



# Challenges of using Company Accounts based data in National Accounts

by

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## Abstract

Can data from company accounts be used in National Accounts?

Company accounts meet separate regulatory requirements and have different levels of detail, presentation and timeliness. However it is difficult, and often not possible, to derive the components from company accounts to establish National Accounts concepts or components.

This paper covers some of the links and differences between company accounts and the National Accounts in the UK, and many other countries. Some of the general principles of company accounts are explained and their rationale as well as the different aspects of the use of company accounts, and the transition between company accounts and National Accounts.

In the main, many estimates derived from 'published' company accounts can only be used as a proxy for the corresponding National Accounts based variable(s), and are not adequate for actual or direct use within National Accounts without adjustment.

Furthermore, company accounts are not timely for the production of short-term National Accounts estimates (which have different objectives compared with the annual accounts) but are available in time for annual benchmarking, reconciliation and balancing processes.

Although more unpublished detail is available than the 'published' company accounts, for example data from purchase ledgers, there is still more reliance on business surveys to provide the detailed data as required for the compilation of National Accounts.

In summary, many conceptual adjustments are required, as often company accounts and National Accounts may use similar terminology but not the same concepts and have different valuation methods. Indeed, these will vary across countries depending upon the national legislation and the level of conformity to international accounting principles.

## Structure of this paper

The structure and content of this paper is as follows:

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## 1. Overview

There is a key role for information from company accounts to help validate business survey data and inclusion within National Accounts. In addition, utilising accounting software packages from companies like Sage Software directed to smaller companies which may, or may not, feature in ONS sample surveys to businesses and also help to reduce compliance costs.

However the use of data derived from company accounts must be treated with caution and verified before any changes are made to data collection and estimation procedures.

Major reservations include the different accounting practices, conventions and headings which are not in line with National Accounting needs and differ in different countries. For example, depreciation as valued by accounting principles is on a different basis to that required for GDP purposes. Therefore there is a need to ensure that any headings used are 'really' the same in terms of definition and coverage not just the title or heading. Also caution should be applied with the issue of terminology, where the same term could be something very different.

By relying on company accounts data also means national accountants do not have control of the definitions used. Changes in accounting practices can unnecessarily affect, and have done so in the past, the National Accounts estimates.

## 2. Basic introduction to the UK picture

### 2.1 Types of accounts, availability, frequency and users

It has been a legal requirement under the Companies Act, 1963 for companies to produce certain types of accounts. There are various types of accounts including:

- Private companies (PLCs) - for example, BT, Vodafone.
- Regulators - for example, OFWAT, OFGEM, OFCOM.
- Public corporations - they have different accounts in terms of their contents and so report different amounts of information.
- Limited companies.
- Mutual businesses – for example, building societies.
- Management accounts - Monthly/quarterly/annual accounts for companies' own use.

All these type of accounts are financial-type accounts and are audited except for the management accounts.

The availability of the accounts is free to everyone via hardcopies and many accounts are now made available on the internet.

Where appropriate, reports for PLCs used to have to be sent to all shareholders. However, in recent years there has been a major reduction in paper-based reports but they are made freely available on the internet and summary annual report and accounts circulated.

In the UK, the Companies Act 2006 requires all companies to keep accounting records which are sufficient to show and explain the company's financial transactions and are such as to disclose with reasonable accuracy, at any time, the financial position of the company at that time, and are sufficient to enable the directors to ensure that the annual accounts meet the statutory requirements. Records must be kept for three years for a private company and six years for a PLC.

A particular challenge is that many companies have different reporting periods, such as:

- Quarterly – for example, BT. These are also produced where companies are trading on an international basis as well as meeting other regulations like the requirements in the USA.
- Six monthly - these are also called interim reviews.
- Annual - these are the most common and are fully audited.
- Three yearly - Lloyds of London accounts on a firm basis come out three years after the year in question because it takes a long time for them to assess their claims and thereby their profits. They are often revised thereafter.

The reporting cycle will vary for different companies:

- Many companies will report from April to March (i.e. a financial year). Some companies report a full calendar year which is better for compiling annual National Accounts.
- However, ONS business surveys like the Annual Business Survey is based on the same cycle, fitting in with the annual national accounts round and making it easier to carry out comparisons. Other surveys require monthly and/or quarterly data.
- Some companies are part of a Group who report accounts for other subsidiaries and overseas activity.
- Consolidated accounts take into account shares in other companies (whether fully/partly owned).

The treatment of revisions is a source of discontinuity when the Financial Reporting Standard (FRS) guidelines are changed. In general, when FRS is changed, only two years have to be provided on a consistent basis, thereby both long run comparisons and use within National Accounts can be difficult.

There are many different types of users, including:

- Owners
- Shareholders (for example, private individuals, pension funds)
- Lenders (for example, banks)
- Creditors
- Pension funds
- Other potential investors
- Customers
- Flotation purposes - in which case accounts for three latest consecutive years are required.
- Researchers
- Economic modellers
- General public

## 2.2 Accountants, accountancy firms and auditors

Accountants operate under guidelines called Financial Reporting Standards (FRS) - formerly called Statements of Standard Accounting Practice (SSAPs). The FRS regulations are self-regulatory and set by the Accounting Standards Board (ASB) and do not come under any government regulation.

These guidelines can change quite regularly unlike government legislation (statute law) which may take years to reach the statute books. Accountants have auditors who check that the accounts meet the FRS. The auditor must be an external agent to the company.

In 2012, the four largest accounting/auditing bodies in the UK by fee income according to Accountancy Age were:

- PWC                                   £2,461m
- Deloitte                               £2,098m
- KPMG                                  £1,707m
- Ernst & Young                   £1,465m

There are also many medium and small sized accounting bodies, as well as many sole proprietors.

According to the ONS Business Register using the UK Standard Industrial Classification 2007 (which is consistent with the NACE Revision 2), a summary picture of the industry SIC (2007) Sub-class 69.20/1 which covers accounting and auditing activities is shown below:

<b>SIC (2007) Sub-class 69.20/1 Accounting and auditing activities</b>				
	<b>Employment size bands</b>			
	<b>0 to 49</b>	<b>50 to 499</b>	<b>500+</b>	<b>Total</b>
<b>Number of units</b>	29,953	283	24	30,260
<b>Employment</b>	115,527	31,196	90,711	237,434
<b>Turnover</b>	6,509,423	2,204,131	9,209,666	17,923,220

According to the ONS Annual Business Survey, for the year 2010, some key aggregates for the industry are shown below:

	<b>2010</b>
<b>Total intermediate consumption</b>	3,526
<b>Gross value added</b>	14,467
<b>Total output</b>	17,993

All partners in an accountancy firm can have unlimited liability. For example, partners in Arthur Andersen having quality assured Enron's accounts, (when it was plain they should not have done so) and were liable for their errors.

In the UK, the National Audit Office and the Audit Commission audit the auditors. They also carry out various other functions, for example, for government. However, they do not just audit the figures but also the actual process and practices carried out.

### 2.3 Key company performance ratios

There are various key company performance ratios that can be derived from company accounts to enable comparability of performance, present state of play and future prospects. Examples include:

- Earnings Per Share (EPS) = profits / number of shares  
(this is a good indicator of a company's performance over time).
- Dividends Per Share (DPS) = dividends / number of shares  
(interest to shareholders).
- Dividend Yield = dividend / market price of stock x 100  
(interest to shareholders, fund managers etc, also comparable to interest on savings).
- Earnings Yield = earnings / market price of stock x 100
- Price Earnings ratio = market value (price) / EPS  
(key indicator of reflecting price valuation and growth prospects).
- Interest Cover = earnings / interest  
(ability of company to meet interest payments).
- Dividend Cover = earnings / dividend  
(a ratio of 1 to 3 is the norm, also indicates the ability to pay future dividends).

These indicators and the focus of these indicators are very different from the micro and macro indicators produced as part of the National Accounts and Balance of Payments.

## 3. Summary picture of the National Accounting framework and source data used in the UK Office for National Statistics (ONS)

### 3.1 Summary picture of the National Accounting framework

The measurement of business activity in the UK National Accounts is undertaken by the National Statistical Institution called the UK Office for National Statistics (ONS).

The ONS compile estimates for the Balance of Payments and Public Sector Finances wholly integrated with the National Accounts, which is unlike most EU Member States. This integrated approach helps to ensure a high degree of consistency, coherency and quality of the estimates from the UK National Accounts framework in line with the EU European System of Accounts 1995 (ESA 1995).

In many countries, the compilation of the above accounting areas is split across different institutions, where for example, the:

- National Accounts (non-financial accounts) are compiled by the **National Statistical Institute**;
- Balance of Payments and financial accounts are compiled by the **Central Bank**; and
- Public Sector Finance statistics covering general government are compiled by the **Finance Ministry**.

The ESA 1995 is broadly consistent with the United Nations System of National Accounts 1993 (SNA 1993). Both of these have been recently updated in the form of ESA 2010 and SNA 2008 respectively.

In addition, the International Monetary Fund Balance of Payments and International Investment Position Manual (BPM) Version 5 which provides the guidance and principles used to compile the Balance of Payments has been updated in the form of Version 6.

The ESA 2010 framework consists of two main sets of tables:

- The institutional sector accounts; and
- The input-output framework and the accounts by industry.

The **institutional sector accounts** provide, by institutional sector, a systematic description of the different stages of the economic process:

- production of goods and services;
- generation of income;
- distribution of income;
- redistribution of income; and
- use of income and financial and non-financial accumulation.

