of all **TAX-ADVANTAGED** schemes, such as ISA in the UK or IRA in the US.

4. Take full advantage of all **EMPLOYER-SPONSORED** schemes—they usually match part of your contribution.

INVESTMENT PRINCIPLES

As you build your retirement portfolio, you need to follow sound investment principles. These are the subject of a separate lesson (Investing, Basic and Advanced), but here are a few things to remember:

1. ***DIVERSIFY**: target a balanced mix of cash, fixed-income and equities; include possibly some gold and real estate; rebalance periodically to stay close to your desired portfolio allocation.*

2. ***STOCKS FOR THE LONG RUN**: equities should account for the largest proportion of your portfolio, though you could slightly reduce their share as you get older and want to take less risk.*

3. ***BUY AND HOLD**: avoid excessive trading and don't try to time the market. If you take an occasional punt, limit it to a small portion of your assets so you won't break the bank if it goes sour!*

Chapter 6: Insurance

Buying insurance is a means of protecting yourself and your family from the financial losses that can result from events such as theft, illness, accidents, disability, or death.

For potential harmful events, you have the option of **accepting, reducing, or transferring risk**. Accepting risk is also called self-insurance and means that you set money aside in case such an event occurs. Reducing risk means taking precautionary steps, such as adopting a healthy lifestyle or driving carefully. Obviously, these have more than financial benefits! The third option, transferring risk, means taking out an insurance policy.

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The fundamental principle is that you should seek to insure events that would have serious financial consequences on you or your family. The exact choice will depend on your personal circumstances, the availability of government support, and the terms and costs of insurance on offer. Some insurance policies are also required by law, for example for car owners.

Here are some key terms you should know: you pay an annual **PREMIUM** to the insurer. In exchange, the insurer promises to reimburse you in case of certain events stipulated in the insurance contract (e.g., fire, theft, accident, etc.) and affecting certain items (house, car, etc.). When a covered event occurs, you file a **CLAIM** with the insurer. If the claim is found valid, the insurer will pay for your loss, i.e., repair or replace the damaged item or cover the costs incurred, with the following limitations: (a) up to the coverage **LIMIT** agreed in the policy, (b) after deducting any **CO-PAYMENT**, and (c) after meeting the yearly **DEDUCTIBLE**.

Some types of insurance are legally required. For example, drivers are typically required to have **THIRD-PARTY LIABILITY** coverage for damage caused to other people's cars; businesses may need **WORKERS' COMPENSATION** to cover pay and medical costs for employees suffering work accidents, or **PROFESSIONAL LIABILITY** for damage caused by their products.

Homeowners should have **PROPERTY OR HOME INSURANCE**. This is generally required by mortgage lenders. Home insurance normally covers calamities such as fire, storms, explosions, water damage, etc., though practices vary between countries and each policy is different. Make sure you read the fine print and understand the exclusions list of your policy. You can purchase additional insurance for events that are not normally covered in the place you live in, for example earthquakes or acts of terrorism.

TENANTS OR RENTERS INSURANCE exists for those who are renting a flat or house. It can cover contents of the home or liability for damage caused to others. Renters insurance may be required by your landlord even if it is not mandated by law.

The cost of your insurance depends on many factors, some of which you can influence. Factors include:

- *Extent and amount of coverage*
- *Yearly deductible*
- *Co-payment if applicable*
- *Age and residence of the insured*
- *Track record of the insured*
- *Condition of the items insured*
- *Precautionary measures taken*

There are trade-offs to consider: by accepting a larger deductible, you may reduce the annual premium, though you'll be out of pocket by a larger amount before the insurance kicks in; a smaller insurance limit also reduces the premium, but leaves you uncovered beyond the agreed limit.

LIFE INSURANCE provides a lump sum or regular payments to designated beneficiaries upon death of the insured. Life insurance policies can have an investment component and accrue a "cash value" which is funded by part of the premium. You can cash in some of this value tax-free under certain circumstances.

A complete insurance plan should INCLUDE **ESTATE PLANNING**, i.e., provisions for how your wealth will be distributed after death. This should be planned as soon as you have a family or an important cause that you care for.

