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**National Statistics**  
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# **UK Overview of Supply and Use Tables (including data sources, methods, etc.)**

International Workshop on Supply and Use Tables

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# Overview of ONS National Accounts (including data sources, methods, etc.)

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## Overview

### Welcome

- UK Statistical System - Structure and governance
- ONS - Overview, history and structure
- UK National Accounts - International focus
  - International guidance manuals
  - European Statistical System and links
- UK National Accounts and GDP
  - Statistical value chain
  - National Accounts Vision - Integrating the way forward
  - Measuring GDP and data availability
  - Role of Supply and Use Tables
  - Links between annual and quarterly GDP
  - Integration of National Accounts and Balance of Payments
- Data related issues
  - Data sources, methods, relationships with suppliers and users, publications and the “H-Approach”
- Any Questions?



# Overview of ONS National Accounts (including data sources, methods, etc.)

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UK Statistical System - Structure and governance

# Overview of ONS National Accounts (including data sources, methods, etc.)

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## UK Statistics Authority



### Overview

- Established on 1 April 2008 by Statistics and Registration Service Act 2007.
- Non-ministerial Department:
  - Overseen by Parliament and not by a Government Minister.
  - Chair supported by a Board:
    - Chaired by Sir David Norgrove (2017).
    - Representatives of business, academia and public service.
    - Board is the top level decision-making body of the organisation.
- Collective mission of our official statistics system is: **High quality statistics, analysis and advice to help Britain make better decisions.**
- Provides:
  - professional oversight of the Government Statistical Service (GSS); and
  - exclusive responsibility for the Office for National Statistics and the Office for Statistical Regulation.
- Functions cover:
  - Oversight of the UK's National Statistical Institute - Office for National Statistics
  - Support to the National Statistician.
  - Regulation - monitoring and reporting on all UK official statistics, wherever produced, and independent assessment of official statistics.

# Overview of ONS National Accounts (including data sources, methods, etc.)

## UK Statistics Authority

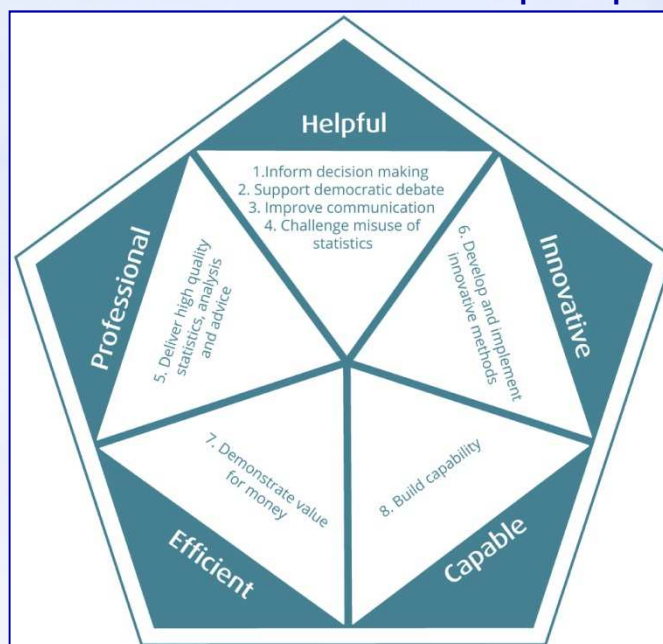


### Overview

- UK Statistics Authority laid out a “Better Statistics, Better Decisions’ strategy.
- Collective mission of our official statistics system is:

**High quality statistics, analysis and advice to help Britain make better decisions.**

- Mission to be delivered via a focus on five perspectives with eight objectives.



# Overview of ONS National Accounts (including data sources, methods, etc.)

## Office for Statistics Regulation



### Regulatory arm of the UK Statistics Authority

- Provide independent regulation of all official statistics produced in the UK.
  - Promote and safeguard the ...  
... production and publication of official statistics that serve the public good.  
... quality, good practice and the comprehensiveness of official statistics.  
(Statistics and Registration Service Act 2007, Section 7)

### UK Code of Practice for Official Statistics (CoP)

- Overview
  - 8 Principles and 3 Protocols supported by a statement of 74 related practices.
  - Strong focus on users and uses.
  - Written with assessment in mind.
  - Consistent with:
    - UN Fundamental Principles of Official Statistics
    - European Statistics Code of Practice
- What does compliance with CoP mean?
  - CoP does not specify absolute levels of quality.
  - CoP seeks to ensure that the **right**:
    - **statistics** are produced - about the right things.
    - **methods** are used - in the right ways.
    - **explanations** are given - presented in the right way.



# Overview of ONS National Accounts (including data sources, methods, etc.)

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ONS - Overview, history and structure

# Overview of ONS National Accounts (including data sources, methods, etc.)

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## UK Office for National Statistics (ONS) (1)



### Overview

- ONS is:
  - the UK Government's single largest, independent, producer of official statistics.
  - internationally recognised as the UK NSI.
  - the Executive Body of the UK Statistics Authority.
  - headed by the National Statistician, John Pullinger (2014).

### Link to GSS and non-ONS statistics

- Not all government official statistics are produced by ONS.
  - Various other government departments.
- Statisticians in these departments are part of the Government Statistical Service, also headed by the National Statistician.





# Overview of ONS National Accounts (including data sources, methods, etc.)

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## UK ONS (2) - History



### Some historical points in the evolution of UK ONS

- Central Statistical Office (CSO) established in 1941 by Sir Winston Churchill.
  - Clear aim of ensuring coherence of statistical information.
- Statistics of Trade Act in 1947
  - Data collection from industry on a compulsory basis.
- Late 1960s - reorganisation of UK statistical system had four elements:
  - Establishment of **Business Statistics Office** (BSO) to collect statistics from businesses.
  - Establishment of **Office of Population Censuses and Surveys** (OPCS) to collect information from individuals and households.
  - Enhanced role for **CSO** in managing government statistics.
  - Development of **Government Statistical Service** (GSS).
- July 1989 - new, expanded CSO bringing together the “old” CSO with:
  - Collection of business statistics (previously with BSO).
  - Compilation of trade and financial statistics (previously with Department of Trade and Industry).
  - Responsibility for the retail prices index and family expenditure survey (previously with Employment Department).