The sector accounts also include balance sheets to describe the stocks of assets, liabilities and net worth at the beginning and the end of the accounting period.

The main institutional sectors are:

- Central government;
- Local government;
- Public corporations (financial and non-financial);
- Private financial corporations;
- Private non-financial corporations;
- Households; and
- Non-profit institutions serving households.

The **Input-Output framework** through the Supply and Use Tables sets out in more detail the production process (cost structure, income generated and employment) and the flows of goods and services (output, imports, exports, final consumption, intermediate consumption and capital formation by product group).

Three important accounting identities are reflected in this framework:

- for any industry or grouping of industries, the sum of the outputs produced is equal to the sum of the inputs used;
- sum of incomes generated in an industry is equal to the gross value added produced by that industry; and
- for any product or grouping of products, supply is equal to demand.

The Supply and Use Tables are covered later in this paper, see Part 9.

The system is built around a **sequence of inter-connected accounts**. The full sequence of accounts for the institutional units and sectors is composed of:

- current accounts;
- accumulation accounts; and
- balance sheets.

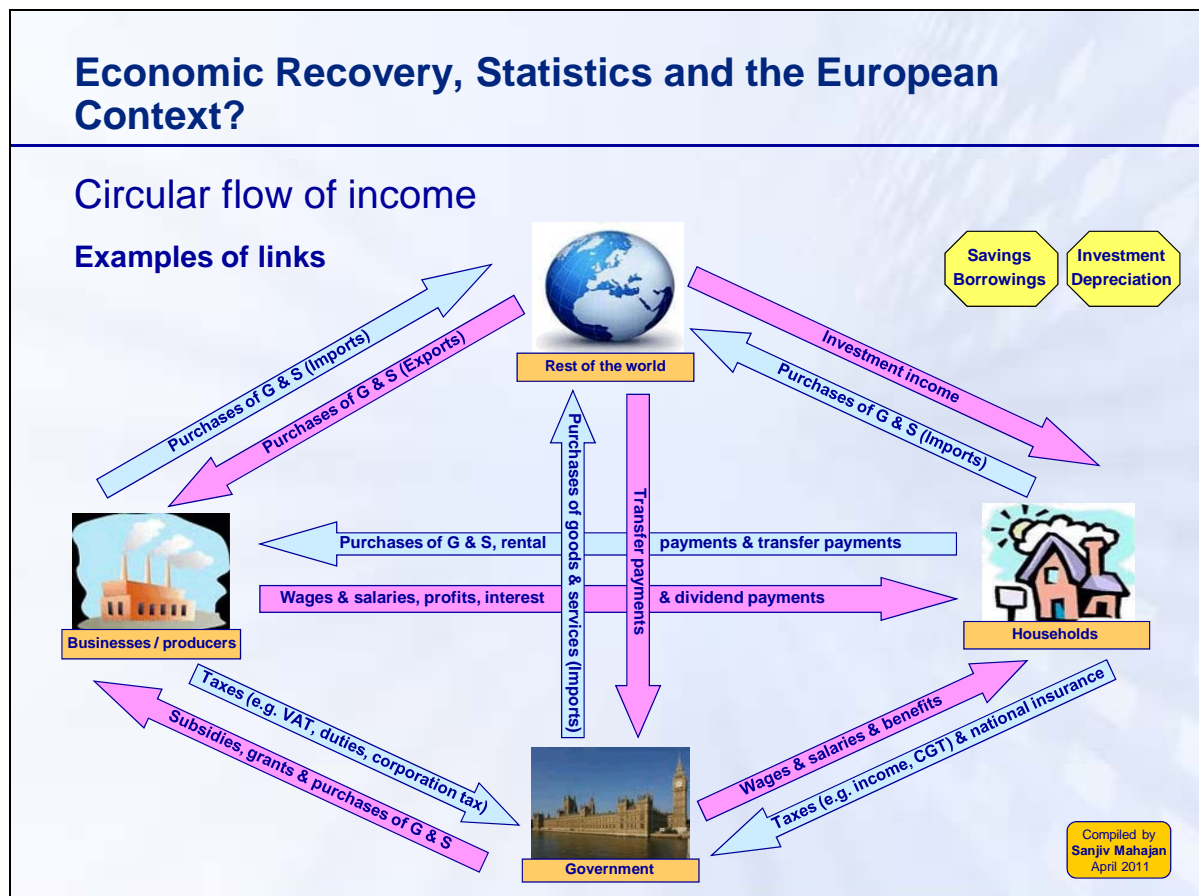
Current accounts deal with the production, generation, distribution and redistribution of income and the use of this income in the form of final consumption.

Accumulation accounts cover changes in assets and liabilities and changes in net worth (the difference for any institutional unit or group of units between its assets and liabilities).

Balance sheets present stocks of assets and liabilities and net worth.

The principle starting point of the National Accounting framework is to measure all the goods and services produced in the UK economy and its links to the rest of the world in doing so.

The so-called circular flow of income is shown below:



### 3.2 Source data used in ONS

The source data used is predominantly based on a wide range of monthly, quarterly and annual business surveys undertaken by ONS using a high-quality business register as the sampling frame. The register holds details for over two million units in terms of employment, turnover and by industry.

The summary below provides example of the types of surveys undertaken by the UK ONS together with the frequency and the indicative sample size.

- Monthly
  - Monthly Business Survey
    - Manufacturing, Energy, Wholesale, Motor Trades, Catering and Service industries  
~ 30,500 respondents
  - Monthly Retail Sales Survey (~ 6,000)
  - Monthly Construction Survey (~ 9,000)
  - Monthly Producer Prices
    - Production industries (~ 4,200) and Service industries (~ 2,500)
- Quarterly
  - Quarterly Capital Expenditure Survey (~ 27,000)
  - Quarterly Inventories Survey (~ 5,500)
  - Quarterly Profits Survey (~ 1,700)
- Annual
  - Annual Business Survey (~ 62,000)
  - PRODCOM (~ 21,500)
  - Annual Purchases Survey (~ 15,000)
    - Suspended for a period - now being re-developed.



- Business Spend on Capital Items Survey (~ 2,500)
  - Suspended for a period – now being re-developed.
- Mixed
  - Range of quarterly and annual surveys covering financial services:
    - Financial assets and liabilities (~ 800)
  - International Trade in Services Survey
    - Quarterly (~1,100) and Annual (~14,500)

The timeliness dimension of data availability is extremely important in producing short-term and annual estimates. For example, the first estimate UK GDP is published around 25 days after the end of the quarter with revised estimates following around 55 days and 85 days after the quarter.

The annual benchmarked accounts are produced around 18 months after the year being completed and published in the ONS Blue Book around the end of June or 21 months if the publication is at the end of September.

It is important to note, not all the data requirements to compile the UK National Accounts (and Balance of Payments and Public Sector Finances) are met by ONS business surveys. Various other sources are utilised including:

- Administrative based data, examples include:
  - INTRASTAT data from HM Revenue and Customs; and
  - Pay and profits relating to tax and employment records from collecting government departments.
- Other government departments, examples include:
  - Agriculture based data from Department for Environment, Food and Rural Affairs;
  - Banking data from Bank of England (the Central Bank); and
  - Data on government incomes and expenditures from HM Treasury (the finance ministry).
- Other sources, examples include:
  - **Company annual report and accounts** (the direct use is limited);
  - Regulatory bodies' accounts;
  - Insurance data from the Association of British Insurers; and
  - Financial detail from company websites.

It is also worth noting, data from surveys covering households are also required in compiling the various economic statistics, for example:

- Living Costs and Food type surveys covering expenditures by households;
- International Passenger Surveys collecting details of residents' expenditure overseas and non-residents' expenditure in the UK; and
- Census, for example in providing population estimates for grossing purposes.

In producing the National Accounts, the link between source data (irrespective of the nature) and the final National Accounts based estimates is important. The adjustment process taking source data and producing economic statistics need to be recorded in a systematic manner and form part of the infrastructure building blocks. For example, a principle to follow:

Survey (source) based data	<i>plus</i>	Coverage adjustments
	<i>plus</i>	Conceptual adjustments
	<i>plus</i>	Quality adjustments
	<i>plus</i>	Coherence (balancing) adjustments
	<i>equals</i>	National Accounts on an ESA 95 basis

Similarly, clearer links between moving company accounts based data to a National Accounts basis should be developed and would provide greater use of company accounts based data in the NSIs.

National Accounts shares with company accounts a number of characteristics, key examples include:

- Recording of transactions in accounts, i.e. in two-column tables;
- Monetary valuation;
- Use of balances;
- Recording of transactions as they take place; and
- Internal coherence of the system of accounts.

However, National Accounts differs on a number of points because it has a different objective: National Accounts aims to describe within a coherent framework all the activities of a country and not just those of enterprises. For example, all producing units covering all institutional sectors:

- Public sector split by:
  - (a) Central government (including state government)
  - (b) Local government
  - (c) Public corporations (financial and non-financial)
- Private sector split by:
  - (d) Non-financial corporations
  - (e) Financial corporations
  - (f) Households
  - (g) Non-profit institutions serving households (NPISHs)

This objective of coherence brings with it additional constraints which do not affect company accounts and impose a number of rules that are specific to National Accounts.

### 3.3 International dimension

A major point to note, while National Accounts achieves comparability across EU Member States through the ESA 1995 Regulation, the development of company accounts has been very different from one country to another. This diversity which essentially has a historical explanation is not without problems when looking at the transition to National Accounts.