ONLINE FRAUD and identify theft are growing concerns in today's world. Hackers, cyber-criminals and internet fraudsters are in a constant race against governments, businesses, and cyber-security experts who try to thwart them. The methods used by cyber-criminals, and the protection measures needed, continue to evolve. You should keep yourself abreast of developments, exercise caution at all times, and don't share sensitive information with anyone you don't know and are not sure you can trust.

Chapter 7: Moral Investing

"Moral" or "sustainable" investing means considering the environmental and social impact of investment decisions and the business activities they support. It has become an important part of investing as people are increasingly concerned about the broader impact of economic and financial activity on society, nature and the world at large.

Climate change has attracted much attention in recent years, due the danger it poses for many regions, the unforeseeable long-term consequences, and the need to negotiate and enforce global agreements. However, there are many other environmental, social and governance issues, such as air and water pollution, bio-diversity, deforestation, occupational health and safety, working conditions and pay, management compensation, product standards, gender equity, minority rights, LGBT rights, abuse of market power, tax evasion, etc. The list of concerns is long and continues to evolve.

ESG stands for **Environmental, Social and Governance**. The principle is that businesses should consider the impact they have on a broad list of "stakeholders", i.e., groups that are affected by their decisions, beyond their shareholders or owners: this includes employees, suppliers, customers, communities where they operate, the environment, etc. The interests of these groups are not necessarily aligned and businesses and governments need to strike a balance between competing objectives and demands.

"Stakeholder" capitalism stands in contrast to the traditional focus on shareholder returns, which defines the objective of a company as maximizing profits for its shareholders. There can be marked differences between the two, for example when a company emits pollutants or eliminates jobs to shore up profits. In the long run, however, the differences may be less stark as many actions that are good for stakeholders ultimately benefit the company's bottom line (for example, by enhancing its image and making it more attractive for consumers and employees.)

ESG is a broad field on which there is a vast and growing amount of information. Conditions, behaviors and objectives continually change. Here is a list of questions that concerned investors and consumers could ask from companies (and from the fund managers who invest in them):

SOME ESG QUESTIONS FOR BUSINESSES

- *Does the company measure and have concrete action plans to reduce its **carbon footprint?** For example, what is the present and planned future share of electric and hybrid motors for carmakers and transport companies? What is the share of renewable energy for energy companies and utilities?*
- *What air, water, soil or other **pollutants** is the company emitting and what are its plans for reducing emissions?*
- *Does the company have a formal policy to focus on **stakeholders** and what measures is it taking in practice to implement this policy?*
- *Does the company have official **diversity** policies and what are its practices in this regard? Are they subject to any lawsuits or negative publicity regarding discrimination on the basis of race, ethnicity, gender, sexual orientation, or any other factors?*
- *Who sets and reviews executive **compensation**? What is the gap between management and average employee pay? What bonuses or stock options are given to managers and what are they based on?*

- *What are **labor conditions** and practices in the company, its foreign subsidiaries, and its entire supply chain? What steps does the company take to ensure absence of child labor, forced labor, unsafe working conditions, etc. among its suppliers around the world?*
- *Who **audits** the accounts of the firm? How long have the auditors been in their job and do they have other consulting contracts with the firm?*
- *Does the company have **monopoly** power in some markets and are there signs it is abusing its market position?*
- *Is the company respecting the **privacy** and confidentiality of customer information it collects?*

This list is by no means exhaustive, and many of the answers are subject to debate. It gives an indication of the kinds of issues that investors and consumers are increasingly concerned with, and that are likely to shape the operations and success of various types of businesses in the future.

For all questions, it is important to go beyond official statements and ask what is happening on the ground. **"Greenwashing"** is the practice of companies adopting formal policies that sound good but are vague and do not lead to meaningful changes in the real world.

ESG is not only an issue for companies, it is also an important subject of government policies. Here are some examples of government decisions with important ESG implications for businesses and society:

- Carbon taxes or emission quotas
- Restrictions on other pollutants, e.g., sulfur dioxide, particulate matter, etc.
- Import restrictions based on ESG performance
- Recycling obligations for manufacturers, retailers and consumers
- Labor standards and enforcement
- Minimum wage and universal basic income
- National health insurance
- Disclosure requirements and rights of shareholders
- Antitrust laws and regulations

Chapter 8: Banks and Capital Markets

Banks, other financial institutions, and capital markets deal with money, credit, saving, and investment.