# Overview of ONS National Accounts (including data sources, methods, etc.)

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## UK ONS (3) - History



### Some historical points in the evolution of UK ONS

- November 1991 - CSO launched as an Executive Agency.
- April 1996 - ONS formed as an Executive Agency after merger of CSO with OPCS.
- April 2008 - 'independent' ONS established under Statistics and Registration Service Act 2007.
- UK Government public sector relocation programme from London and the South East of England.
  - ONS reduced its London presence from over 1000 posts to around 40 posts (2006-2011).
- ONS today:
  - Has three offices:
    - Headquarters based in Newport (Wales) plus offices in Titchfield (Hampshire) and Pimlico (London).
  - Employs around 3,000 staff as well as around 1,500 field interviewers conducting household surveys.
  - Under-going various transformation programmes, initiatives and change.

# Overview of ONS National Accounts (including data sources, methods, etc.)

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## UK ONS (4) - Structure



### ONS is split into three Directorates-General

- Data Capability (Heather Savory)
- **Economic Statistics** (Jonathan Athow)
- Population and Public Policy (Iain Bell)

### Economic Statistics is split into two directorates

- National Accounts and Economic Statistics (Nick Vaughan)
  - Responsible for the production, analysis and dissemination of economic statistics.
  - Covering National Accounts, Balance of Payments, Public Sector Finance Statistics, Regional Accounts, Labour Market Statistics and Prices.
- Economic Statistics Transformation (Darren Morgan - temporary)
  - Responsible for transformation of economic statistics over next few years.
  - Covering data sources, methods, processes, people.

# Overview of ONS National Accounts (including data sources, methods, etc.)

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## UK National Accounts - International focus

International guidance manuals  
European Statistical System and links  
Wider international work

# Overview of ONS National Accounts (including data sources, methods, etc.)

## Development of key international guidance manuals

Pre-1930s ..... 1930s ..... 1940s ..... 1950s ..... 1960s ..... 1970s ..... 1980s ..... 1990s ..... 2000s .....

**UN SNA**

1953

1968

1993

2008

**Eurostat ESA**

1970

1979

1995

2010

**IMF BPM**

1948 1950

1961

1977

1993

2008

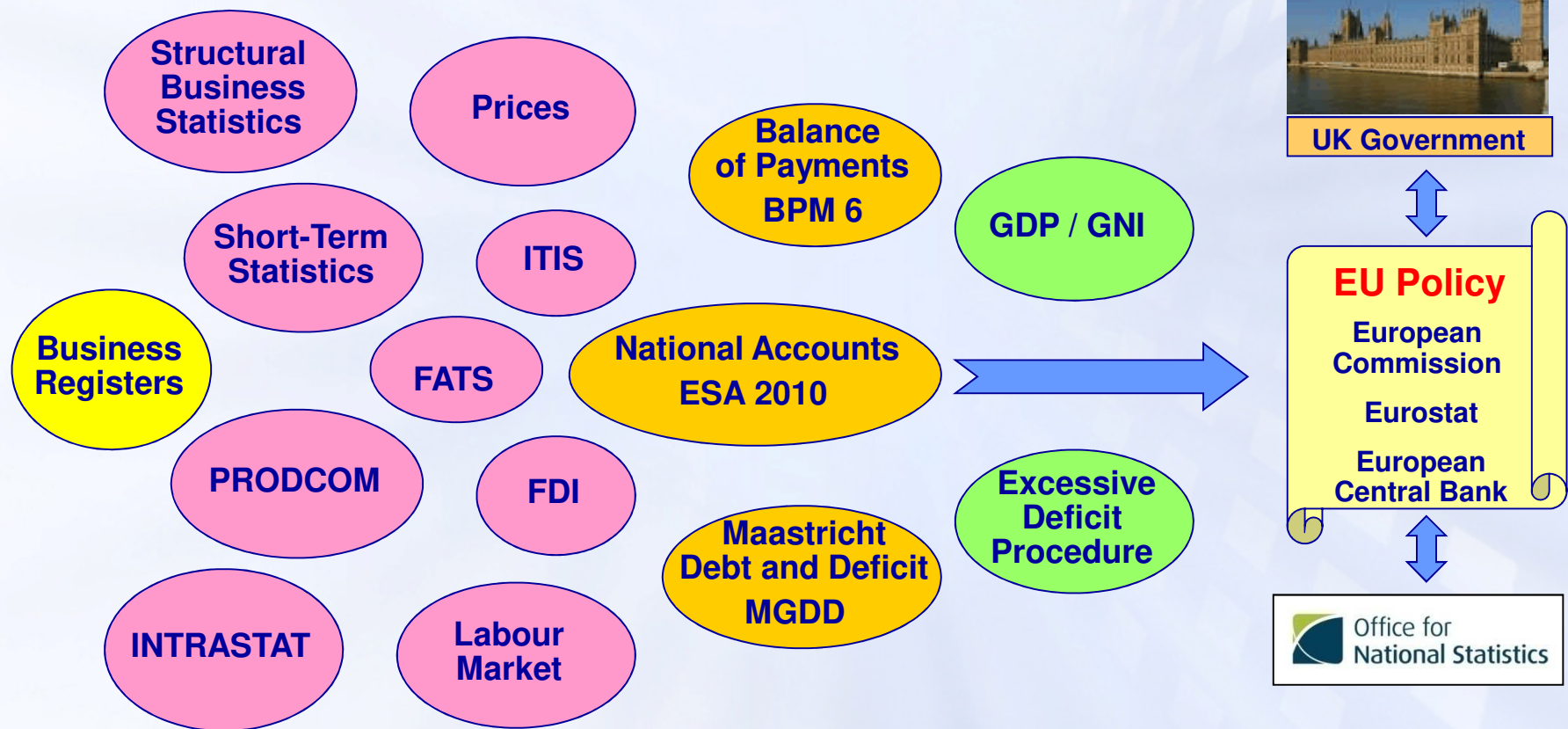


Examples of international (and national) guidance ... and many more available.

# Overview of ONS National Accounts (including data sources, methods, etc.)

EU demand for economic statistics

Examples of EU Statistical Regulations



Different requirements with different delivery timetables and revision policies  
Need to synchronise primary inputs

# Overview of ONS National Accounts (including data sources, methods, etc.)

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## European Statistical System

### Key points to note

- ONS is a full, active, participant in ESS / Eurostat meetings at all levels.
  - Director General Meetings.
  - Directors' Meetings.
  - Working Groups.
  - Task Forces.
  - Strategic Groups and Expert Groups.
  - Workshops and Missions.
- ONS is a participant in various European System of Central Banks (ESCB) and European Central Bank (ECB) meetings at several levels.
  - Bank of England take a lead for various issues.
  - UK has not adopted the euro, thus not part of the euro zone.
- Work with the ESS and ESCB through the Committee on Monetary, Financial and Balance of Payments Statistics (CMFB).



