

CHANGES TO THE SYLLABUS AND CORE READING FOR SUBJECT ST5 FOR THE 2009 EXAMINATIONS

Changes to the Syllabus and their impact on Core Reading

There have been no changes to the Syllabus.

Changes to Core Reading

UNIT 3

A number of changes have been made to this Unit and the revised Unit is attached.

UNIT 10

The section on EU legislation has been amended to read as follows:

EU legislation

Increasingly within Europe, these issues are dealt with at a common European level.

In particular, an integrated EU financial market is a key objective of the European Union. Much has been done to accomplish this and in recent years, EU financial markets and transactions across EU borders have grown and improved their efficiency because of the removal of barriers as well as the launch of the euro, global deregulation and new technology.

Wholesale financial markets have become integrated much further and faster than the retail financial services sector. In particular:

- Unsecured euro money markets: Fully integrated with short-term euro interest rates effectively identical across the euro markets.
- Bonds: Government bonds are increasingly traded on a pan-European basis with relatively small differentials. However, many non-government bonds are still traded over-the-counter.
- Equities: Still largely traded on national exchanges due to national listing requirements.

There is evidence of an increase in investment across borders, using pan-European rather than national benchmarks but a “home bias” remains.

In the retail financial services sector, this is still segmented largely along national lines. The ideal is for financial institutions to be authorised to provide financial services throughout the EU, competing on a level playing field within a consistent regulatory environment.

The main barriers include:

- Type of product — some products authorised in one country cannot be provided in others e.g. interest-bearing current accounts.
- Cost of regulation can be prohibitive; implementation approaches can differ
- Tax systems may differentiate between local and foreign products
- Cultural preferences e.g. the mortgage market is very different in the UK.

As a consequence, there have, for example, been few major retail bank mergers across borders.

To address these issues the European Commission launched the Financial Services Action Plan consisting of a wide range of measures to provide a legal and regulatory environment which supports the integration of all financial markets. In particular, a single wholesale market, an open and secure retail market and prudential rules and supervision.

The measures include:

- The Markets in Financial Instruments Directive effective from 1 November 2007 – covers the organisation and conduct of business of investment firms and how markets operate. In particular, it covers:
 - Pre and post trade transparency
 - Execution policies
 - Client classification
 - Conflicts of interest
 - Conduct of business of investment firms
- The Transparency Directive effective from January 2005 — establishes minimum requirements for financial reporting and disclosure.
- The Market Abuse Directive 2003 — harmonises rules on the prevention of insider dealing and market manipulation (implemented in the UK from 1 July 2005).
- The Prospectus Directive 2003 — enables an issue of securities to be sold across the EU (implemented in the UK from 1 July 2005).
- The Fair Value Accounting Directive 2001 — updates EU directives on the valuation of assets.
- Endorsement of International Accounting Standards.
- The European Company Statute enabling companies to set up under a single European charter.

- Updated solvency requirements for insurers, policyholder protection and reinsurance supervision.
- The Insurance Mediation Directive 2002 — regulation of intermediaries selling insurance products.
- The Pensions Fund Directive 2003 regulating cross-border pension schemes based on mutual recognition of home state regulation.
- Extension of anti-money laundering legislation.
- The Taxation of Savings Income Directive 2003 — to prevent cross-border tax evasion by individuals.

UNIT 18

A few new or amended terms have been included in the glossary of terms as follows:

Alpha

A measure of a stock's, or fund's, outperformance, adjusted for the level of risk taken. So, for a comparison with the market, alpha is given by:

$$(r - r_f) - \beta (r_m - r_f)$$

Where r is the stock's/ fund's rate of return, r_f is the risk free rate and r_m is the market rate of return. The risk adjustment is the same as in the CAPM model.

Alpha fund

A label used by fund managers to describe funds that are more aggressive in trying to outperform the market.

Exchange traded funds

An exchange traded fund (ETF) is a collective investment vehicle that is traded on a securities exchange at a price that is closely related to its net asset value and is quoted in real time. It combines the valuation feature of a unit trust with the tradability of an investment trust. ETFs are generally managed as index-tracker funds and, not being shares, do not incur stamp duty on purchases.

Tick size

The size of the minimum movement in a quoted price (e.g. 0.01 for gilts).

Other minor changes have been made to correct typographical errors and to improve the style of the Core Reading.

Attachment: Unit 3

END

UNIT 3 — INDUSTRY CLASSIFICATION AND INVESTMENT INDICES

Syllabus objectives

- (n) Describe the construction of investment indices and the principal features of major investment indices:
- (i) Discuss the uses of investment indices.
 - (ii) Describe the principal indices of share prices in the United Kingdom, United States, Japanese, German and French stock markets.
 - (iii) Explain the problems encountered in constructing property indices.