They play three fundamental roles:

- **Allowing savers to set money aside and earn returns for future use**
- **Enabling businesses and households to borrow for their investment and spending needs**
- **Spreading risk and allocating it to those most able or willing to bear it**

Let's start with some key concepts that can cause confusion because they have several meanings:

- **Money**: money is (a) a means of exchange, (b) unit of account, and (c) store of value. Money can be anything that people accept for these functions—from seashells and coins to digital accounts!
- **Credit**: can mean lending of money or a positive entry into a bank account or accounting book; lending money can be for various types of economic agents and purposes, for example businesses for investment, households for large purchases, or governments to fund budget deficits
- **Investment**: (a) for business or government, it means building or buying long-lasting goods like roads, factories, or machinery that generate benefits over long periods of time; (b) in personal finance, it means buying financial assets like bonds or stocks that generate returns in the form of income or future sale of the asset
- **Capital**: items that can be used and generate benefits for their owner; capital can be physical (e.g., factories and machinery) or financial (e.g., money available for use by a business or individual)
- **Saving**: setting money aside for future use instead of spending it now. The after-tax income earned by individuals is split between consumption and saving. Consumption normally accounts for the larger share, but saving is important for emergencies, future purchases, retirement, etc.

A key distinction is between **banks** and **capital markets**: banks take deposits and make loans, while capital markets create a direct link between users and providers of capital. For example in the stock market, investors provide equity capital to companies or exchange shares with other equity investors; in the bond market, savers lend money to companies and governments. The resultant equity or debt securities are traded in the capital market, establishing a price for them and allowing investors to buy or sell them if they need or have cash.

MAIN TYPES OF FINANCIAL INSTITUTIONS

Here's an overview of the different types of financial institutions and what they do:

- ***Commercial banks** accept deposits from the public and extend loans to businesses, households and governments*
- ***Credit unions** are cooperative institutions that provide similar services to banks but are owned and operated for the benefit of their members*
- ***Investment banks** help companies issue debt and equity capital and manage assets on behalf of investors; they are often combined with commercial banks in universal banks*
- ***Building societies** (UK) and **savings & loan associations** (US) collect deposits and lend money primarily for home purchases or construction*
- ***Insurers** provide protection against losses resulting from events such as accidents, theft, or death*
- ***Brokers** are intermediaries between investors and securities exchanges, allowing investors to buy or sell assets on the exchange*
- ***Mutual funds** pool money from multiple investors to invest in a diversified set of assets; they can be specialized by country, sector, type of security, etc.*
- ***Hedge funds** and **private equity funds** are specialized investment vehicles that seek to generate high returns; hedge funds employ a variety of strategies while private equity funds invest in unlisted companies; both should generally be reserved for more sophisticated investors who understand and can absorb the risks involved*
- ***Financial planners** are advisors who can help clients put together a sound financial plan, including investment portfolio, retirement plan, risk management, tax planning, etc.*

Advice and help can thus be obtained from many sources. While some are only used by certain investors, almost everyone will have to deal with banks, mutual funds and insurers:

- Opening a **bank account** has many advantages, from being able to issue checks and automating rent and utility payments to paving the way for future credit cards and loans
- **Mutual funds** are a convenient way to buy diversified sets of stocks or bonds. They can target specific countries, sectors, etc. You should check the investment strategy, track record, and fees of any fund you consider investing in. Active funds try to beat the market while passive funds track the relevant index (e.g., S&P 500 as a broad indicator of the US stock market or FTSE 100 in the UK). Exchange Traded Funds (ETFs) are types of index funds; they can be a good addition to a portfolio as they offer diversification and liquidity at low costs.
- **Financial planners** and advisors can provide useful advice and perspective; you should make sure they have solid credentials, understand your personal situation, and have interests that are fully aligned with yours.