# Overview of ONS National Accounts (including data sources, methods, etc.)

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## UK National Accounts and GDP

Statistical Value Chain - UK

National Accounts Vision - Integrating the way forward

Measuring GDP and data availability

Role of Supply and Use Tables

Links between annual and quarterly GDP

Integration of National Accounts and Balance of Payments



# Overview of ONS National Accounts (including data sources, methods, etc.)

## Statistical value chain - UK

Compiled by  
**Sanjiv Mahajan**  
March 2014

### **Business Register** (and the statistical unit) + Administrative data

- Data collection, editing and validation processes
- Production and publication of survey results and analysis
- Census, population and migration
  - National Accounts (including non-financial **and** financial accounts)
  - Supply and Use Tables and Input-Output Tables
  - Labour, prices and social statistics (including crime and mortality)
  - Regional Accounts and Environmental Accounts
- Balance of Payments (including IIP)
- Public Sector Finance (including EDP / GFS)
- Productivity analyses (labour and capital)
- Well-being and Tourism Satellite Accounts
- Labour Accounts and Social Accounting Matrices
- Other satellite accounts
- Regional, impact and policy analyses
- CGE and economic modelling

These boundaries covering the compilation of economic statistics in each National Statistical Office differ across countries

ALL DONE IN THE ONS

# Overview of ONS National Accounts (including data sources, methods, etc.)

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## UK National Accounts

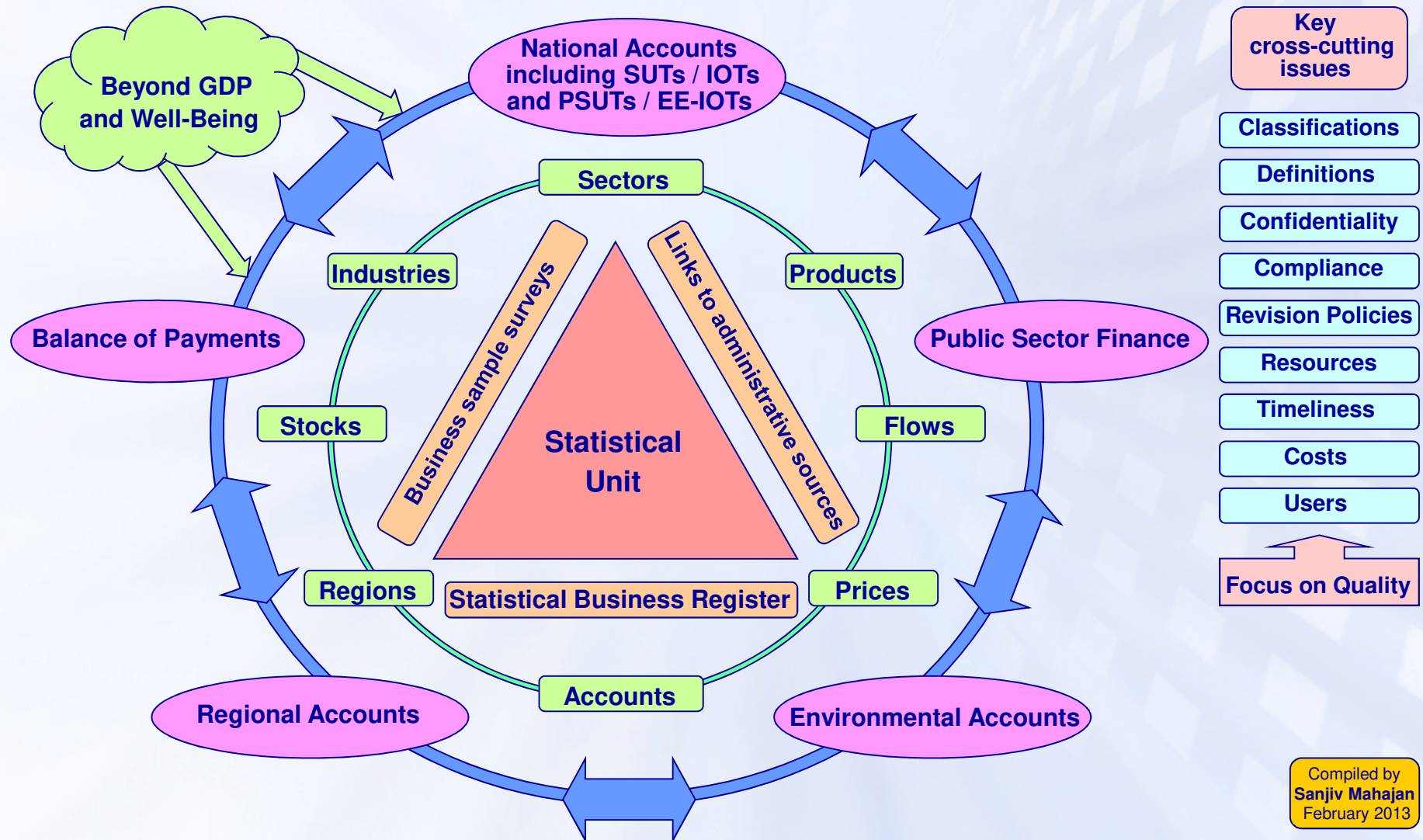


### Key points to note

- A wider scope than in many NSOs / NCBs.
- Organisation of economic statistics is highly centralised.
- Full scope of SNA / ESA, including Supply and Use Tables, Input-Output Tables, institutional sector accounts, balance sheets and regional accounts.
- Short-term output indicators
  - Indices of production, services and construction and retail sales.
- Government finance statistics.
- Balance of payments and international investment position.
- Compiled on a fully integrated basis:
  - Schedules, systems, statistical unit, harmonised revision policy, etc.
- National Accounts area also includes several business surveys.

