4.4 Price Levels

Definition of Inflation:
The general and steady increase in the price of goods and services in an economy over a period of time.

Measuring Inflation

The Consumer Price Index (CPI) is the official measure of inflation in Ireland. It measures the change, in index form, in the average level of prices (inclusive of all indirect taxes) paid for consumer goods and services by all private and institutional households in the country and by foreign tourists holidaying in Ireland.

The Household Budget Survey (HBS) is carried out every 5 years by the CSO to measure the income and expenditure of households. A detailed record of household expenditure is recorded by members of the household over a period of time. The data from the HBS is used as the basis for the weighting of items in the CPI basket. The weight is the proportion of total expenditure spent on a certain item or category in the overall basket of consumer goods and services. For example, the percentage of total expenditure on Food & Non Alcoholic Beverages is 11.400%. In simple terms, it means the average expenditure on Food & Non Alcoholic Beverages was under 12%. The weight presents the relative importance of an item or category in the overall basket.

Investments such as life assurance, pensions, and capital payments on house purchase (mortgage), charity contributions, lottery and betting payments and items which do not command a price are excluded from the scope of the index.

On a monthly basis, approximately 80 price collectors collect 53,000 prices from approximately 3,500 retail outlets throughout the country. Since February 2010, prices are collected over a period of more than one working week, i.e. Monday prior to the second Tuesday of the month up to and including the third Tuesday of the month. Price collectors try to select retail outlets which are representative of a particular area and cover a mixture of large and smaller retail outlets - a mixture of supermarkets, small specialist shops and other retail outlets. In the case of services, a sample of respondents are selected throughout the country as representative of all service providers and canvassed via Special Inquiries. In a certain number of cases, such as electricity and health insurance, national pricing exists, and prices are collected from central sources.

- **Constructing a Consumer Price Index: In summary**
  1. Based on the 'National Average Family Shopping Basket'
     - Those items which the average Irish family buys frequently and in large quantities are included.
  2. Expenditure patterns divided into various categories
     - The CPI contains various categories of expenditure: food, alcohol, tobacco, clothing & footwear, fuel & light, housing, durable and non-durable household goods, transport, services and miscellaneous items etc
  3. Prices in Base Year determined
     - The average cost of the above items is taken to equal 100.
  4. Prices in Current Year determined

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- The current prices of each item are collected from a fixed panel of retail and service outlets in various locations throughout the country. The prices are then compared with prices in the base year.

5. <u>Calculate a Simple Price Index (SPI) for each commodity.</u>
   - (Price in Current Year/Price in Base Year) x 100
6. <u>Calculation of 'Weight' (Household Budget Inquiry)</u>
   - The weight is the fraction of income which is spent on each category of expenditure and this information is obtained by means of the Household Budget Inquiry (random sample of all private households in the state).
7. <u>Multiply the SPI for each commodity by its 'weight' and add to derive the CPI.</u>

- **<u>EXAMPLE</u>**

For a composite (weighted) price index covering three categories of expenditure given in the following table, calculate the index for the current year.
The base year value is 100. (Show all your workings).

Category	% of Income spent on item(s)	Price of Item(s) in base year	Price of Item(s) in current year
		€	€
Food	40%	20.00	24.50
Clothing & Footwear	25%	42.00	40.00
Other Items	35%	30.00	36.00
	100%		

Category	Prices of Item(s) Base Year	Calculation of Simple Price Index x Weight						
	€							
Food	**20**	**24.50 x 100 / 20**	=	**122.50**	x	**40%**	=	**49.00**
Clothing & Footwear	**42**	**40.00 x 100 / 42**	=	**95.23**	x	**25%**	=	**23.80**
Other Items	**30**	**36.00 x 100 / 30**	=	**120.00**	x	**35%**	=	**42.00**
Price Index for the Current year								**114.80**

- Note: when measuring inflation you compare the change in the index with the previous year's index, not the base year, unless of course you are measuring inflation in year 2 of the five year cycle.