Here are a few things you should watch out for in investment relationships:

- **Hidden costs**: these can include trading expenses, commissions, wide buy/sell spreads, etc.
- **Inadequate risk/reward profile**: for example, funds with high leverage or risks that are not fully understood by investors
- **Conflicts of interest**: for example, undisclosed sales commissions, self-dealing, or income that depends on factors unrelated to investment performance

Chapter 9: Interest and Inflation

In a loan, the borrower commits to making two kinds of payments to the lender:

- **PRINCIPAL** is the nominal amount of the loan, which is due either at maturity (at the end of the loan) or in periodic instalments
- **INTEREST** is an additional payment due on top of the principal, generally paid monthly and expressed as a percentage of the principal amount outstanding

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Interest represents the cost of borrowing money. It compensates the lender for three kinds of risks:

1. **CREDIT RISK: the risk that the borrower may not repay in full and on time what they owe**
2. **LIQUIDITY RISK: the risk that you may need the money while it is tied up**
3. **INFLATION RISK: the risk that inflation may erode the real value of the money you get back**

These 3 elements explain the **TIME VALUE OF MONEY**, i.e., the concept that a pound, dollar, euro or yen today is worth more than tomorrow. Money in hand can be spent freely, while future money (a) cannot be used yet, (b) may not arrive when it is due, and (c) may be worth less when it does.

You should make sure you understand the way interest rates are quoted. A common term is the **ANNUAL PERCENTAGE RATE (APR)**: it is the amount of interest you pay per year as a percent of outstanding debt. If you owe £1,000 on a loan with a 20% APR, and leave that debt unchanged for a year, you will pay £200 in interest. APRs can sometimes be higher than interest rates because they include other costs, for example closing costs and mortgage insurance in the case of housing loans.

Interest can be **SIMPLE** or **COMPOUND**: simple interest is calculated on the principal amount outstanding, while compound interest is calculated on principal plus accumulated interest. Compounding means earning interest on interest; it can be a powerful tool, especially over long periods of time and when interest rates are fairly high. The **RULE OF 72** states that the approximate time for doubling an investment equals 72 divided by the annual interest rate; so a £100 loan at 6% compound interest becomes £200 in about 12 years. When interest rates are low, compounding loses some of its appeal, though it also applies to the dividend income of stocks.

Interest rates are significantly lower today than they have been in the past. Since the global financial crisis of 2008, low inflation, a global savings glut, and large-scale central bank purchases of bonds have contributed to exceptionally low interest rates. In some cases, interest rates on government bonds have turned negative. This has significant implications on financial planning and investment strategy:

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If interest rates on safe government and high-grade corporate bonds barely or do not cover inflation, it may not make sense to allocate a large share of your portfolio to them. Investors should consider supplementing or replacing them with alternatives, for example:

- **Cash: keeps its value and is only subject to the risk of a sudden spike in inflation or the cumulative impact of inflation in the long run**
- **High-yield bonds: pay higher interest though the extra yield should be large enough to compensate for the additional risk**

- **Floating-rate bonds: these pay a spread over a market rate; the latter should normally rise with inflation**
- **Low-risk equities: for example, stocks of utilities which tend to have steady revenues and profits**
- **Rental property: tends to keep its value in real terms and generates rental income; can be physical properties or financial assets like Real Estate Investment Trusts**
- **Gold: tends to rise in value during periods of inflation or financial unrest, providing a hedge to investors**

Ultra-low or negative interest rates are a relatively recent phenomenon and uncharted territory in financial planning; investors should carefully consider the implications, hedge their bets, and seek advice from qualified sources.

Part of interest compensates for the risk of inflation. **INFLATION** is an increase in the average price of goods and services bought by consumers. It tracks the price of a basket of typical household purchases. Inflation erodes the purchasing power of money, especially over long periods of time, affecting both the standard of living of people and the real return on investments.

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Inflation is particularly harmful to those who receive fixed amounts of money, such as retirees with fixed (non-inflation adjusted) pensions and owners of long-term, fixed-rate bonds.

Moderate or high inflation has been a regular phenomenon in many countries over the past half-century. But inflation has been low in recent times, even during periods of strong growth and low unemployment which traditionally coincided with higher inflation. Economists continue to debate the reasons for this and whether it will continue; explanations include growing imports from low-cost developing countries, competition by e-commerce firms, and reduced power of trade unions.