Since the start of the 20<sup>th</sup> century, the process to standardise company accounts has evolved. The true process of harmonisation gathered momentum on a world level on 29 June 1973 with the creation of the International Accounting Standards Committee (IASC) whose mission was to define basic accounting standards referred to as IAS (International Accounting Standards) and then IFRS (International Financial Reporting Standards). More than 100 countries are involved in this process of harmonisation.

At the European level, Regulation (EC) No. 1606/2002 of the European Parliament and of the Council of 19 July 2002 provided that companies in the European Union making a public offering are under an obligation to prepare consolidated accounts according to the IFRS frame of reference from 2005 onwards.

In order for company accounts to be used intensively for the purpose of compiling National Accounts or improving the quality of national accounts data, a number of issues have to be addressed, both conceptual and practical.

Detailed guidelines on the contents of company accounts and how to make the linking of company accounts concepts to National Accounts concepts can be given only in specialised manuals and handbooks.

Greater efforts have been undertaken in harmonising the new UN System of National Accounts 2008, EU European System of Accounts 2010 and the IMF Balance of Payments Manual Version 6. This has included closer links to the company accounting principles.

This paper provides some principles and some of the main differences when compiling National Accounts on the basis of company accounts.

#### 4. Different company structures – Focus on industries

Large businesses, groups and multi-nationals having several different activities may be covered by a single suite of company accounts. However, in terms of the National Accounts and the Business Register, these businesses will have statistical units in several different industries.

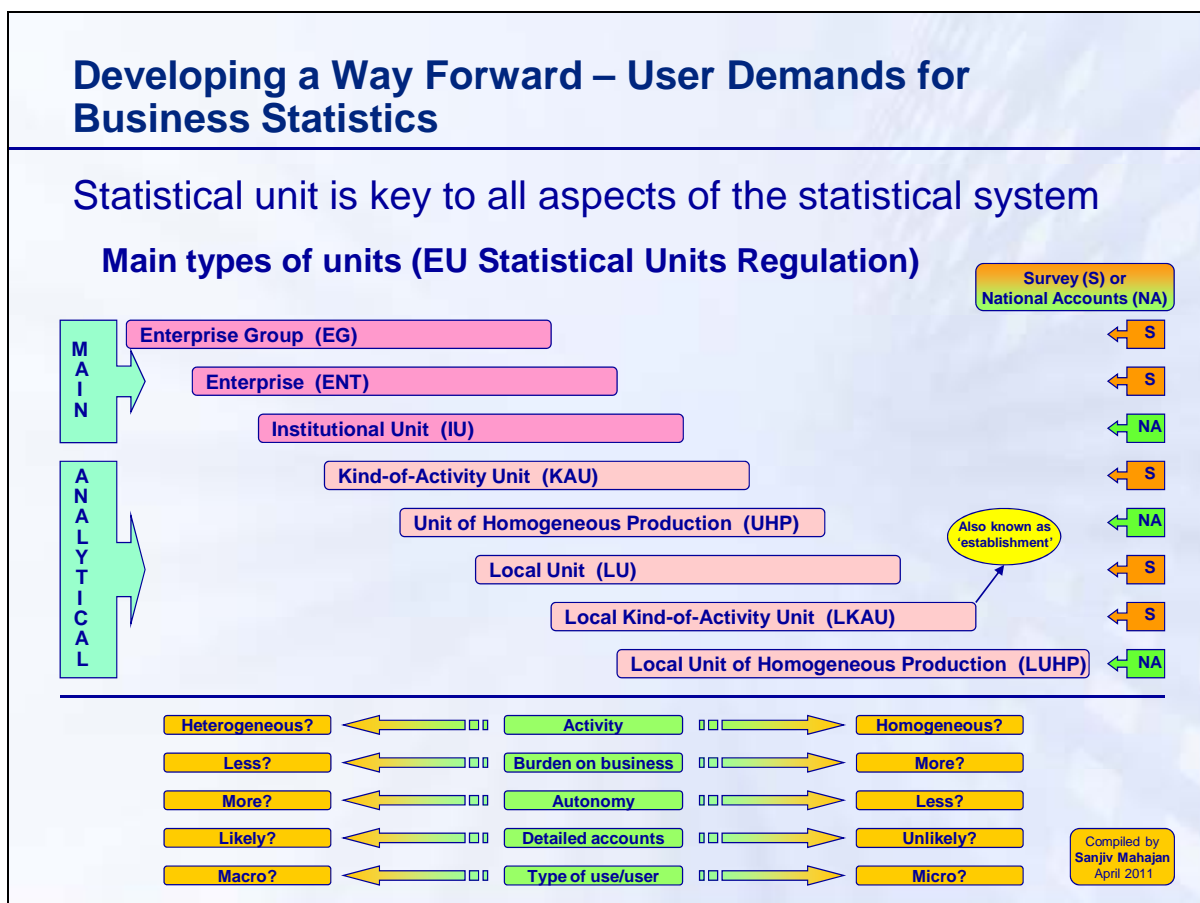
The UK ONS economic statistics by industry are defined using the 2007 version of the *Standard Industrial Classification 2007* (SIC (2007)). The SIC (2007) is consistent with the United Nations industrial classification, NACE Revision 2.

The SIC (2007) provides a hierarchical system for classifying businesses and other statistical units across the whole economy by the type of economic activity in which they are engaged.

Businesses are classified on the ONS Inter-Departmental Business Register (IDBR) to industries on a SIC (2007) basis according to the descriptions of their main business activity at each local unit that they operate. The IDBR complies with the European Union Regulation on Harmonisation of Business Registers for Statistical Purposes.

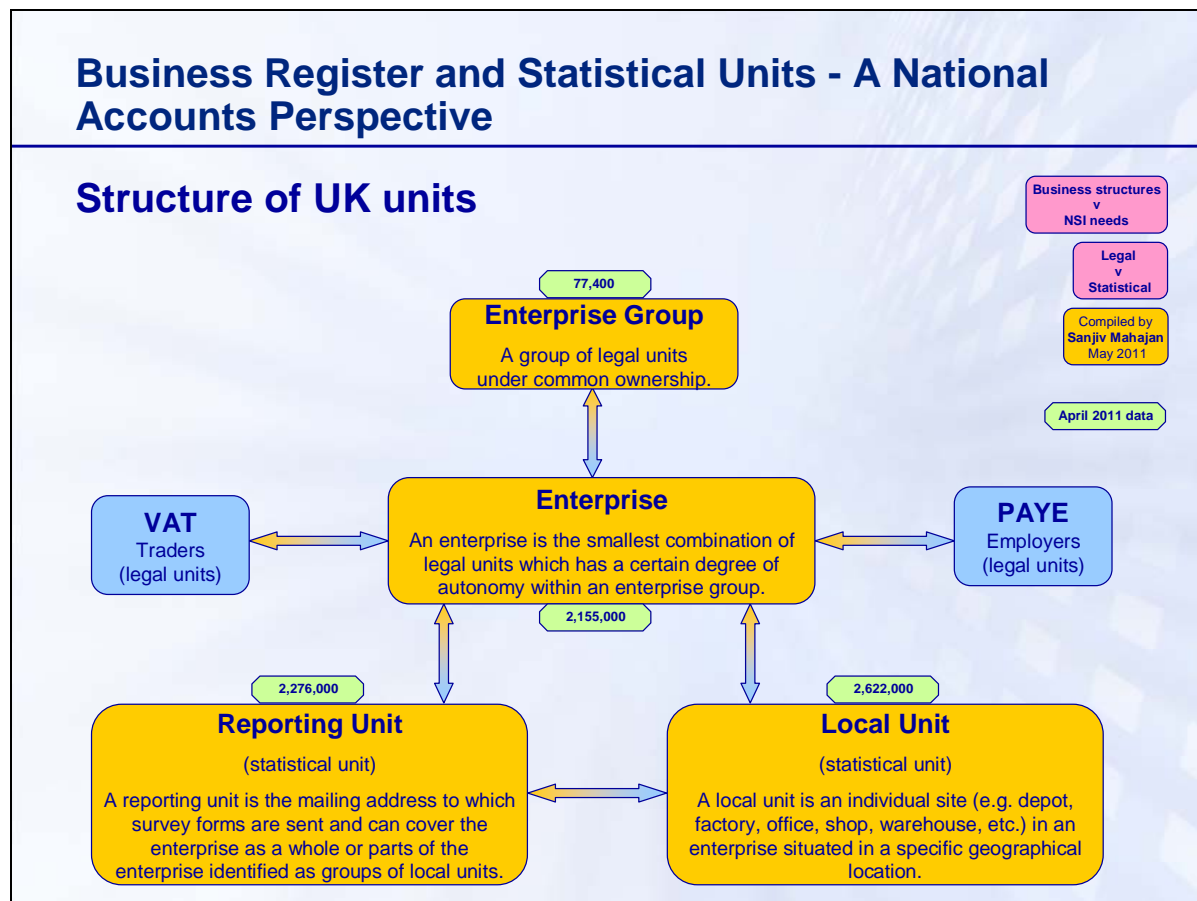
The above principles are also in line with the classifications and principles used by NSIs in producing their National Accounts.

The range of statistical units in the statistical system and their relevance in business surveys and National Accounts is shown below:



The IDBR is updated using administrative data from the VAT (updated weekly) and Pay As You Earn (PAYE) schemes (updated quarterly) provided by HM Revenue and Customs (HMRC) together with information from other sources such as ONS Business Surveys, Companies House and Dun and Bradstreet.