0 Industry classification

0.1 The FTSE industry classification system

The FTSE (together with the Dow Jones) industry classification system is one example of a stock classification system. Other systems are in use, for example the Standard and Poor's classification in the US and the Morgan Stanley Capital International system for global equities.

The FTSE system classifies companies into ten industry groups which are further divided into supersectors, sectors and subsectors.

The industry groups and their characteristics are described below. Each group encompasses a wide range of industries so the characteristics outlined below can only be broad generalisations.

0.2 Oil and gas

These companies are involved in the extraction and supply of oil and gas products used throughout the economy. Key characteristics are:

- large companies
- commodity price dependent
- risky
- global

0.3 Basic materials

This group includes the chemical industry and the mining industry, as well as companies producing steel and other metals, and those engaged in forestry and paper. As such, these companies are mainly producing “intermediate” goods.

0.4 Industrials

Industrial companies are involved in the various stages in the supply and production of goods. Many of the goods tend to be capital items, i.e. aircraft, ships, machinery, electronic and electrical equipment. This group includes companies in the building material and construction industries, as well as industrial transportation and industry support services.

The distinctive features are:

- dependent on the level of investment spending
- cyclical
- company profits tend to move ahead of the trade cycle
- dependent on government spending
- volatile profits
- high profit margins when conditions are good
- low gearing because of volatile profits
- possibly exposed to overseas markets and competition

0.5 Consumer goods

Companies in the consumer goods groups manufacture consumer durables and non-durables. Durables include cars, furniture, televisions and “white goods” such as washing machines. Non-durables include food and drink and tobacco.

Generally the impact of an economic cycle is less severe on non-durable consumer goods companies than on general manufacturers. This is especially true for companies producing basic necessities.

Other key features are:

- increasingly capital intensive
- importance of brand names
- increasingly international
- moderate to high gearing
- low profit margins

0.6 Healthcare

This group covers healthcare providers, medical equipment and supplies, as well as pharmaceuticals.

0.7 Consumer Services

The companies in this group include food, drug and general retailers, media companies and companies in the travel and leisure industries, such as passenger airlines, casinos, hotels, bars and restaurants. Once again, the impact of the economic cycle will be greater on the cyclical industries.

Other key features are:

- labour intensive
- the more defensive companies in the group may have high gearing
- the domestic market is the most important

0.8 Telecommunications

This group covers the providers of fixed line and mobile telephone services.

0.9 Utilities

Utilities are involved in the supply of continuously demanded services to households and business premises. Examples include electricity, water and gas distribution. Most UK utilities were formerly owned by the government, having been privatised during the 1980s. They are vulnerable to some political risk and to changes in the regulations under which they operate.

Demand is very stable because the services that they provide are essential, or nearly essential, and because their market share will be stable (often at 100%). Thus, they are less affected by economic cycles than other groups.

Other points are:

- they usually require an extensive physical infrastructure. This tends to make them capital intensive
- most utility companies are natural monopolies
- they are usually subject to tight government regulation of prices and vulnerable to other forms of political risk
- they generally have low growth prospects; this leads to a high gross dividend yield
- despite their stable demand and large capital requirements, gearing is low
- they are largely dependent on the domestic market, although some companies are diversifying internationally

0.10 Financials

The financial group companies are the various industries making up the financial services industry, e.g. banks, general insurance companies and life assurance companies, investment trusts, real estate (property) companies.

The key distinctive feature of financial group companies is that they tend to be capital intensive.

Otherwise, the features of companies in this group are quite varied between the different sectors:

- banks are highly geared and have volatile profits
- general insurers also have volatile profits and virtually no borrowings
- life insurers have stable profits and low gearing
- labour costs are important for many companies in the group
- the domestic market is most important but there is increasing internationalisation

0.11 Technology

These are the companies involved in the “new” industries of information technology hardware, software and the provision of computer services. While investor demand for such shares has caused share prices to increase dramatically in the past, many of the companies have yet to make profits or pay dividends. Dividend yields on these companies are therefore low, and their assets can be largely intangible.

1 Construction of indices

An investment index represents the relative changes in the share/stock prices of the constituent companies or stocks which make up the index. The various methods of averaging those relative price changes are dealt with below.

1.1 Weighted arithmetic indices

Most investment indices are calculated on a weighted arithmetic average basis, the general formula being:

$$I(t) = K \frac{\sum_i w_i \frac{P_{i,t}}{P_{i,0}}}{\sum_i w_i} \quad (1.1)$$

where $I(t)$ is the capital index at time t ;
 $P_{i,t}$ is the price of the i th constituent at time t ;

$P_{i,0}$ is the price of the i th constituent at time 0 — the last time at which there was a capital change;
 w_i is the weight applied to the i th constituent;
 K is a constant related to the starting value of the index at time 0.