Investors and consumers should be on the look-out for signs of a possible resumption of inflation and be prepared to deal with it if it happens. Among other things, this means having a portfolio that provides some degree of protection against inflation, for example through:

- **Equities**, which have some built-in inflation protection as the revenues and profits of businesses tend to rise with the general level of prices
- **Real estate**, whose prices tend to be stable or rise in real terms
- **Gold**, which is viewed as a hedge against inflation and rises during periods of high inflation

Chapter 10A: Advanced Investing – Pricing Financial Assets

So you've set some money aside and are ready to invest in the stock market, whether individual stocks or stock mutual funds. Before you take the plunge, you'd like to know what is the right price for a stock. Well, you're not alone! There are no clear and simple answers and even the greatest experts struggle with this question. Let's try and guide you through the maze…

The most basic answer is that the price of a stock or of any asset is determined by the interaction of **SUPPLY AND DEMAND** in the market. The price is the level at which demand and supply are in balance. In other words: the price is what others are willing to pay for the stock and are willing to sell it for.

But stocks and other investments also have a fundamental value that can be estimated. Different investors will use different assumptions and expectations, resulting in different estimates of value. This is where the market comes in: all participants can express their views by offering to buy or sell at a certain price; the resultant market price represents the majority estimate of the value of the asset at any point in time.

In the short and medium run, prices can deviate substantially from their fundamental value; in the long run, however, they tend to revert to it.

NET PRESENT VALUE

In theory, the price of any asset depends on the cash inflows and outflows it generates, the timing of these cash flows, and the risks attached to them. It is calculated by:

1. *Predicting the **CASH INFLOWS** and **OUTFLOWS** generated at different moments of time*
2. *Determining the **DISCOUNT RATE**, i.e., the rate of return that investors in the asset expect to earn every year*
3. *The discount rate has two components: the **RISK-FREE RATE**, e.g., interest rate on government bonds; and a **PREMIUM**, which depends on the riskiness of the investment*
4. *Dividing future cash flows by a factor which depends on the discount rate and the number of **YEARS** in the future when they occur*
5. *The resultant net, discounted yearly cash flows are added up to make up the **NET PRESENT VALUE (NPV)***

If you're confused, here's some good news: you don't need to understand the details, as any financial calculator or spreadsheet can handle them for you. And you can be a successful investor without ever calculating a Net Present Value! But it is helpful to understand the principle to deal with more advanced finance topics, and it is good to know the lingo so you can your hold you own in discussions with professionals!

For stocks, there are some specific valuation methods that are commonly used and widely quoted in the media and by analysts:

1. **PRICE-EARNINGS RATIO (PER)**: price of the stock divided by earnings (profits) per share.

The PER can be historic or forward looking. There are no firm rules as to what an appropriate PER is. Historically, the average for the US and UK stock markets has been around 15. In general, the lower the risk and the better the growth prospects of a firm, the higher the value that the market assigns to its profits, i.e., the higher its PER. Stocks in similar industries and with similar characteristics tend to have broadly similar PERs.

2. **CYCLICALLY-ADJUSTED PER (CAPE)**: price of the stock divided by average, inflation-adjusted earnings over the last 10 years. By smoothing out yearly fluctuations, the CAPE gives a better indication of the underlying level of profits and, therefore, the PER.
3. **FREE CASH FLOW**: cash flow is the net profit earned by the company before non-cash charges such as depreciation. In addition to cash flow from operations, some analysts include the investing and working capital needs of the company to derive Free Cash Flow: the cash that the company earns from its operations after meeting investment and working capital needs, and that it is free to distribute to its owners or creditors.
4. **PRICE-BOOK RATIO**: price of the stock divided by its book value per share. Book value is an accounting concept: it is the difference between the value of the assets of a firm and its debts. It is also called shareholders' equity as it represents what is owned by shareholders after all debts have been paid. Profits are more important than asset values in determining the price of a stock; also, book value is based on historical rather than current market prices of assets. Nevertheless, price-book, especially compared to other firms in the same industry and to past figures for the same firm, can be an indicator of changed business prospects or point to unusually high or low valuations.
5. **DIVIDEND DISCOUNT MODEL**: this applies the NPV formula to the dividends distributed by a company. It thus values stocks according to the cash flows received by its shareholders rather than the company itself. Dividends are an important factor in the long run as profits earned by a company are only accounting concepts; they ultimately benefit shareholders only if they are paid out in cash.