The links between different parts of a business on the IDBR are summarised below:



Taking into account the above arrangements, a brewing company for example, can have a separate manufacturing unit and distribution unit which do not have a complete set of separable company accounts but will be classified to different industries in the National Accounts.

Similarly, many oil companies are multi-national businesses carrying out a wide range of activities, cutting across several industry groups, for example:

- Crude oil and gas extraction;
- Refining of petroleum;
- Supply and marketing of petroleum products;
- Manufacture and marketing of chemicals;
- Gas and power generation, transmission and supply;
- Research and development; and
- Technical testing.

Thus any cross reference between National Accounts and company accounts can only be done at the aggregate level and not the individual industries/activities, for example allowing for intra-company transactions and transfer pricing.

Some indicators covering the different activities are available from the company accounts such as the number of employees, operating profits and turnover.

## 5. Examples of some specific rules and methods used in company accounts

### 5.1 Overview

National accountants are generally not specialists in company accounts and if they want to extract the best part of the information contained in the company accounts, it is essential that they cooperate with the company accounting professions. However, in order for this cooperation to be successful, it is preferable that the national accountants develop a good understanding of the general logic of company accounting. In particular, it would be advantageous for the National Accounts community to take a greater interest in the development of international accounting standards for private corporations by the International Accounting Standards Board (IASB) and for government bodies by the International Public Sector Accounting Standards Board (IPSASB).

Some of the key principles covered in this section include:

- Time of recording;
- Double entry and quadruple entry;
- Valuation;
- Income statement and balance sheet;
- Estimation of profit/loss;
- Fixed assets;
- Capitalised expenses; and
- Provisions (exceptional items).

### 5.2 Time of recording

Company accounts record operations when they take place, giving rise to claims and obligations, independently of the payment. This time of recording is known as an accrual principle (as opposed to a cash basis). Conceptually, National Accounts follow the same principle as company accounts.

### 5.3 Double entry and quadruple entry

In company accounts, each transaction of the company is recorded in at least two different accounts, once in the debit side of one (or several) account(s), and once in the credit side of another (or other) account(s), for the same amount. This double entry principle, which permits a check of the consistency of company accounts, is applied in the same way in National Accounts.

Concerning National Accounts, the concept of quadruple entry is also used to reflect the fact that most transactions involve two institutional units, and each transaction must be recorded twice by each of the transactors involved in order to ensure full consistency of the National Accounts. There is also a need to reflect consolidation within sub-sectors.

### 5.4 Valuation

In both company accounts and in National Accounts, transactions are recorded initially at the actual price agreed upon by the transactors.

Assets and liabilities are generally valued at their original or historical cost in the financial statements of companies, possibly in combination with other prices, for example inventories are recorded of the lower of cost and net realisable value. Financial instruments should be valued at fair value, which may be prices observed in markets or estimated by using specific valuation techniques.

In National Accounts, assets and liabilities are recorded at current values at the time at which the balance sheet relates and not at their original valuation.

## 5.5 Income statement and balance sheet

No analysis is possible without financial statements. At least, two financial statements are thus prepared: the income statement and the balance sheet.

The income statement groups together the transaction accounts corresponding to income and costs, and the balance sheet the stock accounts corresponding to assets and liabilities. The income and expenditure account is often referred to as a trading account. These documents show the total for the period for each item of income or expenditure. They are also presented in the form of accounts and are closely linked, as their balances are equal in absolute terms. It is worth noting, in company accounts the balance sheet is not an “account” but merely a statement of the balances on each account

The transaction accounts whose balance is included in the income statement are considered to be flow accounts. Their objective is to show the totals of income and expenditure during the accounting year.

Balance sheets are considered to be stock accounts and show the value of the assets, liabilities and the net worth as at the end of the accounting year.

The profit of the accounting year is shown as the balance of the income statement. This profit is also included in the balance sheet as it constitutes an amount payable to the owners of the enterprise not only because it is the balance of the account but also because it constitutes an amount payable to the owners of the enterprise. In fact, the profit belongs to the owners as soon as it is generated. In the balance sheet it therefore has the same standing as the owners’ account.

The profit included within the balance sheet is included within retained earnings, as this is a type of reserve. Company’s use a variety of terms in relation to what IAS 1, “Presentation of financial statements”, calls “retained earnings”. The terms “profit and loss account”, “revenue reserves”, “retained earnings” or “retained profits” are generally accepted.

When a company makes profits, this does not necessarily belong to the shareholders. It is important to note, that profits and distributable profits under the Companies Act 2006 are not the same.

## 5.6 Estimation of profit/loss

The profit/loss calculated in company accounts has to take into account problems linked with the breakdown of time in periods.

Consider the example of goods purchased by the enterprise for an amount of 100 and resold for an amount of 140. The profit generated by this transaction is equal to 40 assuming that there have been no additional costs. When this transaction relates to a number of accounting years, with the purchase taking place during the first accounting year and the sale during the second, the profit/loss calculated at the end of each accounting year is an irrelevance. Therefore, the accounting system only calculates the profit/loss from this purchase/sale transaction once it becomes certain, i.e. at the end of the second accounting year.

For doing that, it is not possible to directly record the purchase and sale in the second accounting year, because the purchase, like any transaction, must first be recorded at the time it takes place, in this case during the first accounting year. So there is a need to, in some way, transfer the purchase from the first accounting year to the second. Two accounts are therefore used, an income statement account, the *changes in stocks* account, and a balance sheet account, the *stocks* account.

Generally speaking, the following equalities hold in terms of physical quantities for any period:

$$\begin{array}{lcl}
 \text{Opening stock} & \} & \{ \text{Sales} \\
 \textit{plus} & \} & \{ \textit{plus} \\
 \text{purchases} & \} & \{ \text{closing stock} \\
 & \text{equals} & 
 \end{array}$$

This equality is simply an expression of the fact that goods can either come from the opening stock or purchases and that either they are sold or they remain in the closing stock at the end of the accounting year. The equality can also be written as:

$$\begin{aligned} \text{Sales} & \text{ equals } \{ \text{ Purchases} \\ & \{ \text{ plus} \\ & \{ \text{ Opening stock} \\ & \{ \text{ less} \\ & \{ \text{ Closing stock} \end{aligned}$$

For this purpose, the *changes in stocks* account records on its debit side the opening stock and on its credit side the closing stock. At balance sheet level, the *stock* account includes at the start of the accounting year the balance from the previous accounting year, i.e. the opening stock. It then records the symmetrical movements in the income statement, so that at its close it only shows the closing stock.

In order that the profit/loss only appears at the time of the sale, it is necessary that the stocks are valued at their costs of acquisition. This principle is easy to apply when the goods can be identified individually. This is no longer the case when the goods held in stock are fully interchangeable and acquired at different prices, and so a number of stock valuation methods have been developed: First-In First-Out, (FIFO), Last-In First-Out (LIFO), etc. Since these methods all provide different results, it is necessary that the national accountant knows which method is used by the enterprise in order to correctly interpret the information on its stocks.

In the UK, inventories are generally recorded using FIFO and while LIFO is theoretically allowed, it is not considered to be an acceptable method and rarely used. IFRS specifically bans the use of LIFO and this would pose a problem with any merging with the US GAAP system, as US GAAP allows LIFO.

## 5.7 Fixed assets

There are differences in definition/coverage such that some items may be treated as current expenditure in company accounts but as capital expenditure in National Accounts. For example:

- Items like computer software are often treated as current expenditure, sometimes even small purchases like laptops do not feature in capital expenditure in company accounts.
- The National Accounts definition of GFCF covers "...lasts for longer than a year", this is different from "...use over a number of accounting years".

In fact, some expenditure cannot be attributed to a single accounting year, and this is the case in particular with buildings and equipment used by the enterprise over a number of years. These purchases have to be removed from the calculation of the profit/loss for the accounting year during which they take place in order to be spread over all the accounting years in which the goods are used. Otherwise, the purchase could result in a loss being shown at the time it took place. Spreading the cost of acquisition over the various accounting years takes place on the basis of the estimated reduction in value of the goods item during each accounting year of its period of use.

Two models that are radically different in terms of valuation are possible. The first is based on a conventional estimate which in practice translates as the drawing up of an amortisation schedule, and the second is based on an assessment of the market value of the goods item. In terms of the mechanics of accounting both methods are based on the same logic.

In both methods, the purchase of the goods item intended for use over a number of accounting years is recorded at the time it takes place, not in a management account but in a fixed assets account which is a balance sheet account. At the end of each accounting year, the reduction in value of the goods item during the accounting year is deducted from the balance sheet in order to be carried over to the income statement.

## 5.8 Capitalised expenses

The balance sheet assets may include items that do not correspond to assets within the meaning of National Accounts. In fact, expenses, for example advertising expenses (treated as intermediate consumption in National Accounts), which are likely to have a positive influence upon the enterprise for a number of accounting years, may be recorded in the balance sheet as fixed assets are in order to be spread over a number of accounting years and not charged solely to the accounting year in which they occur.

If the advertising expenditure in this case related to a number of years, then it could be treated as current assets and held as a pre-payment for which the advertising related to future periods. If the advertising expenditure would be capitalised in company accounts then it would be open to an impairment review, where the capitalised amounts in the financial statement would have to be demonstrated.

This possibility of capitalisation of expenses is not accepted by all accounting systems, however, and in particular not by the IFRS standards.