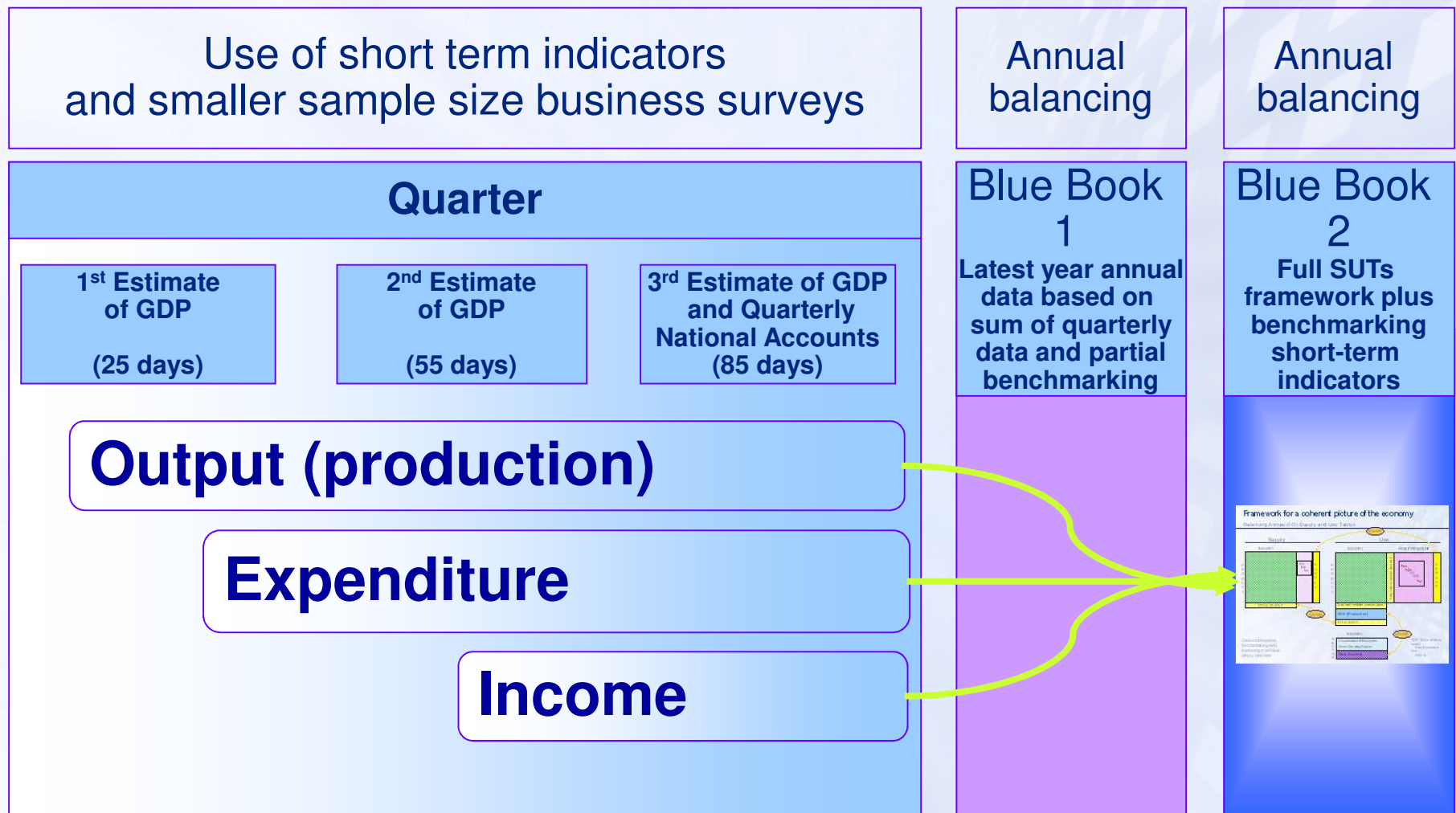
# Overview of ONS National Accounts (including data sources, methods, etc.)

## National Accounts Vision - Integrating the way forward



# Measuring UK Gross Domestic Product

## Life cycle of National Accounts data - estimation timeframe



# Measuring UK Gross Domestic Product

Revision time frame – GDP estimate for 2013 Q1

## Initial GDP estimate and revisions through to annual benchmarking

Month	Release
Apr 2013	1 <sup>st</sup> estimate Preliminary estimate of GDP (after 25 days)
May 2013	2 <sup>nd</sup> estimate 2 <sup>nd</sup> Estimate of GDP (after 55 days)
Jun 2013	3 <sup>rd</sup> estimate Quarterly National Accounts (after 85 days)
Sep 2013	Quarterly Exercise
Dec 2013	Quarterly Exercise
Mar 2014	Quarterly Exercise
Jun 2014	Quarterly Exercise
Sep 2014	<b>Blue Book One</b> 1 <sup>st</sup> annual exercise - Partial benchmarking
Dec 2014	Quarterly Exercise
Mar 2015	Quarterly Exercise
Jun 2015	Quarterly Exercise
Sep 2015	<b>Blue Book Two</b> 2 <sup>nd</sup> annual exercise - Benchmarking short-term indicators and balancing through SUTs

Revisions  
from  
1955

Revisions  
from  
1985

# Overview of ONS National Accounts (including data sources, methods, etc.)

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## Why do we want to balance GDP through SUTs? (1)

### Objectives

- A single estimate of GDP as well as volume of GVA through double deflation.
- Coherency, consistency and completeness of the underlying components of the *production*, *income* and *expenditure* approaches to measuring GDP.

### Strategy

- SUTs provide the natural framework for allowing data confrontation, benchmarking and balancing.
- SUTs should be at the heart of National Accounts.
  - **Integration** leads to better quality, coherency and consistency.
- SUTs provide a natural framework linking the components of:
  - Industries' GVA, inputs and outputs;
  - Supply of products and use of products; and
  - Goods and Services Account, Production Account and Generation of Income Account as well as the Capital Account and Disposable of Income Account.

# Overview of ONS National Accounts (including data sources, methods, etc.)

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## Why do we want to balance GDP through SUTs? (2)

### Strategy continued:

- SUTs produced and balanced in:
  - Basic prices and purchasers' prices.
  - Current prices and previous years' prices.
  - Annual terms - quarterly is an "ideal" option.
- Integrated and balanced SUTs / IOTs should include:
  - Goods and services (account).
  - Production accounts by industry and by institutional sector.
  - Generation of income accounts by industry and by institutional sector.
  - Links to the Capital Account and Disposable of Income Account.
  - Physical and monetary tables as well as links to productivity.
- Production of SUTs comes first, **then** the production of IOTs.
- Application of the above aspects continues to gain international recognition:
  - Approval through the UN Handbook on "*Supply, Use and Input-Output Tables with Extensions and Applications*".
  - Incorporated the "H-Approach" (Mahajan Method)



# Workshop on Supply and Use Tables in previous years' prices, the “H-Approach” and Double-deflation

## Production of SUTs

### Summary of UN aims and guidance

- Consistency with SNA 2008, BPM 6, SEEA and ISIC Revision 4
  - Minimal overlap with other Handbooks / Manuals, e.g. Globalisation.
- Recommend best practice and acceptable alternatives.
- Focus on IES and GSBPM
  - Business processes and stages of production.
- Integration theme using “H-Approach” framework
  - SUTs, IOTs, physical and monetary tables.
- Focus on the evolution and driving role of SUTs.
- Terminology, consistency and presentation changes:
  - No use of the term “symmetric IOTs”.
  - Minimised use of “homogeneity”, etc.
  - Removal of range of inconsistencies and historical misunderstandings.
  - Next SNA update will incorporate recommendations from this Handbook.