BEWARE: Figures like earnings and book value are based on the financial statements of companies. These are typically audited by major accounting firms; nevertheless, accounting errors or fraud can occur, and even fair statements include an element of judgment. You may defer to investment professionals for these analyses, but should be aware that figures are subject to some degree of uncertainty.

The NPV formula applies to all investments, including bonds, real estate, etc. as well as stocks.

A bond is characterized by several features:

1. **FACE** or **PAR VALUE**: the price at which the bond is issued and will be redeemed (i.e., repaid by the borrower)
2. **COUPON**: the periodic interest payments, expressed in money or as a percentage of face value
3. **MATURITY**: length of time until the bond is repaid (measured either from now or the date when it was issued)
4. **SPECIAL PROVISIONS**: for example, call provisions allowing the issuer to redeem the bond before maturity at a specified price

The **YIELD** of the bond is the discount rate which equalizes future interest and principal payments to the current price of the bond. It is roughly equal to the coupon payment divided by the current price of the bond. Without entering into detailed calculations, there are two things that everybody should know: (a) the relationship between bond prices and interest rates and (b) what determines the interest rate of a bond.

Bond prices **VARY INVERSELY** with interest rates: the higher the level of interest rates in the market, the lower the price of existing bonds. If a £100 bond pays 3% interest and current market rates for similar bonds are 5%, you would be able to buy or willing to sell the bond at a price lower than £100.

The interest rate on any bond consists of two elements:

1. **RISK-FREE RATE**: interest rate on short-term government bonds; they are considered risk-free in most countries, though not in countries that do not have their own central bank or that borrow in foreign currency. The risk-free rate has two components: (a) real interest rate, which goes up when the demand for funds by investors exceeds the supply of funds by savers, which is normally the case when growth is strong, and vice versa; and (b) inflation premium, which tends to rise when growth is strong and the central bank boosts money supply.

2. **SPREAD**: the premium paid by each bond above the risk-free rate. It depends on 3 characteristics of the bond:
   - Riskiness: the higher the risk that the borrower will not repay the full amount due on time, the higher the spread demanded by lenders
   - Maturity: the longer the remaining period until repayment, the higher the spread
   - Liquidity: a bond that cannot be easily sold in a market requires a higher spread.

Real estate prices are covered in the chapter on Housing. The same pricing principles apply, with rents, interest rates, and taxation being critical factors.

What about **FOREIGN INVESTMENTS**? Shouldn't I think beyond the boundaries of my country in a globalized economy and financial system?

The first thing to do is to distinguish between the **COUNTRY** of an investment and the **CURRENCY** in which it is denominated. Stocks are generally denominated in the currency of the country where their headquarters and bulk of operations are located and their stock is traded; however, some stocks are listed in markets outside their home country, and many companies have operations spanning multiple countries. Many businesses also export a large share of their production, hence stocks in one country can reflect the fortunes of many different markets.

Bonds can be issued by foreign borrowers or denominated in foreign currencies; these often go hand in hand though not always: for example, a Japanese firm can issue dollar-denominated bonds traded in Europe. Foreign currency accounts can also be held at banks in different countries.

For foreign investments, **EXCHANGE RATE** fluctuations must be taken into account. Exchange rate forecasting is a fiendishly difficult field and should be left to experts. In general, the currencies of countries that have high growth and interest rates temd to appreciate, though foreign exchange markets can move for all sorts of reasons. In the long run, exchange rates tend to equalize the prices of similar goods in different countries, though there are many exception here as well.

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In general, exposure to foreign stocks or bonds is best achieved via a diversified portfolio of mutual funds. Your portfolio should be tied to your home base: a person living in the UK should use the pound as a reference currency and avoid excessive exposure to other currencies.

Chapter 10B: Advanced Investing – Understanding Business

This lesson covers the key success factors for a business and elements of a business plan and financial statements. This can be useful both for stock investors who want to understand the businesses they invest in, and for those who are or plan to be self-employed or set up their own business.