## 5.9 Provisions (exceptional items)

The introduction of provisions is the result of the application of the principle of prudence. When the enterprise envisages charges or recognises depreciation, it must show these in the calculation of the profit/loss for the accounting year in progress, even if it is not yet able to determine the value of these with certainty.

Two types of provisions can be identified:

- Provisions for charges corresponding to an expense which the enterprise is certain to have to incur but for an amount that it does not know precisely; and
- Provisions for depreciation of assets corresponding to a reduction in value of assets such as machines, buildings, stocks, and amounts receivable, the amount of which is not known with any accuracy.

In the case of provisions for charges, the principle is as follows: the estimated charge is entered in the income statement for the current accounting year. When the charge has actually occurred, it is deducted from the income statement and replaced by its actual value.

Since the estimated value must appear for two accounting years, it is necessary to use the balance sheet. Two accounts are necessary, and sometimes three accounts are used:

- Two management accounts:
  - the transfer to provisions account which records the amount of the provision; and
  - the *write-back of provisions* account which records its cancellation – this is not always necessary.
- One balance sheet account, the provisions account.

The *write-back of provisions* account does not always exist and, in this case the provision is credited to the expense account from which it originated.

Provisions for depreciation of assets can follow the same system but in the balance sheet, they appear most often as a liability in order to determine net values, i.e. cost less accumulative depreciation (provision) as shown in the notes.

There are a number of different techniques that can be used to arrive at the best estimate of the amount of a provision, where the creditor does not wish to settle and where there is no market in obligations of the kind for which provision is being made. Assuming that it is possible to specify all the possible outcomes and their associate probabilities, the amount to be provided for an obligation could be estimated.



## 6. National Accounts and company accounts: Types of differences and practical issues

### 6.1 Major differences

Examples of major differences usually considered when interpreting information from company accounts within National Accounts include:

- In order to establish 'national' estimates, need to exclude any overseas activity. Also, adjustments are needed to remove non-residents expenditure and to include resident expenditure abroad.
- Consolidated group account data distinct from company data.
- Matching company activities as opposed to group activities in separate industry NACE Rev. 2 categories.
- Certain types of company expenditure such as replacement expenditure for utility companies is usually charged as current expenditure but for National Accounts should be charged as capital expenditure.
- Many oil and gas company accounts for example, report on a current replacement cost basis but for National Accounts we require valuations to be on a historic cost basis.
- Company accounts year end references can be any date. This causes problems interpreting data compared with the annual business surveys if provided on a different time period.
- Treatment of exceptional items like setting aside amounts for restructuring differ substantially in company accounts to that in National Accounts. In the latter, the expenditure is recorded as it is made and not when it is set-aside for future spending.
- Takeovers of other businesses or mergers between businesses can lead to double-counting as well as the incorporation of overseas subsidiaries.
- Treatment of own-account capital formation, progress payments, etc.

### 6.2 Other conditions to address

In order that national accountants may use company accounts on a large scale, and not just in isolated cases, a number of other conditions must be met.

The first condition is **access** to companies' accounts. Usually, the publication of accounts is mandatory. All company accounts are publicly available, the level of information and disclosed is dependant upon their size and whether they are classified as small, medium or large. Databases are most often set up by private or public bodies, and it is important that national accountants are able to access these.

Also, it is important to note that the different types of accounts and the detail available will vary across private sector and public sector enterprises and between small, medium and large enterprises.

The second condition is a **minimum degree of standardisation** of the accounting documents published by enterprises, since this is a necessary condition for computerised processing. A high level of standardisation is often associated with the existence of a body collecting accounts from enterprises in this form. Collection may be organised on a voluntary basis, as in the case of the body running a financial statements centre which performs analyses for its members, or it may be made mandatory by law, as it is the case where the collecting body is the tax authority. In both cases, the most advantageous situation is one in which the national accountants are able to access and use the databases set up in this way.

Company accounts can be used even when the accounts are not compiled on a strictly standardised basis. In fact, in most countries, there are sectors of the economy dominated by a small number of very large enterprises, and it is therefore possible and useful to take an individual look at the accounts of these large enterprises in order to make assessments on the basis of these for the needs of the National Accounts.

Such analyses are also useful because a great deal of information is contained not in the accounts themselves but in the notes to the accounts, allowing either access to useful detail or the avoidance of errors in interpretation. In the UK, company accounts must conform to the formats in the Companies Act 2006, which originated from the Company Act 1985, and formed by the implication of EU Directive IV.

When the national accountants are unable to access company accounts directly, they have to resort to surveys. But these only provide satisfactory results if the questions asked are compatible with company accounting. It is, in effect, pointless to expect an enterprise to be able to provide reliable information which is not based on that existing within its own internal information system. However, surveys are generally essential, even in the best case when the national accountants are able to access the accounting databases, as the information contained in these databases is rarely detailed enough to meet all the needs of the national accountants.

## 7. Transition from company accounts to National Accounts: Example of non-financial enterprises covering the variables output and intermediate consumption

### 7.1 Overview

The use of data from non-financial company accounts for the preparation of National Accounts requires several adjustments. These adjustments can be categorised as follows:

- Conceptual adjustments;
- Adjustments to allow coherence with the accounts of other sectors; and
- Examples of adjustments for exhaustiveness.

### 7.2 Conceptual adjustments (required for output and intermediate consumption)

Conceptual adjustments are required because company accounts do not use the same concepts as National Accounts and because where these concepts are close to each other, the valuation methods are often different. These adjustments can differ in different countries as a function of their specific characteristics and the chart of accounts adopted by their enterprises, although it is possible to identify a number of these which will occur the most frequently.

It is important to note that **output will exclude certain items**. Some of which may be included within the company's turnover or total income (which includes other operating income) as recorded in company accounts, and will need adjustment, for example:

- Grants receivable;
- Interest receivable; and
- Dividends receivable.

Some examples of **conceptual adjustments required for the calculation of output** are as follows:

- **Adjustment for the transition to the basic prices**

Turnover of enterprises is generally net of VAT but often includes some taxes on products. Conversely, subsidies on products are rarely included in the turnover. It is therefore necessary to make an adjustment to the data from company accounts by deducting taxes on products and adding subsidies on products in order to arrive at the basic price. Often estimates on taxes and subsidies on products are not available from company accounts.

- **Adjustment for deliveries between establishments of the same enterprise**

Such deliveries are not usually the object of a sale and although they do not appear in the accounts system of the enterprise they must nevertheless be recorded in the National Accounts when they correspond to an output of one establishment delivered to another establishment, forming intermediate consumption of the latter.

- **Adjustments for output reflecting margin earned on distribution type activity**

Apart from the wholesale and retail distribution industries, certain activities such as travel agencies have their output calculated in National Accounts using a margin concept. In this case it is necessary to deduct from turnover the cost of sales.

- **Adjustments for own account output of software and other intellectual products**

Own account output of software, databases, leisure, literary and artistic works, geological and mining exploration is not always recorded as output in company accounts. In this case, the valuations must be carried out and added to the output recorded in the company accounts.

- **Adjustment for own account output of research and development**

Irrespective of its treatment in gross fixed capital formation (GFCF), it is desirable that own account output of research and development is shown in the National Accounts. So, when it is not recorded in company accounts, a correction must be made. This will increase output, GVA and GFCF in the National Accounts.

- **Adjustments for sales of land**

The turnover of certain enterprises such as property developers includes sales of land and these sales must be removed from the calculation of output.

- **Adjustment for inventory (stock) valuation**

In company accounts, the changes in inventories are measured by the difference between the closing stock value and the opening stock value. In National Accounts, the change in inventories (stocks) corresponds to the difference between entries into and withdrawals from stock, these being valued at the time they take place.

It is generally not possible to calculate the changes in stocks in this way but it is possible to make an approximation based on a number of assumptions. In terms of physical quantities, the following equation holds:

$$\begin{array}{rcl}
 \text{Opening stock} & \} & \{ \text{Withdrawals} \\
 \textit{plus} & \} & \{ \textit{plus} \\
 \text{entries} & \} & \{ \text{closing stock} \\
 & \text{equals} & 
 \end{array}$$

This identity simply means that, as resources, the goods can originate either from the opening stock, or from entries, and under uses they are either withdrawals or are in the closing stock. This equality can also be written as:

$$\begin{array}{rcl}
 \text{Entries} & \} & \{ \text{Closing stock} \\
 \textit{less} & \} & \{ \textit{less} \\
 \text{withdrawals} & \} & \{ \text{opening stock} \\
 & \text{equals} & 
 \end{array}$$

This equality shows that if all its elements are valued at the same price then the calculation of the changes in stocks by the difference between the closing stock and the opening stock gives the same result as a calculation by the difference between the entries and withdrawals. In other words, in the best case of a unique price, it is possible to deduce the changes in stocks for National Accounts from that of company accounts.

Assuming that entries and withdrawals take place regularly during the accounting year, the average price over the period of the entries and withdrawals is the same, offering the best case scenario. In the case of output held as inventory, for example, the average price of entries and withdrawals is also the average producer price. If the closing and opening stocks taken from the balance sheets of enterprises are valued at the average producer price, it is then possible to deduce from this the changes in stocks as the difference between these two values. To do so it is necessary to know three prices: the prices of the closing and opening stocks used by the company accountants, and the average basic producer price.