For investment indices, the weights used are the market capitalisations of the constituents, usually the market capitalisations of the constituents at time 0. The weights are updated each time the number of shares issued by a constituent company changes and continuity is maintained by “chain-linking” the index on the new capital to that of the previous index. It is now becoming common practice to restrict the weights to reflect the level of “free float” of shares available for purchase, thereby eliminating strategic holdings.

The formula for the investment index then becomes:

$$I(t) = \frac{\sum_i N_{i,t} P_{i,t}}{B(t)} \quad (1.2)$$

where $N_{i,t}$ is the number of shares issued for the i th constituent at time t ;
 $B(t)$ is the base value, or divisor, at time t .

$B(t)$ is obtained from $B(t-1)$ through the chain-linking process.

This formula is now standard for investment index construction. However the formula, as described, only measures changes to capital values. It takes no account of income received by the investor.

1.2 Total Return Indices

In many cases, a measure of the total return, including income received, is required on an investment class. To provide this measure, a total return index is calculated from the capital index described above. Total returns can be calculated using ex-dividend adjustments or yield figures.

1.2.1 XD adjustment

To allow for the effect of investment income it is necessary to make assumptions about the time that the income is reinvested and whether it is reinvested net or gross of tax.

Assuming that the dividend or interest payment is reinvested back in the index on the ex-dividend date, that is it is added to the current market capitalisation, the corresponding increase in the index value would be the investment income divided by the base value, that is:

$$xd_{i,t} = N_{i,t} \frac{D_{i,t}}{B(t-1)} \quad (1.3)$$

where $D_{i,t}$ is the dividend per share declared by the i th constituent at time t (net or gross, as required);

$B(t-1)$ is the divisor at the close of business on the previous day after allowing for any capital changes.

The XD adjustment is the accumulated total of each constituent over the calendar year as each constituent company declares a dividend. It is returned to the value zero at the beginning of the year and a new accumulation is started.

The formula to obtain a total return index at time t is:

$$TRI(t) = TRI(t-1) \frac{I(t)}{I(t-1) - [XD(t) - XD(t-1)]} \quad (1.4)$$

where $TRI(t)$ is the total return index;
 $XD(t)$ is the value of the accumulated XD adjustment at time t .

The total return between time a and b ($b > a$) is then given as:

$$\frac{TRI(b)}{TRI(a)} - 1.$$

If ex-dividend adjustments are published separately the approach illustrated in this section can be used to calculate the total return using any desired assumptions for reinvestment frequency and tax rates. Care has to be taken to allow for the fact that the XD figures are reset to zero at the year end. In practice, a formula similar to Equation (1.4) but with the change in the XD adjustment added to the numerator rather than subtracted from the denominator is often used. Because of the small size of the XD adjustment relative to the capital index the difference between the two approaches is rarely of any practical significance.

If a published total return index is used, care should be taken to ensure that the tax and reinvestment assumptions used in the calculation of the index are understood.

1.2.2 Yield adjustment

For many published equity indices ex-dividend adjustments are not available but figures for the dividend yield on the index are. The yield figures can then be used to estimate the dividend income over the period in order to calculate total return. The income received over the 12 months prior to time t (measured in index points) is

$$I(t) \times y_t$$

where y_t is the dividend yield at time t .

The income received over shorter periods can be estimated by taking the relevant proportion of the annual amount but this will only give an approximation to the true value as income is not generally received uniformly over the year.

1.3 Unweighted arithmetic indices

An unweighted, or price weighted, arithmetic index is the arithmetic average of the relative price changes of the constituents. It is unsuitable as a benchmark for dynamic institutional portfolios.

1.4 Geometric indices

A geometric index is based on the geometric mean of the relative price changes of the constituents. The geometric index with n constituents is:

$$K \left(\prod_i \frac{P_{i,t}}{P_{i,0}} \right)^{\frac{1}{n}} \quad (1.5)$$

where K is the index value at time 0, usually taken as 100.

An unweighted geometric index is easy to calculate as only price data is required. It gives an indication of short term price movements, but is totally unsuitable as a benchmark for investment strategy or portfolio investment measurement.

For example, if the price of one constituent falls to zero, then so does the index. Hence, constituents need to be changed, when necessary, to avoid this happening.