# Workshop on Supply and Use Tables in previous years' prices, the “H-Approach” and Double-deflation

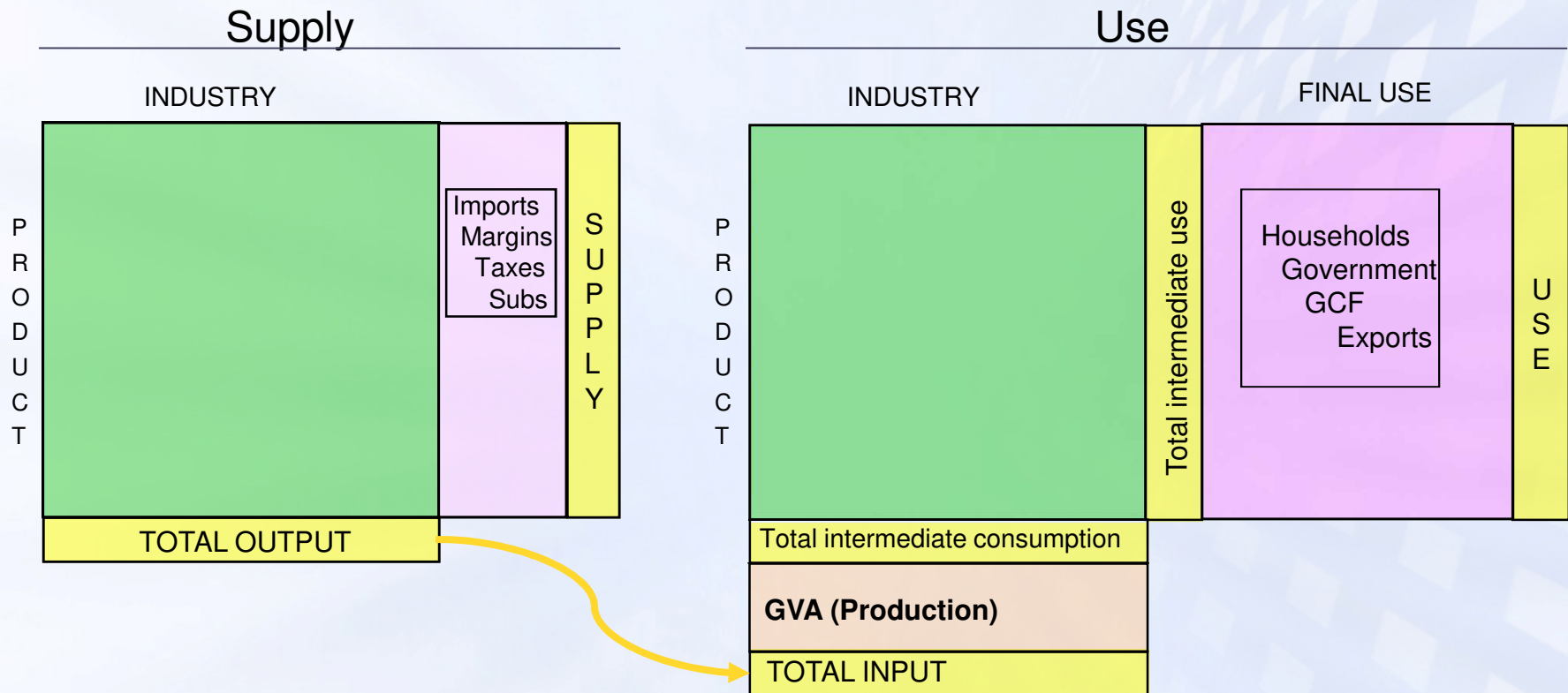
## Production of SUTs

### Key features



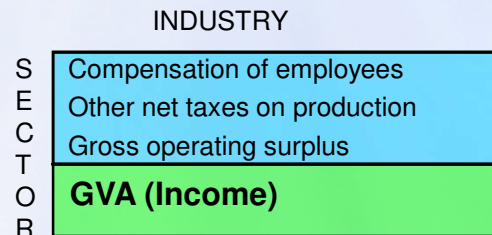
- SUTs / IOTs should be at the heart of National Accounts
  - **Integration** leads to better quality, coherency and consistency.
- Production of SUTs enables the creation of:
  - a single estimate of GDP incorporating the components of production, income and expenditure; and
  - volume of GVA through double-deflation.
- SUTs produced and balanced in:
  - Basic prices and purchasers' prices.
  - Current prices and previous years' prices.
  - Annual terms - quarterly is an “ideal” option.
- Integrated and balanced SUTs / IOTs should include:
  - Goods and services (account).
  - Production accounts by industry and by institutional sector.
  - Generation of income accounts by industry and by institutional sector.
  - Physical and monetary tables as well as links to productivity.
- Production of SUTs comes first, **then** the production of IOTs.