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A successful business plan should provide a satisfactory answer to the question: is there demand for the product that is or will be provided, and does the business have the capacity to successfully meet this demand?

While each business is different, here are 5 fundamental areas that are critical for any enterprise:

1. **MARKET**: is there and will there be in future sufficient demand for this product? For existing products, what is the current level of demand and what factors are likely to influence it in future, for example demographic trends, social habits, technological changes, etc. How will prices be affected by these trends? For new products, do they meet a fundamental need and will they be able to reach consumers?

2. **COMPETITION**: is the company in a good position to meet the demand? Does it have some competitive advantage vis-à-vis existing or potential rivals, for example through superior technology, strong management, established brands or distribution channels, unique access to raw materials, etc.? It's hard to be a leader in all areas, but all of these aspects are important and you need to have advantage in at least some of them. This means you need to know who the main competitors are and understand their strengths and weaknesses vis-à-vis your own company.

3. **MANAGEMENT & HUMAN RESOURCES**: people are the key success factors in any enterprise. This does not necessarily mean a visionary CEO, though they can be useful too, but it does mean: (a) a capable and dedicated management team pursuing the long-term interests of the firm, (b) qualified technicians, engineers and researchers; and (c) a skilled and motivated workforce. Many companies talk about the importance of human resources, but you should check what happens on the ground: for example, does management compensation reward long-term performance, how high is staff turnover, does the company provide good career prospects and invest in training and continuing education, etc.

4. **PRODUCTION & TECHNOLOGY**: does the company have the capacity to produce the goods or deliver the services targeted? For existing products and technologies, this is easier to assess but should not be taken for granted: check whether the company and its employees have a track record in making this product, and whether they use state-of-the-art technology?   For new products or technologies, have there been successful trials or similar experiments? You may want to seek expert guidance to assess the likelihood of success and prepare plans for various contingencies.

5. **FINANCE**: does the company have sufficient capital to undertake the investments needed and carry out its business plan? The investment needs should take into account not only fixed assets like land, buildings, and

equipment, but also working capital, i.e., the need to carry inventories and extend payment terms to buyers. Investment needs also include intangible assets like research and development or brand building, which can take a long time to bear fruit. Investment capital can be provided in form of equity and debt: while equity is long-term capital that assumes the risk of the business, debt needs to be repaid. But adding debt can relieve the financing burden on shareholders and generate tax benefits.

You may be surprised to find finance at the end of this list. All 5 factors are critically important. Finance may not be the primordial success factor, as no amount of financial wizardry can make up for weak demand or uncompetitive products. But a good financing plan adds stability and resilience, while a badly conceived financing plan can scupper an otherwise successful business!

This brings us to the financial statements of a company. Underneath are the key elements of a profit and loss (also called income) statement and balance sheet of a company and what they mean:

I. PROFIT AND LOSS or INCOME STATEMENT: a statement listing the total revenues and costs of a business over a period of time (typically a quarter or year), leading to its net income or profit as the difference. It mainly consists of:

- **Revenue/Sales**: income generated from the sale of goods and services by the firm, before any expenses. Sales can be before or after sales or value added tax.
- **Cost of Goods Sold (COGS)**: direct costs of producing the goods or services sold, including materials and labor used for production. COGS excludes indirect expenses such as marketing and management
- **Gross Profit**: difference between revenue and COGS. It must be sufficient to cover general and overhead expenses and leave a net profit (bottom line) for the company

REVENUE – COST OF GOODS SOLD = GROSS PROFIT

- **General & Administrative (G&A)**: general or overhead expenses needed for running the company and which cannot be readily attributed to a particular product or division; includes things like office rent, HR departments, management salaries, etc.
- **Depreciation**: decrease in the value of a capital asset due to wear and tear. In accounting, a capital good is recorded at its purchase price; every year, its value diminishes by a factor depending on the expected life of the asset; this depreciation is charged as a cost (though not a cash outflow) in the income statement and a corresponding reduction in the asset value in the balance sheet
- **Finance charges**: interest expenses incurred by the company. Businesses can also generate interest income if they invest in savings accounts or fixed-income securities; net finance charges are the difference between interest costs and revenues
- **Extraordinary items**: gains or losses from events that are unusual or infrequent, for example from sale of a division
- **Tax**: income tax due by the business, generally a percentage of pre-tax profits, though there are many detailed tax rules including special rates, exemptions, allowances, etc.
- **Net income**: profit after tax or the bottom line! It's the money the company earned over the period and that belongs to its shareholders.