The prices used by the company accountants depend on the method used but in all cases, they are valued at producer price whereas the basic price includes a profit element. An initial adjustment must be made at this level. The second adjustment is connected with the fact that prices have fluctuated during the year, so that the average price for the period is different from the opening and closing prices. It is then necessary to deflate the stocks by price indices in order to bring them back to the average prices. The main difficulty in applying this method stems from the absence of a breakdown of stocks by products. A best estimate must therefore be made of this from the available information. More often than not, no information is directly available on prices at enterprise level and the problem has to be dealt with globally, using price indices published by the NSIs.

- **Adjustment for capitalised output**

Capitalised output is recorded in company accounts on the basis of the production costs. For the transition to National Accounts, it is therefore necessary to add an element corresponding to profit. In some company accounts, the cost of production may include interest which is not considered to be part of this variable in National Accounts.

- **Adjustment for ownership transfer costs**

In company accounts, acquisitions of tangible or intangible fixed assets must be valued by their cost, which will include various elements such as wages and salaries and intermediate consumption. When the income statement is presented by nature, these costs are first recorded on the debit side by nature and then transferred to the balance sheet through the intermediary of a management account, the *capitalised costs account*. They are therefore accounted for three times:

- On the debit side of the income statement;
- On the credit side of the income statement; and
- On the debit side of the balance sheet as components of the capital cost.

In National Accounts, wages and salaries cannot directly add any value to assets as the gross fixed capital formation is a use of production. All expenditure on personnel costs corresponding to installation costs must therefore be considered as an own account production of capitalised goods by the enterprise.

At the intermediate consumption level, the adjustment depends on the treatment of the products in the Supply and Use Tables. For example, if the company's costs are first recorded under charges and then transferred to fixed assets, there are two possibilities according to the treatment of these costs in the Supply and Uses Tables. If in these tables, the company's costs are classified under GFCF then no adjustment to output is necessary and the costs deducted from intermediate consumption. If the costs do not appear as GFCF but incorporated into the assets making up the GFCF, they must be considered to be an intermediate consumption of the enterprise in its own account production activity of the goods item capitalised. The last solution is preferable, all the acquisition costs corresponding to staff costs and to intermediate consumption of the enterprise must be considered to be charged to own account production of the goods item acquired by the enterprise.

Staff costs and intermediate consumption incorporated directly into fixed assets without passing through the income statement must undergo a two-fold adjustment: firstly, to be added to compensation of employees and intermediate consumption of the enterprise, and on the other considered as elements of own account output. Own account output valued on the basis of these elements must in theory also include an element corresponding to profit which represents an additional adjustment to be made to output taken directly from the company accounts.

Similar to the fact that certain exclusions are made to the National Accounts estimates of output, the estimates of **intermediate consumption exclude certain items** which are included within operating costs or expenditure side in business accounts, for example:

- Labour costs;
- Taxes on production and some taxes on products;
- Bad debts;
- Fines and penalties;
- Depreciation;
- Interest and dividends payable; and
- Value of insurance premiums payable.

Some examples of **conceptual adjustments required for the calculation of intermediate consumption** are as follows:

- **Adjustment for deliveries between establishments of the same enterprise**

This was covered in previous section.

- **Adjustment for own account output of research and development**

This item corresponds to the adjustment made to output, which is only made when the research has not been recorded under GFCF in the National Accounts but has been capitalised in company accounts. In the case of bought-in services, this will reduce intermediate consumption and increase both GVA and GFCF.

- **Insurance premiums**

Insurance premiums payable by enterprises are part of their expenditure but National Accounts require that these are split into three elements:

- net premiums;
- insurance service; and
- premium supplements.

This distribution must be performed on the basis of the distribution taken from the accounts of the insurance companies. Only the part corresponding to the service must be retained in intermediate consumption and a correction must therefore be made in order to deduct the net premiums and the premium supplements.

- **Leasing**

Where the company accounts treats leasing like a rental an adjustment must be made to the charges payable to the leasing companies in order to remove the part considered by the National Accounts as a payment of interest and a redemption of loans. In both National Accounts and company accounts there is room for each of finance leasing and operating leasing, although in some cases the treatment will not be the same. IFRS only treats as a “financial operation” those leases which are, in substance, finance leases.

- **Commissions included in interest**

Some commissions are included in the interest payable by enterprises or deducted from that which they receive. The most important of these correspond to FISIM but it is also necessary to take account of commissions deducted and interest payable by the collective investment undertakings.

- **Land purchase**

The expenditure of enterprises in certain activities such as property developers may involve land purchase. Such land purchases must be removed from intermediate consumption.

- **Income from land**

Income from land and from natural assets must also be excluded from output.

- **Stock valuation adjustment**

The changes in stocks of raw materials must be the subject of adjustments similar to those made to the changes in stocks of finished products.

- **Costs associated with the acquisition of assets**

In National Accounts, GFCF is valued at purchasers' prices, which include installation costs and the ownership transfer costs. In company accounts, installation costs are generally considered as incidental costs and are thus included in the purchasers' price of fixed assets. As explained in the previous section on adjustments to output, these costs must normally be considered as elements of the own account output of the enterprise. When the income statement is presented by nature, expenses whose nature corresponds to intermediate consumption are generally first recorded under charges before being transferred to the balance sheet. Where this is not the case and these expenses are incorporated in the fixed assets without passing through the balance sheet, they must be added to intermediate consumption.

- **Bad debts**

Other operating costs may include bad debts and therefore it is necessary to exclude them from intermediate consumption.

### **7.3 Adjustments to achieve coherence with the accounts of other sectors**

National Accounts require accounts of enterprises are coherent with those of the other institutional sectors. So, taxes and subsidies valued on the basis of accounts of enterprises must be coherent with those receivable by or payable by general government.

In practice, this is never achieved automatically for a number of reasons and so a rule is needed in order to achieve this coherence. This is based on the fact that normally information relating to general government is more reliable than that drawn from the statistics of enterprises, and so it is the data drawn from business accounts that have to be adjusted.

This will apply to both output and intermediate consumption depending the tax and/or subsidy.

### **7.4 Examples of adjustments for exhaustiveness**

In relation to enterprises, adjustments for exhaustiveness may be related to several causes including: absence from statistical files; exemption from tax and social declarations; and evasion. Examples of adjustments affecting output and intermediate consumption, as appropriate, include:

- **Evasion regarding output sold and sale of goods for resale**

Enterprises usually have an interest in underestimating their sales either for tax evasion (which is illegal) or tax avoidance (by using strategies which are legal), and so an estimation of this under-declaration is necessary which should be as far as possible based on information provided by the tax offices. In some countries, underestimating the purchases will inhibit businesses ability to reclaim VAT either on current expenditure and/or capital expenditure, whether they are treated as exempt or not.

- **Income earned-in-kind**

Income in kind corresponds to that part of their output that enterprises supply free of charge to their employees although there may be a cost in terms of tax payable on the benefit received for the employee. Similarly, there may be on-going costs to the employer for providing the benefit. When this income is not recorded in the company accounts, an adjustment must be made both to the output and the compensation of employees. Where employees are housed free of charge it is also necessary to estimate a property rentals output if this has not already been taken into account in the company accounts.

- **Tips**

When employees receive tips from customers of the enterprise these must be considered as part of the turnover and thus output. So, that part of tips that is not recorded in the company accounts must be subject to adjustment.

- **Evasion on purchases intended for intermediate consumption**

In order to limit their tax burden enterprises have an interest in overstating their purchases. However, as pointed out for purchases of goods, enterprises must also take into account that fiscal controls are very often performed on the basis of ratios and that an understatement of sales will be all the more credible if it goes hand in hand with an understatement of purchases. The national accountants must therefore take account of these two elements when assessing the correction to be made to intermediate consumption.

- **Undeclared employment**

A certain number of enterprises use undeclared workers who do not meet the criteria of employees and must therefore be classed as self-employed persons. In this case the services they provide for the enterprises must be considered as intermediate consumption.

## 7.5 Compensation of employees (total labour costs)

In National Accounts, compensation of employees corresponds to the expenses incurred by the enterprise to the benefit of employees. It is also the definition most often used by company accounts, so that there are relatively few adjustments necessary to convert data from company accounts to National Accounts. It is, however, necessary to add the in-work benefits that are provided free of charge to employees, that part of tips that is not recorded in company accounts and employee participation in profits and enterprise results which is not normally considered as a charge but as an appropriation of profit.

On the other hand, making a distinction between gross salaries and social contributions is more difficult especially when the enterprise itself pays benefits to its employees. Often more detailed information is required than that found in the income statement. The IFRS standards require enterprises to provide all information needed by national accountants, usually in the notes to the financial statements. The problem is the absence of any standardised presentation which is explained by the diverse nature of the situations.

## 7.6 Taxes and subsidies

Company accounts are generally operated exclusive of deductible VAT so that the information breaking down input VAT and output VAT are often not available.

Other taxes on production and other subsidies on production appear in the income statement as appropriate. Company accounts do not distinguish between taxes on products from taxes on production, and likewise for subsidies.

The tax on profit, for example corporation tax, shown in the income statement will only be payable in the course of the following accounting year, i.e. more often than not the following year. The income statement would show the tax payable inclusive of deferred tax and other adjustments. The notes to the accounts would show the tax payable on the profits for the year, and the cash flow statement would show the tax payable in the accounting period.

## 7.7 Property income

Interest receivable and payable appears in the income statement and must be adjusted for FISIM. The income receivable by investment undertakings must also be increased by commissions deducted at source.