# Framework for a coherent picture of the economy

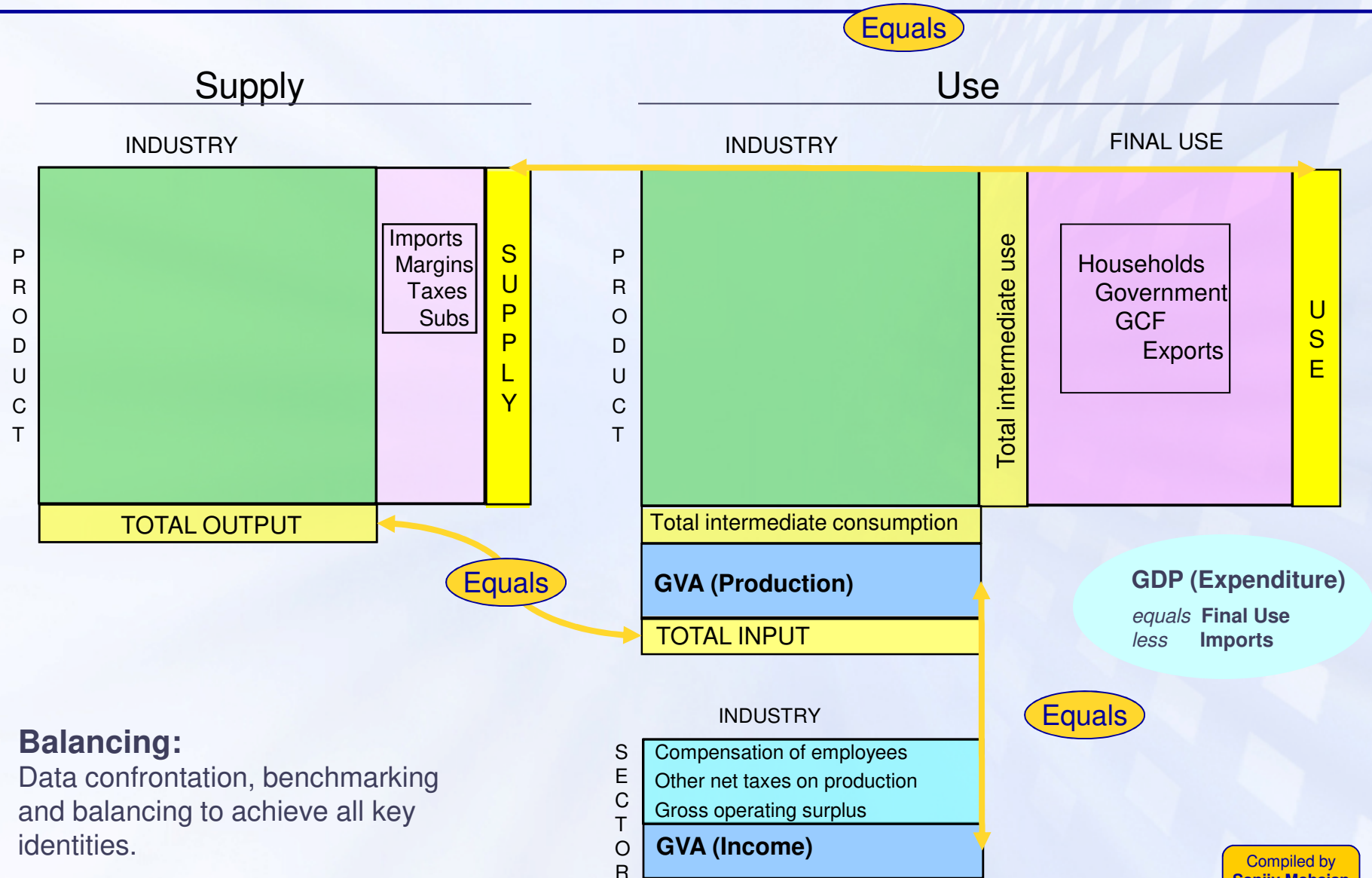


## Sources:

- Business surveys
- Other government departments including administrative data
- Other sources



# Framework for a coherent picture of the economy



## Balancing:

Data confrontation, benchmarking and balancing to achieve all key identities.

# Overview of ONS National Accounts (including data sources, methods, etc.)

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## Annual GDP

### Present approach

- Annual current price GDP data are produced using the SUTs framework.
- 112 industries (UK Standard Industrial Classification 2007).
  - Consistent with EU Nomenclature statistique des activités économiques dans la Communauté européenne [NACE] Rev. 2 and in line with ISIC Rev. 4.
- 112 products
  - EU Classification of Products by Activity 2008, consistent with CPC Version 2.
- SUTs are balanced in current prices only.
- Annual GDP in chained volumes is derived from the chained volume expenditure components consistent with the balanced annual current price data.
- Sum of the quarterly estimates are then brought into line with the annual estimates.
- From 2019, UK will also balance SUTs in previous years' prices.

# Overview of ONS National Accounts (including data sources, methods, etc.)

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## Quarterly GDP

### Present approach

- For each calendar quarter, ONS produces three estimates of quarterly GDP (although there will also be subsequent revisions).
- Different levels of detail are available at each stage.
- Fundamental principle for UK is that output based data forms the lead estimates of quarterly GDP growth.
- This is simply due to data availability and quality.

# Overview of ONS National Accounts (including data sources, methods, etc.)

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## Quarterly GDP

### Present approach

- By the end of the reference quarter, we have almost complete data for two months of the period for those industries covered by the Monthly Business Survey.
- Very early in the following month (Jan, Apr, Jul, Oct), some data for third month are received.
- Significant amount of prices data also available very quickly.
- No quarterly data on intermediate consumption.
- Assume in the short term that, for any industry, growth rate of output is consistent with that of GVA.
- Far less early data for expenditure, very little for income, so output growth sets growth in quarterly chained volume GDP.

# Workshop on Supply and Use Tables in previous years' prices, the "H-Approach" and Double-deflation

## National Accounts - Focus on volume GVA and GDP

### Overview of "present" approach for estimating GVA in volume terms

	Annual Current prices	PYPs	Quarterly Current prices	PYPs	Quarterly Proxies for volumes
<b>Output</b>	Collected		Hybrid	Hybrid	Hybrid (a) Deflated turnover or volume indicators
<i>less</i>					
<b>IC</b>	Collected		No	No	No None used
<i>equals</i>					
<b>GVA</b>	Actual estimate		Hybrid	Hybrid	Hybrid (a) is weighted using annual GVA weights

### Essential developments improving the "quality" of the present situation

- Conceptual basis - SUTs in previous years' prices (and improve current prices).
- Coverage - Use of administrative data and VAT data.
- Detail - SERVCOM, Purchases Survey and the need for many more SPPIs.

# Workshop on Supply and Use Tables in previous years' prices, the “H-Approach” and Double-deflation

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## National Accounts - Focus on volume GVA and GDP

### Price and volume indices

- Wrong price indices do create a **price bias**.
- Base weighted (Laspeyres) price indices are systematically higher than the current weighted (Paasche) price indices:
  - Impact is to decrease GDP (expenditure) volume growth.
    - Under-measurement - for example, GFCF, imports and exports.
  - Impact is to increase GDP (output) volume growth.
    - Under-measurement - for example, output (offset by GVA/TO ratio) and intermediate consumption (contains proportion of under-measured imports).
- Ideal standard:
  - Chain Laspeyres and chain Paasche volume growth rates and indices prove to be good approximations of **chain Fisher indices**.
- Acceptable alternatives:
  - Chain Laspeyres volume indices in combination with Paasche price indices (preferably at a very low level of disaggregation - still have **substitution bias**).

**Laspeyres indices include for example, PPIs, SPPIs, EPIs and IPIs.**



# Overview of ONS National Accounts (including data sources, methods, etc.)

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## Integration of NA and BoP – Issues to consider (1)



### Schedules

- Present UK position:
  - Single integrated timetable for each quarterly or annual exercise covering all institutional sectors and accounts.
- Pre-1990s:
  - Three separate timetables reflecting data deliveries from the BoE / HMT / ONS (previously, CSO) led to incoherent and inconsistent datasets.
- In the full quarterly institutional sector accounts process:
  - Balance of Payments were finalised and published first;
  - followed by GDP parts of the accounts; then
  - the institutional sector accounts down to the old financial surplus/deficit line; and
  - finally, in the fourth month after the respective quarter, the financial accounts and quarterly balancing items.
- Since 1989, all of the above have been produced and published at the same time by the ONS and to a quicker timetable (as a single common dataset).