2 Use of indices

The uses to which indices can be put include:

- A measure of short-term market movements.
- Providing a history of market movements and levels.
- As a tool for estimating future movements in the market, based on past trends.
- As a benchmark against which to assess the investment performance of portfolios.
- Valuing a notional portfolio.
- Analysing sub-sectors of the market.
- As a basis for index funds which track the particular market.

- To provide the basis for the creation of derivative instruments relating to the market or a sub-section of the market.

In particular for government bond indices:

- A standard against which yields on other fixed interest investments can be assessed.
- Approximate valuation of a fixed interest portfolio.
- Providing a picture of general yield structures of fixed interest investments.
- Yield indices allow comparison to be made with yields on ordinary shares as a measure of the yield gap between bonds and equities.

3 The main published indices

3.1 FTSE UK Index Series

This is a series of indices covering the whole quoted UK Equity Market.

All the indices used to be calculated on a weighted arithmetic average basis with the market capitalisations as the weights. From June 2001 the weightings of all FTSE constituents were altered to reflect the availability of stock in the market. Where the actual free float is 5% to 15%, this percentage (rounded up to the next whole number) is used. Otherwise weightings are in bands according to the next higher of 20%, 30%, 40%, 50%, 75% and 100%.

In addition to the capital and total return index numbers, average net dividend cover, actual dividend yield, price earnings ratio and ex-dividend adjustment are given for each of the indices in the series. The dividend cover and dividend yield are based on the most recent year's profits and declared dividend figures respectively, updated for interim changes and for any statements by companies forecasting future earnings and dividends. A euro index value is also computed.

FTSE 100 Index

Consists of the 100 largest quoted companies by market capitalisation, accounting for about 80 per cent of the total UK equity market capitalisation.

Is the main indicator of short term movements in the UK equity market and is used extensively as a basis for investment products, such as derivatives and exchange-traded funds.

FTSE 250 Index

This index covers the 250 companies ranking below the top 100 companies by market capitalisation.

FTSE 350 Supersectors Index

This index combines the 100 and 250 indices.

FTSE SmallCap Index

This index covers all companies below the top 350 companies with a market capitalisation greater than a certain limit and whose shares are actively traded. It currently represents around 2% of the UK market capitalisation.

FTSE All-Share Index

This comprises the 350 and the SmallCap indices. It accounts for around 98-99 per cent of the total overall market capitalisation.

Sub-Indices are calculated for industrial sub-sectors.

FTSE Fledgling Index

This index consists of the remaining, sufficiently marketable, quoted companies which are too small to be included in the SmallCap index.

3.2 FTSE AIM Index Series

This series of indices covers companies traded in the Alternative Investment Market. These are companies which are too small or too new to apply for listing. The indices are calculated on a free float basis.

3.3 FTSE Gilts Index Series

The indices cover conventional and index-linked gilts. Both price and yield indices are published, with the price indices being subdivided according to term and the yield indices subdivided according to term and coupon.

For each category of the price indices, the information given includes the index number, accrued interest and XD adjustment for the calendar year to date. The latter is the amount of gross income which has arisen on the index for the calendar year to date.

The index numbers are calculated using dirty prices, i.e. inclusive of accrued interest. The inclusion of the accrued interest and ex-dividend adjustment figures allows returns to be calculated on the index on both a gross of tax and net of tax basis. For example, the return over a given period for an investor subject to income tax is:

$$\frac{I_2 - I_1 + (1 - T)(XD_2 - XD_1) - T(ACC_2 - ACC_1)}{I_1}$$

where I_1 , XD_1 and ACC_1 are the index number, the ex-dividend adjustment to date and the accrued interest respectively at the beginning of the period. Similarly I_2 , XD_2 and ACC_2 are the respective figures at the end of the period, T is the rate of tax.

Because the XD adjustment is reset to zero at the beginning of each calendar year, the calculation of $XD_2 - XD_1$ in the formula has to be done in separate elements if the period of investigation straddles a year end. Splitting the period into sub-intervals can also be done to allow for reinvestment of income.

Price indices are constructed as weighted arithmetic indices, the weights being the market capitalisations of the stocks, dirty prices being used. The indices are chain-linked to allow for new issues, redemptions and movements of stocks between categories.

For conventional gilts, each yield index is constructed by fitting a curve to the gross redemption yields of the stocks in the particular category. All the irredeemable stocks are included in each coupon band to give stability to the long end of the curves. Where a stock has optional redemption dates the earliest or latest date is used, whichever gives the lower redemption yield.

For index-linked gilts, each yield index represents the average yield of the stocks in that category.

3.4 International equity indices

3.4.1 FTSE Global Equity Index Series

The FTSE Global Equity Index Series covers over 8,000 securities in 48 countries and captures around 98% of the world's equity markets in terms of investible market capitalisation.