Dividends receivable also appear on the credit side of the income statement. Conversely, dividends payable by the enterprise appear neither in the income statement nor the balance sheet. Dividends payable and receivable are recorded in the account under UK GAAP, however this differs under IFRS, as it is recorded when paid and received. Therefore is recorded on a cash basis under IFRS and differs from the principles of accruals in this instance.

Reinvested earnings on direct foreign investment cannot be found directly either from the balance sheet or the income statement, and can only be estimated on the basis of supplementary information on the shareholders in the enterprise.

Property income allocated to policy holders is deducted from insurance premiums payable by the enterprise by application of the ratios taken from the accounts of the insurance companies.

## 7.8 Other current transfers

Other current transfers are rarely identifiable as such in company accounts as they are often grouped with other items within the "other income" or "other expenses" headings.

## 7.9 Gross fixed capital formation (capital expenditure or fixed investment)

GFCF is defined in National Accounts as the difference between acquisitions and disposals of fixed assets and it is preferable to extract these two components separately from company accounts. The main problem here is that both correspond to flows, although in company accounts fixed assets only appear in the balance sheet, i.e. in the stock accounts.

The best way to value acquisitions is almost certainly to use a reconciliation schedule between the opening and closing book values of fixed assets. This schedule which has been made mandatory by the IFRS standards provides information on acquisitions and the various elements that allow a transition from the opening value of the assets to their closing value.

On the other hand, when the assets are not valued at their fair value but on the basis of an amortisation schedule, the reconciliation schedule only provides information on disposals valued at historic cost. In order to move to the disposal price that corresponds to the estimate required in National Accounts, it is necessary to take into account the capital gains or capital losses made on these disposal operations.



When this information is not explicitly shown in the income statement, it will be possible to reconcile the value of the disposals with the historical cost taken from the reconciliation schedule of disposals appearing in the cash-flow statement, this is also a mandatory document under IFRS standards.

Disposals appearing in this schedule correspond to actual payments and so differ from the disposals as required in National Accounts due to the time lag between disposal and payment. For all enterprises, payments must differ very little from disposals. It is necessary to have accounting documents in which the tangible fixed assets can be distinguished from intangible fixed assets and financial fixed assets.

### **7.10 Balance sheet**

The balance sheet in National Accounts is very similar to that of company accounts, in particular where the latter applies the concept of fair value. It is therefore possible to draw a great deal of information from the balance sheets of enterprises, the two main limitations being possible differences in classification and the valuation at historic cost of assets.

Assets recorded in National Accounts can have a longer life than those recorded in company balance sheets, which are usually recorded by tax requirements.

So it is particularly interesting to use the information contained in the balance sheet of enterprises to value the fixed assets. National accountants generally use Perpetual Inventory Methods (PIM) to value the fixed assets held by enterprises. These methods are very useful but in practice they are based on a number of assumptions. The comparison of these methods with the values of tangible fixed assets appearing in the balance sheets of enterprises can be useful, in particular, when the assets are valued at fair value, since this approximates to the valuation at market price as required in National Accounts.

This is also the case when the assets are valued at historical cost, even if the verification is less direct. In fact, the calculation of the value of fixed assets set by the PIM is based on acquisitions and disposals data which are initially expressed at current prices, although it is possible to reconstitute the value of fixed assets at historic cost. The value of accumulated depreciation at historic cost can likewise be reconstituted. A comparison of data reconstituted using PIM and those from the balance sheets of enterprises can lead to a reconsideration of the initial hypotheses adopted when the PIM were implemented.

## **8. Specific challenges**

### **8.1 Accounting year start and end dates**

Another practical condition that must be met relates to the start and end dates of the accounting year and must correspond with the reference period of the National Accounts. For annual National Accounts, this is generally the calendar year. Thus it is desirable in order to make best use of company accounts these enterprises start their accounting year on 1 January and end on 31 December. Enterprises are seldom subject to this type of obligation.

For operations corresponding to flows, it is often acceptable to recreate accounts on the basis of the calendar year by combining two successive accounting years. This can be problematic for companies involved in highly seasonal activity such as sales of gas and electricity. For balance sheets, this method provides less satisfactory results, especially for items liable to rapid fluctuations during the year.

With regard to the length of the accounting year, this is normally one year but when the enterprise is established or closes down, shorter or longer periods are also possible with adjustments then being necessary.

Large enterprises, for example with stock market listings have to compile interim statements and for some companies even quarterly accounts. These are rarely collected on a systematic basis, and provide very limited detail for compiling quarterly National Accounts.

## 8.2 Currencies

The impact and treatment of currency changes and conversions, especially for global businesses can pose problems. For example, some company accounts (e.g. oil companies) provide details in dollars, some of the details are made available in resident countries' currency and some details are not converted, thereby making interpretation and use more difficult within the resident countries' National Accounts.

## 8.3 Globalisation

Globalisation is one of the major factors complicating the use of company accounts for the purposes of preparing National Accounts. In fact, the accounts must be drawn up on a national basis in order to be truly useful and this is not always the case, particularly when the enterprises have establishments around the world.

When the activity of the enterprise extends beyond the national territory, adjustments are necessary, and to be relevant these must be based on the company accounts. So it is necessary that enterprises provide the body operating the accounting database either with accounts prepared on a national basis or the details necessary to make adjustments. When the accounts are collected from enterprises by the tax authority, the latter generally requires that the data are provided on a national basis, this allows them to be able to calculate the tax on profit.

## 8.4 Holding gains/losses

Holding gains and losses represent one of the major difficulties in the transition from company accounts to National Accounts. These stem from having to separate the profit/loss arising from these gains or losses. They may appear whenever elements from the income statement are deduced from elements valued in the balance sheet. For example, intermediate consumption of raw materials originates from a purchase and/or from a withdrawal from stock.

In National Accounts, the withdrawal from stock must be valued at market price at the time it took place, while in company accounts no such rule would apply as it would be assumed that the enterprise permanently monitors the change in prices of raw materials in the market. The accounting system of the enterprise therefore values the withdrawal from stock at its historical cost, i.e. at the price of the goods item at the time it was purchased. The difference between the two prices is considered in National Accounts as a holding gain or a holding loss.

Eliminating holding gains/losses on stocks is not easy as it requires the collection of numerous pieces of mostly supplementary accounting information and the use of numerous assumptions. The information collected must relate both to the nature of the products stocked and the change in prices in the course of the year. Since the information available on the nature of products tends to relate to sales and purchases rather than to the stocks themselves, it is necessary to base the estimates on models with assumptions. Despite the imprecision, this exercise is the price that has to be paid for being able to use the data from company accounts.

The valuations of assets at fair value provide a better picture of the balance sheet than valuations at historic cost but they also generate more data on holding gains/losses at the income statement level since each year this must include revaluations of balance sheet assets or liabilities.

## 8.5 Mergers and acquisitions

Corporate restructuring implies appearance and disappearance of certain financial assets and liabilities.

When a corporation disappears as an independent legal unit because it is absorbed by one or more corporations, all financial assets/liabilities including shares and other equity that existed between that corporation, and those that absorbed it, disappear from the system of National Accounts.

This disappearance has to be recorded as changes in sector classification and structure in the other changes in the volume of assets accounts.

However, the purchase of shares and other equity of a corporation as part of a merger is to be recorded as financial transaction between the purchasing corporation and the previous owner. Replacement of existing shares by shares in the takeover or new corporation are to be recorded as redemptions of shares accompanied by the issue of new shares. Financial assets/liabilities that existed between the absorbed corporation and third parties remain unchanged and pass to the absorbing corporation(s).

Similarly when a corporation is legally split up into two or more institutional units, any new financial assets and liabilities (appearance of financial assets) are recorded as changes in sector classification and structure.

## 8.6 Fines and penalties

Fines and penalties are examples which may result in a provision being made in company accounts. For example, an enterprise causes pollution for which it has to pay a fine. As soon as the enterprise is able to estimate with the amount of this fine, it must make a provision in its accounts.

In National Accounts, a fine corresponds to a current transfer. Transfers must be recorded at the date of their operative event. For example, compensation of employees is recorded on the date that employees perform their work and not on the date when they are actually paid. In the case of our example, the pollution can be considered as the operative event but at this point the fine is not certain and a valuation of this is generally impossible. Other events can be considered as operative events, for example the discovery of the pollution by the authorities or a court ruling. In fact, National Accounts take the date of the fine as the operative event.

The difference between the provision recorded in the accounts of the enterprise and the recording in the National Accounts is therefore twofold: firstly there is a difference in the date of recording and secondly there may be a difference between the estimated fine used to make the provision and the actual sum used by National Accounts.

## 8.7 Contracts

Contracts are another example of how National Accounts and company accounts can diverge. A contract entered into by two parties generates an obligation for at least one of the two parties corresponding to a right of the other party. In company accounts, according to IFRS standards, as soon as it is possible to accurately estimate the cost of cancelling the contract, the obligation of the enterprise must be considered as a non-financial liability and recorded in the accounts of the enterprise in the same way as a provision.

Each obligation of an enterprise will necessarily correspond to a right of another agent.

In company accounts this right is not considered as an asset by application of the principle of prudence. An exclusivity contract made between two enterprises is an example of such a contract. It must be recorded under the liabilities of the enterprise granting the exclusivity but not under the assets of the enterprise benefiting from it.

The recording under assets and liabilities is therefore not symmetrical in company accounts as only the liability is recorded.