All working together towards a common deadline

# Overview of ONS National Accounts (including data sources, methods, etc.)

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## Integration of NA and BoP – Issues to consider (2)



### Systems

- Single integrated centralised system on a common platform.
- Local systems
  - Process different input data from different sources on different platforms.
- Consistent coding frame using international guidelines
  - Sectors, sub-sectors, transactions, etc. (linking ESA 2010 and ECB labels)
  - Lower level flexibility – country specific.
  - Need to ensure lower level matching with clear counterparts.
- Allows consistent methods and implementation of any changes across the systems.
- Geographical system – historically, constructed after control totals set – being developed
- SDMX transmission of ESA 2010 and BPM 6 datasets.
- Developing a new strategy of how the UK will compile the economic accounts to meet tomorrow's needs.

Coverage, conceptual, quality and balancing adjustments recorded separately

# Overview of ONS National Accounts (including data sources, methods, etc.)

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## Integration of NA and BoP – Issues to consider (3)



### Statistical unit

- Use of a statistical reporting unit:
  - Enterprise for institutional sector accounts.
  - Establishment for industry accounts.
- Use of a single reporting unit in the UK - close to an enterprise unit.
- GDP, Supply and Use Tables, I-O Tables, current account and non-financial accounts:
  - Emphasis on units and structures.
  - Industrial classification of unit important for surveys like ITIS, SBS, STS, etc.
  - Consistent industrial classification of admin data sources like INTRASTAT.
- Institutional sector accounts and financial accounts:
  - Emphasis on stocks and flows.
  - FDI and FATS need the “whole” cross-border flow.

Can we build the “whole” framework using a single common statistical unit?

# Overview of ONS National Accounts (including data sources, methods, etc.)

## Integration of NA and BoP – Issues to consider (4)



### Harmonised revision policy in the UK

- A single revision policy applied to all institutional sectors, and across all accounts, produced in any particular quarterly or annual exercise.
- UK do not delineate “routine” revision versus “benchmark” revision as the annual benchmark revision is routine.
- Depth of quarters or years open for revision can change depending upon a range of factors.
  - Number of revisions, size of revision, regulatory requirements, etc.
  - Quarterly exercises:
    - March: up to 12 quarters; Jun: 13 quarters; Sept: 14 quarters; Dec: 11 quarters.
  - Annual release (including benchmarking and Supply and Use Tables)
    - Either June or September of each year.
    - Affects all quarters and years in line with agreed Revision Policy.
- Aim:
  - Correct growth rates and levels as well as flows and stocks.
  - Implies stored revisions cannot, or should not, be held back for long.

Different users have different needs all required to high-quality standards  
(Consistency, coherency and comparability of long-run time series)

# Overview of ONS National Accounts (including data sources, methods, etc.)

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## Integration of NA and BoP – Issues to consider (5)



### Branch roles and responsibilities

- Eight Divisions in NA Directorate each comprising several branches.
- Branches responsible for:
  - Institutional sectors and key areas like HHFCe, GFCF, imports/exports of goods.
  - Quarterly and annual estimates in current prices, previous years' prices, chain-linked volumes and seasonal adjustment (as appropriate).
  - BoP Compilation and Coordination Branch supply consistent RoW / BoP data for all accounts to the NA Central Coordination and Balancing Division.
- Publication and Dissemination of NA and BoP data:
  - Consistent from a single balanced dataset with the same day release.
  - Publish non-consolidated data but also supply to Eurostat consolidated data.
- Staffing:
  - Economists, statisticians, administrators and project management support.
  - Various internally generated training modules covering concepts to practicalities, including quarterly compilation.
  - Seminars, workshops, etc.

Clear roles and responsibilities underpinned with appropriately skilled staff is key

# Overview of ONS National Accounts (including data sources, methods, etc.)

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## Integration of NA and BoP – Issues to consider (6)



### Data confrontation and balancing

- Use of counterparts and residuals.
- Many staff involved in quality assurance of profile and plausibility – feedback loops.
- Balancing is across all sectors including Rest of the World / BoP and all accounts.
  - Improves coherence between the Domestic and Rest of the World accounts
  - Improves quality of the net lending/borrowing estimates for each institutional sector.

### Specific data challenges / avenues for quality improvement

- No change in economic ownership - Goods sent abroad for processing
- Change in economic ownership – Merchanting
- Flows associated with SPEs, etc.
- Remittances
- Extended directional principle and asset / liability principle
- Financial services including Flow of funds (extended financial accounts)
- Balance sheets (non-financial and financial)

### ESA 2010 Derogations

- Separation of HH and NPISHs institutional sector.

Data for RoW and BoP (including IIP) should align **and** also align with NA

# Overview of ONS National Accounts (including data sources, methods, etc.)

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Data related issues

Data sources

Methods

Relationships with suppliers and users

Publications

“H-Approach”

# Overview of ONS National Accounts (including data sources, methods, etc.)

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## Real data versus modelled data and assumptions

### Need to measure structural change

- Economies are much more elastic to change.
- Rapidly changing economies.
  - Agricultural
    - manufacturing
    - services
    - knowledge



### Rapid change generated through various sources:

- Technological development (e.g. new products) and change in productivity.
- Product substitution.
- Impact of globalisation:
  - Toll processing, goods for processing, etc.
  - Contracting out.
  - Economies of scale and location of production.





# Overview of ONS National Accounts (including data sources, methods, etc.)

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## Real data versus modelled data and assumptions

### **Modelled data and assumptions (e.g. fixed ratios) are inadequate**

- Time series of SUTs form a source analysing structural change.
- Business survey data (returned and grossed).
- Company accounts.

### **Need to collect actual data regularly covering the whole economy**

- Business survey based data:
  - Monthly
    - and/or quarterly
    - and/or annually
    - less regularly ?
- Administrative data.
- Manufacturing industries compared with service industries.
- Compliance targets - burden on business.
- Disclosure issues.

# Overview of ONS National Accounts (including data sources, methods, etc.)

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National Accounts - links to source data

**Business Surveys / Administrative data and National Accounts**

**Business survey “and” administrative based data**

- + coverage adjustments
  - + conceptual adjustments
- + quality adjustments
  - + balancing/coherency adjustments

*equals* **National Accounts on SNA 2008 basis**

**Business survey data (frequency)**

- Monthly (limited detail, short-term indicators)
  - and/or quarterly
  - and/or annually (detailed structural information)
  - less regularly?