- **Uses of the CPI**
  - **Measures the Rate of Inflation**.
    - Changes in the CPI from one month to the next gives us the official prevailing rate of inflation.
  - **Measures International Competitiveness.**
    - By comparing our inflation rate with that of our trading partners we can determine whether our competitiveness on international markets is improving or dis-improving.
  - **Used in Partnership Agreements negotiations.**
    - Trade unions use any increase in the CPI as the basis for their wage claim increases.
  - **Indicator of economic performance.**
    - The CPI, together with statistics on employment, economic growth, exchequer returns etc., provide an indicator of the country's economic performance.
  - **Indexation of savings / investments.**
    - Some savings schemes have 'index-linked' returns meaning that the rate of interest will be equal to the rate of inflation. Individuals with insurance / pension policies may be able to increase their contributions so at to maintain the real value of these policies.
  - **Used by government to set social welfare payments.**
    - The government may use increases in the CPI to increase rates of social welfare so as to maintain the standard of living of the recipients.

- **Precautions when using the CPI as a measure for changes in the cost of living**
  - **An index of the average consumer**
    - The index is an average of all consumers and is therefore not applicable to all consumers who may have different spending patterns
  - **Not a cost of living index**
    - The CPI does not take into account income changes (Caused by wage level changes, social welfare changes, tax changes) therefore it does not directly measure changes in the cost of living
  - **Not always up to date**
    - Tastes can change within the five year cycle and this will not be reflected until a new household survey is conducted
  - **The weights are static**
    - The percentage of income spent on the varying items in the basket can change over the five year cycle. This is not reflected in the CPI
  - **Quality can change**
    - The quality of an item may worsen, but the price may be unchanged. This will not be reflected in the index. For example a chocolate bar may have a reduced the amount of cocoa and keep the same price
  - **Substitution of products**
    - As the price of certain product rise consumers may switch to cheaper, generic alternatives. The CPI does not account for this.

Causes of Inflation

- Demand Pull Factors

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  - If aggregate demand rises and supply remains unchanged (or decreases) prices will be pushed up as people have more resources to buy fewer goods
- Cost Push Inflation
  - Increases in wages, employers PRSI commercial rates, insurance costs, raw materials costs all contribute to inflation
- Imported Inflation
  - If the euro falls in value versus foreign currencies the products from these countries become more expensive.
  - Also, if raw materials imported from abroad are increasing (e.g. oil) prices are pushed up in Ireland
- Government-induced Inflation
  - If the government raises indirect taxes on items it can push up the prices if the retailer does not absorb the increase
  - Also, lower Income Tax can be inflationary.

Effects of Rising Inflation

- **Lower standard of living**
  - Because of the higher cost of living, people have reduced purchasing power which causes a reduction in their standard of living.
- **Increased wage demands**
  - Workers, suffering from a reduction in their standard of living, will try to negotiate wage increases to compensate for the higher cost of living.
- **Loss of competitiveness**
  - If inflation is higher in Ireland than with our trading partners it will result in a loss of competitiveness for our exports abroad. Irish exports may be priced out of foreign markets.
- **Loss of employment**
  - Employers, faced with increased wage demands and a possible loss of exports may be forced to reduce costs and reduce the numbers employed.
- **Government Finances**
  - With higher prices the government may collect increased indirect tax revenues.
- **Savings discouraged**
  - If the inflation rate is greater than the (nominal) rates of interest offered on savings, the real rate of interest available to savers falls thereby discouraging savings. Accumulated wealth is eroded by inflation.
- **Borrowing encouraged.**
  - If the inflation rate increases the real rate of interest charged on borrowings falls and so the cost of repayments falls. This makes borrowing more attractive.
- **Increased disparity between sectors of the population**.
  - While those at work may seek a wage increase to compensate for the drop in living standards, those on fixed incomes must wait for the government to decide to adjust their payments. This widens the gap between these sectors. The poorer sections suffer most when inflation is high.
- **Pressure on social partnership/ industrial relations unrest**

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  - Falling living standards threatens the existence of these agreements and may prevent future agreements.
- **Balance of Payments problems:**
  - With falling volume of exports & rising volume of imports our Balance Of Payments position deteriorates. Exports become dearer and less competitive on foreign markets, while imports become more competitive on the home market.
- **Uncertainty:**
  - Rising inflation rates in Ireland creates uncertainty for investment decisions. It makes business planning and profit calculation difficult.

Deflation

The general and steady decrease in the price of goods and services in an economy over a period of time.