GROSS PROFIT – G&A – DEPRECIATION – FINANCE CHARGES – TAX = NET INCOME

Net income can be allocated for two purposes

- **Dividends:** the part of net income that is distributed to shareholders
- **Retained earnings**: the balance kept in the company and added to shareholders' equity; it is available for future use in investments, acquisitions, etc.

NET INCOME = DIVIDEND + RETAINED EARNINGS

II. BALANCE SHEET: a statement listing the total assets (what it owns) and liabilities (what it owes) of a business at a particular point of time, leading to its net worth or shareholders' equity as the difference. The fundamental equation is:

ASSETS – LIABILITIES = NET WORTH (SHAREHOLDERS' EQUITY)

Assets consist of:

- **Fixed assets**: assets with a long life expectancy and planned for long-term use, such as land, buildings, and equipment. Assets are generally valued at their historical purchase price minus accumulated depreciation. This can differ substantially from current market or replacement value, for example when the equipment becomes obsolete because new and better methods of production appear
- **Intangible assets**: non-physical assets, for example intellectual property rights like patents, copyrights or trademarks
- **Current assets**: assets that are expected to be turned into cash over the next 12 months, such as inventories and receivables; receivables are amounts due by customers for products sold or services rendered that have not yet been paid

Liabilities consist of:

- **Current liabilities**: debts that are due to be paid over the next 12 months, including trade payables or maturing financial debt; payables are amounts due to vendors or suppliers of goods and services that have not yet been paid
- **Long-term debt**: debt that is due in more than 12 months' time, typically bank loans or long-term bonds; note that the portion of long-term debt maturing within the next 12 months is counted as short-term debt and included in current liabilities

Shareholders' equity or **net worth** is shown underneath liabilities on the same side of the balance sheet: it is the difference between the assets owned by the firm and the debt if owes. It consists of the share capital initially contributed by shareholders plus retained earnings that have been added over time.

Assets and liabilities are tied to the **investment** and **working capital cycle** of the business. Investment means acquiring long-lasting goods like factories or machinery that are expected to generate long-term benefits for the firm. It is generally financed by a mix of long-term debt and equity. Current assets and liabilities are tied to the working capital cycle: a typical business buys and stores raw materials for production or trading, paying on credit; transforms the raw materials and sells the finished goods against receivables; ships the goods, collects the accounts receivable, pays the accounts payable, and replenishes its inventory, thus continuing the cycle.

There are many ratios and indicators that financial analysts calculate based on the income statement and balance sheet of a company. Here are some of the more widely used:

- **Net profit margin**: net profits divided by revenues: measures the profitability of sales
- **Return on equity**: net profit divided by shareholders' equity: measures the return earned by shareholders on the equity capital they invest in the firm
- **Current ratio:** current assets divided by current liabilities: measures the ability of the firm to meets its short-term payment obligations

- **Debt/equity ratio**: total liabilities divided by shareholders' equity: measures the financial leverage or risk of the company
- **Cash flow:** net profit earned by the company after adding back non-cash charges such as depreciation: measures the actual cash earned by the company

You may leave in-depth financial analysis to experts, but the above figures can provide valuable insights. The main question is: are numbers indicative of a sound business performance and financial condition? It is important to ascertain not only whether profit margins are positive and financial ratios solid, but compare them (as far as possible) to industry peers and the company's past performance. Low or negative profits, weak cash flows, and high indebtedness are all warning signs—especially when they show a deteriorating trend or underperform other firms in the industry!

You should avoid drawing conclusions based on quarterly performance or a one-off balance sheet; but you should investigate any issues thrown up and ask relevant questions.

None of this is strictly necessary for successful investing, especially if you diversify widely and invest through mutual funds. But it is important for a general understanding of business and can help you hold your own in discussions, whether with investment professionals, colleagues at work, or business associates and partners.