The index series is divided into Developed, Advanced Emerging and Secondary Emerging segments.

The indices are weighted arithmetic indices. From June 2001 the weightings of constituents reflect "free float", as above. This applied to all new constituents from the beginning of 2000.

Index numbers are shown for each country in US dollar and local currency terms. The local currency index gives a measure of the underlying performance of the particular

market, and the dollar currency index shows performance adjusted for movements in the currency concerned.

In addition to the indices in respect of each country, there are indices in respect of market type and region. For example, the FTSE Developed All Cap Index. Finally there is an FTSE All-World Index comprising the Large/Mid Cap aggregate of around 2,700 stocks from the Global Equity Series.

Stocks not available to foreign investors are not included in the indices. This is not the case for most local indices, so the Global Index Series are often more suitable for performance measurement purposes than local indices. They also have the advantages of consistency between countries and are easier to obtain than some local indices.

3.4.2 Morgan Stanley Capital International Indices

These are a widely used series of international equity indices covering both developed and emerging markets. They are calculated on a market capitalisation weighted arithmetic basis and total returns are published both gross and net of withholding tax.

3.4.3 USA

The Dow Jones Industrial Average, commonly known as the Dow Jones index, is made up of 30 shares. It is an unweighted arithmetic index which provides a quick guide to shares in the industrial sector, but it is not representative of the American equity market as a whole. It is, however, very widely reported.

The Standard & Poor's Composite Index, sometimes known as the S&P 500, is a weighted arithmetic index. Its constituents are 500 leading companies in the USA representing a broad cross-section of all sectors of the market. It is often suitable to use for performance measurement of a fund's portfolio of USA equities.

3.4.4 Japan

The Nikkei Stock Average 225 is an arithmetic index. The constituents are reviewed annually and the index is designed to reflect the overall market. It is the most widely used indicator of short term movements in the Japanese market.

The Tokyo Stock Exchange First Section Index, commonly known as Topix, comprises approximately 1,700 shares. It is a market capitalisation weighted arithmetic index reflecting "free float" from June 2006. The constituents represent the leading companies in the market, so the index is much more comprehensive than the Nikkei index, and is more suitable for use in performance measurement.

3.4.5 Germany

The Deutsche Aktienindex (DAX) is a real-time index of thirty leading shares. It is a total return index.

3.4.6 France

The main market index is the CAC General Index, comprising 250 shares. The CAC-40 consists of 40 of the largest stocks and was introduced as the vehicle for an index futures contract.

3.4.7 Europe

A number of indices have been created to measure the performance of the major European companies. These include the FTSE Eurotop 100 and FTSEurofirst 300 (formerly Eurotop 300), their Eurobloc equivalents and the Dow Jones Eurostoxx 50.

3.5 International bond indices

Establishing a suitable benchmark for a bond portfolio can be more complicated than for a portfolio of equities, as bond portfolios are often constructed subject to specific constraints such as duration or credit rating. Many different series of international bond indices are produced, mostly by brokers. The exact calculation methods and input data vary and no single series is likely to suit the needs of all users.

The indices cover both government and corporate bonds and returns are generally calculated both in the local currency and the major international currencies.

4 Property indices

The production of reliable indices requires knowledge of the market values of the constituents of the indices at frequent intervals. There are a number of problems in obtaining such information for property:

- Each property is unique.
- The market value of a property is only known for certain when the property changes hands.
- Estimation of value is a subjective and expensive process.
- Valuations will be carried out at different points in time.
- Sales of certain types of investment property are relatively infrequent.
- The prices agreed between buyers and sellers of properties are normally treated with a degree of confidentiality.

The heterogeneity of property magnifies the problems of obtaining price data. It is difficult to group properties into usefully homogeneous groups and still obtain sufficient price data for each group.

There are two main types of investment property index — portfolio based indices, which are the most common, and barometer indices.

Portfolio based indices measure rental values, capital values or total returns of actual rented properties. Different indices of this type will give different results because the underlying portfolio of properties will vary in size, regional spread and sector weighting (office, retail etc.). The rates of return will typically be money weighted, meaning that the timing and magnitude of cash flows into the particular property fund will influence the results. As the current rental income is fixed until the next rent review, any response to movements in rental values will be sluggish.

The barometer type of index aims to track movements in the property market at large by estimating the maximum full rental values of a number of hypothetical rack-rented properties. The main use of this type of index is in highlighting short term changes in the level of the market in terms of rents and yields. But an index of this type is unsuitable for portfolio performance measurement since an investor could not closely match its movement with an actual portfolio of property holdings.

END