Decreases Expenditure

First, when people expect that prices will be lower in the future, they spend less today. If you're thinking of buying a new car and expect the price will be a lot lower six months from now, why not wait? Thus, falling prices shift consumption from the present to the future as consumers wait for prices to fall, and the drop in demand can further depress the economy, lead to more price decreases, more cuts in spending -- and a downward spiral into a recession.

Rising Unemployment

The third problem with deflation is that wages and prices are generally sticky. That is, they don't adjust as quickly as needed to keep supply and demand balanced. Wages tend to be particularly sticky in the downward direction. The problem is that when prices are falling but wages aren't, it increases the inflation-adjusted cost of labour, and that leads to unemployment. The rise in unemployment leads to less spending, and that causes prices to fall further. Once again, the economy can enter a downward spiral.

Puts off New Borrowing

Deflation discourages new borrowing and makes existing borrowers worse off because it raises the inflation-adjusted value of debts and makes the debts harder to pay off. So, it imposes a burden on borrowers. This can cause consumers to spend less on durables like cars, appliances and houses that are purchased with credit. In real terms, the debt costs more during deflation because everything else costs less. As other prices drop, your fixed-rate debts consume an ever-increasing portion of your wages. You feel the pinch to a greater extent if your wages

As consumption and investment spending fall, aggregate demand declines, and that causes prices to fall even further. The result is even more deflation, more cuts in consumption and spending, further decreases in prices and the economy crashes in what Irving Fisher called a debt-deflation spiral.

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Benefits of Price Stability

The ECB's stated goal is to keep inflation just below 2%

- Consumers tend to spend, generating demand for goods and services and hence cearting jobs which leads to economic growth
- Government revenues increase which can help to eliminate budget deficits
- The demand for wage increases is predictable and companies can budget and plan
- People on fixed incomes (pensioners) do not see radical erosion of their purchasing power
- The value of savings is protected

Harmonised Index of Consumer Prices

The Harmonised Index of Consumer Prices (HICP) is an indicator of inflation and price stability for the European Central Bank (ECB). It is a consumer price index which is compiled according to a methodology that has been harmonised across EU countries. The euro area HICP is a weighted average of price indices of member states who have adopted the euro.

The HICP excludes mortgage interest, concrete blocks, union subscriptions, building materials, motor taxation, all of which are included in the CPI.

Controls on Inflation

- Monetary Policy
    - **Government policy in relation to money supply, interest rates and the availability of credit. Irish government does not control this.**
        - **In Ireland this is controlled by the ECB as we are member of the European Monetary Union (countries that use the euro as their currency)**
        - **The main instruments of Monetary policy are:**
            - **Reducing/Increasing Money supply** (the amount of money in circulation)
                - The increasing of money supply is referred to as quantitative easing where Central Banks create money and purchase financial assets (like bonds). This pumps money into the system
                    - https://www.youtube.com/watch?v=BsPLCXJSRAI&list=PLnVAEZuF9FZlDOfkhlNFU6zdSS7ITEg4W&index=20&t=0s
                - Central Banks decrease money supply by selling bonds to banks and other financial institutions/investment companies and this remove money from the system
            - **Increasing/decreasing interest rates**
            - **Stricter controls on credit creation** (Increasing the reserve requirement)

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- **Fiscal Policy (less important role in managing inflation)**
  - **Government policy in relation to taxation and expenditure**
  - Raising Income Tax
  - Reducing Indirect Tax
  - Cutting government expenditure

European Central Bank

Responsible for monetary policy in the Eurozone (Economic and Monetary Union). The Eurozone is made up of the countries that use the Euro as their currency.

Monetary Policy is policy related to **money supply**, **interest rates** and **availability of credit.**

Functions of the ECB

- **Maintain Price Stability**.
  - The key aim of the ECB is to maintain price stability and this it does by closely monitoring inflation in member countries and adjusting the base ECB interest rate so as to adjust spending.
- **Implements EUs monetary policy.**
  - Through its member Central Banks the ECB monitors and advises on: rates of interest, money supply, credit availability & protects the value of the euro. Main measures: Refinancing operations, Standing Facilities, Minimum Reserve Requirements.
- **Holds and manages the official reserves of the euro area countries.**
  - These are the EUs official holdings of gold, foreign currencies and other reserves held as security against the issue of the euro. The ECB manages these reserves on behalf of the countries.
- **Financial stability and supervision**
  - The member authorities must provide prudential supervision of credit institutions and ensure stability in the financial system.
- **Euro bank notes and coins**
  - The ECB has the exclusive right to authorise the issuance of banknotes within the euro area.