In National Accounts, the situation is the reverse. In fact, the system does not recognise non-financial liabilities, i.e. obligations from which it is possible to be released by making a payment, even when these can be valued in a reliable manner. On the other hand, National Accounts does acknowledge assets generated by contracts when these have a market value.

In National Accounts, obligations born out of a contract are only recorded in the accounts of the agents benefiting from them and not in the accounts of those on whom they are incumbent. The assets created on this occasion are considered by National Accounts as intangible non-produced assets with no corresponding liability for another agent.

## 8.8 Financial operations

It is generally difficult to deduce financial operations directly from company accounts. In fact, the balance sheet, which is the main accounting document for estimating financial operations, shows only the outstanding sums at the end of the period and not the flows. As in the case of the GFCF, a comparison of two successive balance sheets is unsatisfactory as it does not allow the effect of appreciation or depreciation of financial assets to be eliminated.

The balance sheet analysis must therefore, if possible, be supplemented by an analysis of other financial statements such as the cash flow statement and the table of movements in equity shareholders' funds. In general, the financial operations of enterprises can only really be assessed by comparing the information drawn from the accounting systems of non-financial enterprises with that originating from other institutional sectors.

## 8.9 Other challenges

It is worth noting, there are various other issues to consider when comparing National Accounts and company accounts which have not been addressed in this paper. Examples include:

- Extraordinary items;
- Timing differences between payments and delivery basis of recording;
- Different valuations, for example, basic prices, producers' prices, purchasers' prices, etc.;
- Multinationals;
- Impact of nationalisation and privatisation;
- Progress payments;
- Goods for processing;
- Merchanting;
- SPEs and SPVs;
- Holding companies and head offices;
- Owned and leased assets;
- Non-produced non-financial assets (e.g. valuation of land, market price versus historic costs);
- Non-performing loans;
- Concessional lending; and
- Debt rescheduling.

## 9. Focus on industries' intermediate consumption, output and gross value added (GVA) in compiling Supply and Use Tables

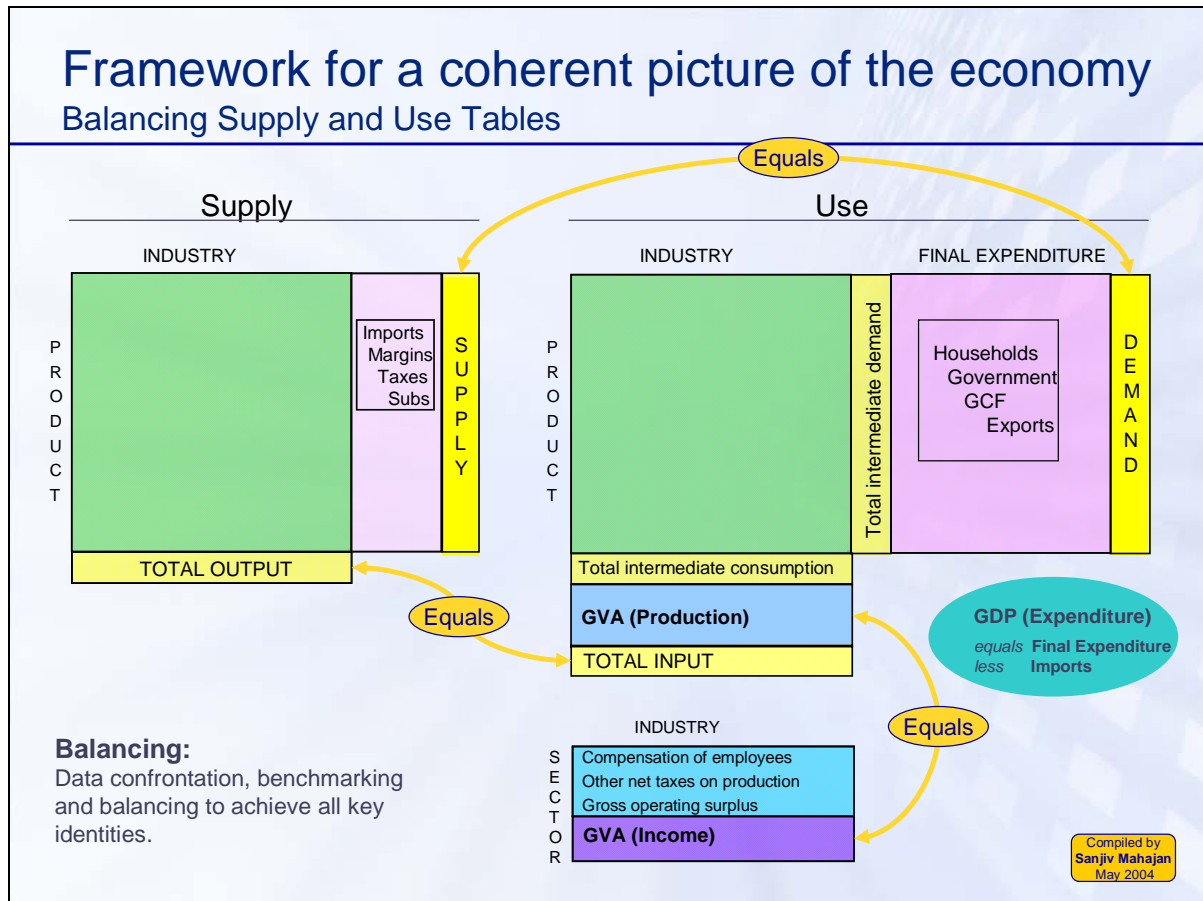
### 9.1 Supply and Use Tables

The Supply and Use Tables show the whole economy by industry (e.g. motor vehicles industry) and products (e.g. sports goods). The tables show links between components of GVA, industry inputs and outputs, product supply and demand.

The Supply and Use Tables link different institutional sectors of the economy (for example public corporations) together with detail of imports and exports of goods and services, government expenditure, households and NPISHs expenditure and gross capital formation.

The production of Supply and Use Tables allows an examination of consistency and coherency of National Accounts components within a single detailed framework and, by incorporating the components of the three approaches to measuring Gross Domestic Product (i.e. *production*, *income* and *expenditure*) enables a single estimate of GDP to be determined both in current prices and in volume terms.

A summary diagram of the Supply and Use Tables structure and identities is shown below:



When balanced in an integrated manner, the Supply and Use Tables also provide coherency and consistency in linking the components of three accounts, these being:

- Goods and Services Account;
- Production Account (by industry and by institutional sector); and
- Generation of Income Account (by industry and by institutional sector).

The compilation of the National Accounts based estimates of intermediate consumption, output and GVA directly use data from business surveys feeding into the production of Supply and Use Tables. Data for a number of key variables are necessary for the compilation of these estimates:

- (a) Sales of goods and services (and an appropriate product breakdown);
- (b) Purchases of goods and services (and an appropriate product breakdown);
- (c) Purchases and sales of goods for resale without any further processing;
- (d) Changes in inventories (split between materials and fuels, work-in-progress and finished goods not sold is required as the first category affects intermediate consumption and the latter two categories affect output);
- (e) Capital expenditure (and an appropriate product breakdown);
- (f) Employment costs;
- (g) Taxes on products and production (covering business rates, excise duties, etc.); and
- (h) Subsidies on products and production (covering agriculture, transport, etc.).

## 9.2 Production based estimate of gross value added

In terms of ‘published’ company accounts, sufficient details are not available for example for (b), (c), (g) and (h). Most importantly, without (b), we cannot compile a **production based estimate of gross value added** for market producers and producers for own final use based on the following steps:

### Total output (at basic prices) equals

	Total sales of goods and services (as invoiced, excluding VAT)
<i>plus</i>	changes in inventories of work-in-progress and finished goods
<i>plus</i>	output produced for own use, for example computer software and construction (also known as own account capital formation)
<i>less</i>	purchases of goods or services for resale without further processing (thereby only including the gross margin within output)
<i>plus</i>	income earned-in-kind
<i>less</i>	any taxes on products
<i>plus</i>	any subsidies on products

### Total intermediate consumption (at purchasers’ prices) equals

	Total purchases of goods and services consumed as inputs to the process of production (excluding employment costs and gross fixed capital formation) excluding deductible VAT and including non-deductible VAT.
<i>less</i>	changes in inventories of materials and fuels
<i>less</i>	any purchased/bought-in computer software (treated as capital expenditure)
<i>plus</i>	any imputed insurance premium supplements
<i>less</i>	any payments to employees such as income earned-in-kind

### GVA (at basic prices) equals

	Total output (at basic prices)
<i>less</i>	total intermediate consumption (at purchasers’ prices)

## 9.3 Income based estimate of gross value added

In order to compile an **income based gross value added estimate** for say a gas company, derived from the “published” company accounts, the following approach would be applied in broad terms:

‘Approximate’		
gross value added	<b>equals</b>	operating profit
		<i>plus</i> depreciation
		<i>plus</i> total payroll costs (including employee profit sharing)
		<i>plus</i> own work capitalised
		<i>plus</i> business rates (local government rates)

The above derivation also needs to be adjusted to take into account items like:

- Overseas activity (need to exclude);
- Restructuring costs (amounts set-aside, of which those amounts actually spent);
- Replacement expenditure that has been capitalised; and
- Any cost of sales adjustments, monetary working capital adjustments and gearing adjustments.

#### 9.4 Conclusion of these links

As a result, the quality of the estimates of intermediate consumption, output and GVA derived from 'published' company accounts as above are not exactly in line as required for National Accounts.

At best, these estimates would be proxies or very good indicators to validate the business survey based estimates for the corresponding enterprise.

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