Tools of the ECB

- **Open Market Operations**
  - The Governing Council of the ECB sets the key interest rates for the euro area:
    - The interest rate on the **main refinancing operations** (MRO), which provide the bulk of liquidity to the banking system.
    - The rate on the **deposit facility**, which banks may use to make overnight deposits with the Eurosystem.

        - The rate on the **marginal lending facility**, which offers overnight credit to banks from the Eurosystem.
    - **Main refinancing operations (MRO)**
        - This is a regular open market operation executed by the ECB for the purpose of providing the banking system with the amount of liquidity that the ECB deems to be appropriate. Main refinancing operations are conducted through weekly standard tenders (in which banks can bid for liquidity). The ECB set a **minimum bid rate** (minimum interest rate) and banks will bid for the money above this rate
        - This **minimum bid rate** in turn influences the rate at which money is borrowed in **money markets** by all banks and therefore the price consumers pay for borrowed money

- **Standing Facilities**
    - **Deposit facility**
        - The deposit facility rate is set every six weeks as part of its monetary policy. The rate defines the interest banks receive for depositing money with the central bank overnight. Since June 2014, this rate has been negative.
    - **Marginal Lending Facility**
        - The marginal lending facility offers commercial banks the opportunity to procure, against eligible collateral (security) and at a specified interest rate for one business day, liquidity (overnight loans) from the ECB. This permanent facility is intended to meet temporary, very short-term liquidity needs.
- **Altering the reserve requirement:**
    - This could mean that the banks would have to hold more cash for their customer's requirements thus reducing their credit creating capacity.

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<u>Irish Central Bank</u>

The Irish Central Bank contributes to Eurosystem monetary policy which aims to ensure price stability. The Governor of the Irish Central Bank is a member of the Governing Council of the ECB, which meets every six weeks to review monetary policy. The Irish Central Bank is responsible for implementing policy decisions of the ECB in Ireland.

Functions of the ICB

- **Monetary Policy**
    - The Central Bank of Ireland is responsible for maintaining price stability in Ireland through the implementation of ECB decisions on monetary policy. As a member of the ECB Governing Council, the Governor has direct input into monetary policy decisions and other major policy areas.
- **Financial Stability**
    - The key role of the central bank is to ensure the stability of the financial system in Ireland. Financial stability analysis involves

researching the stability of the financial system as well as its relationship with the real economy.

- **Economic Analysis**
  - The Irish central bank carries out research to decide on policies to support the economy. This helps to monitor the financial system for potential risks and make forecasts about the economy
- **Financial Regulator**
  - The financial regulator is under the aegis of the Central Bank. It regulates the financial sector in Ireland including credit unions, building societies, IFSC operations, etc.
- **Prints Legal Tender & monitors the payments system**
  - The central bank has the sole authority to print and mint euro currency in Ireland. It distributes euro through financial institutions in Ireland. They also ensure the payments system (the digital manner in which money is transferred from one account to another) is fit for purpose.
- **Resolution**
  - When a financial institution is failing the central bank will ensure it is wound up in such a way as to not harm other financial institutions or customers.

Impact of Ireland's membership of the Eurozone/Eurosystem on the operation of the Irish Government's monetary policy

- **Video from 1min20**
- **ECB controls monetary policy**
  - Membership of the Eurozone means that Ireland does not operate its own monetary policy. It is under the control of the European Central Bank (ECB). The mandate of the ECB is fixed by treaty. Interest rates must be close to the EU average.
- **Decisions by ECB may not suit Ireland**
  - Ireland's economy represents 2% of the euro area so decisions taken by the ECB regarding interest rate changes may not always suit the Irish economy. A "one size fits all" monetary policy may be a source of instability if business cycles are not correlated across member countries e.g. if the Irish economy is booming the appropriate policy response from the central bank is to raise interest rates. However, the ECB cannot increase interest rates just to suit Ireland.
- **ECB influences the value of the currency**
  - Devaluation of a national currency is not available in adjusting to macroeconomic shocks. For example, when Ireland's economy was collapsing in 2009 the value of the euro remained strong versus our trading partners which made it difficult for Irish exporters.

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