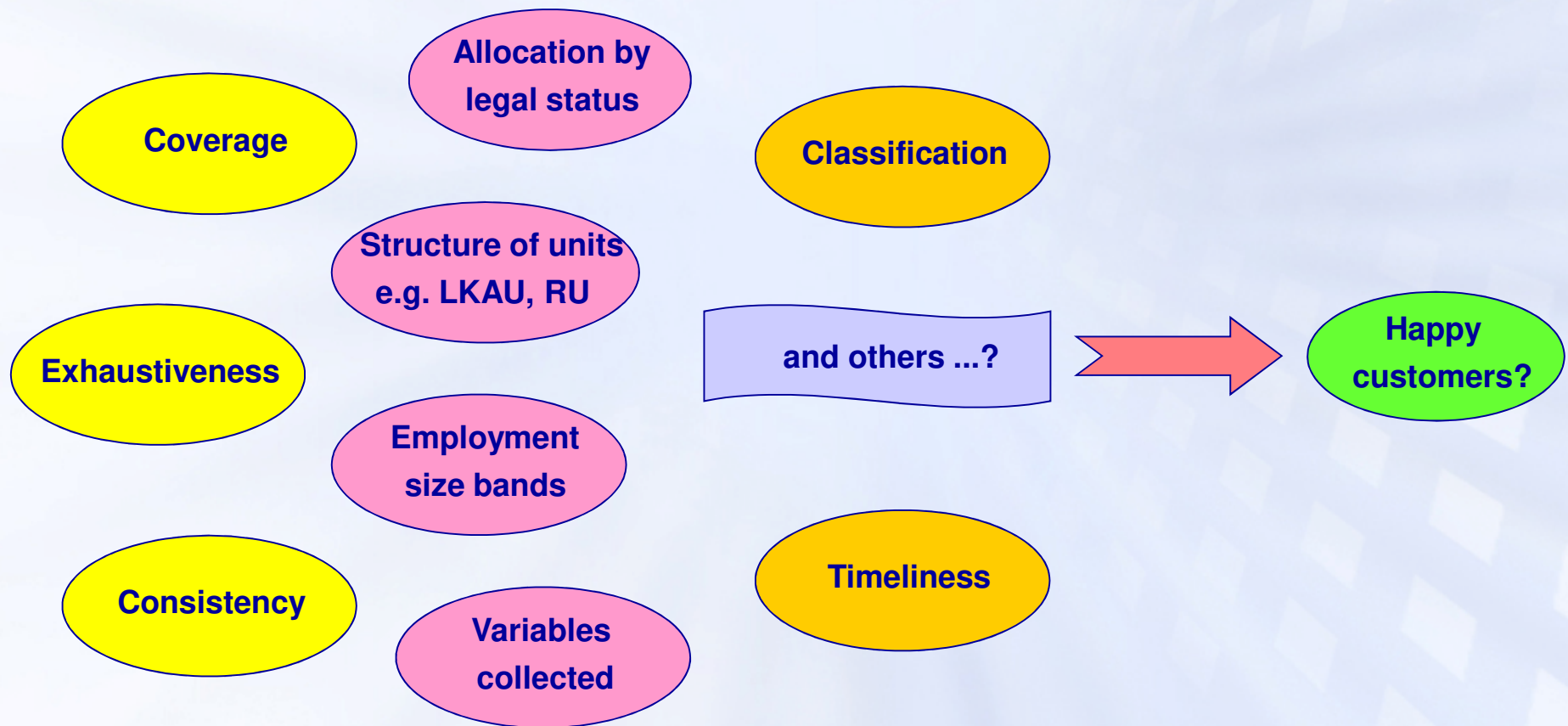
Each of the above steps **WILL** have to be applied to each data source and will be “different” for each data source

# Overview of ONS National Accounts (including data sources, methods, etc.)

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What is needed to produce high-quality National Accounts?

Start: A single, comprehensive, high-quality Statistical Business Register



# Overview of ONS National Accounts (including data sources, methods, etc.)

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## National Accounts - where do we get our source data from?

### ONS sources

- Business surveys based on the Business Register sampling frame
  - Completion of ONS business surveys is compulsory under the Statistics of Trade Act 1947.
  - Monthly
    - Monthly Business Survey (Production, Wholesale, Motor Trades, Catering and Service industries ~ 32,000 respondents)
      - Mainly collecting turnover but more detail for construction industry.
    - Monthly Retail Sales Survey (~ 5,000)
    - Monthly Construction Survey (~ 8,000)
    - Monthly Producer Prices
      - Production industries (~ 4,200) and Service industries (~ 2,500)
  - Quarterly
    - Quarterly Acquisitions and Disposals of Capital Assets Survey (~ 25,000)
    - Quarterly Inventories Survey (~ 5,500)
    - Quarterly Profits Survey (~ 1,600)
      - Collects Private NFCs' gross operating surplus.

# Overview of ONS National Accounts (including data sources, methods, etc.)

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National Accounts - where do we get our source data from?

## ONS sources continued:

- Business surveys based on the Business Register sampling frame
  - Annual
    - Annual Business Survey (~ 62,000)
      - Collects sales, purchases, employment costs, GFCF, taxes, etc.
    - PRODCOM (~ 21,500)
      - Sales by type of product for the manufacturing industries.
    - SERVCOM (~40,000)
      - Development of new survey collecting sales by type of product for the non-manufacturing industries.
    - Annual Purchases Survey (~ 30,000)
      - Suspended for a period - now being re-developed.
    - Business Spend on Capital Items Survey (~ 2,500)
      - Suspended for a period - to be re-developed.

# Overview of ONS National Accounts (including data sources, methods, etc.)

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## National Accounts - where do we get our source data from?

### ONS sources continued:

- Mixed
  - Range of quarterly and annual surveys covering financial services:
    - Several different surveys on of financial corporations, for example, securities dealers, insurance companies, etc.
  - International Trade in Services Survey
    - Quarterly (~1,100) and Annual (~14,500).
    - Sample size being increased significantly to produce better quality geographical analyses.
- Household based surveys
  - Living Costs and Food Survey - expenditure by households (~ 11,500 annually)
    - Approximately 1,000 households per quarter, household budget survey.
  - International Passenger Survey - expenditure by non-UK residents in the UK and expenditure by UK residents outside the UK (~ 375,000)
  - Census - population estimates for grossing purposes for use in household based surveys.

# Overview of ONS National Accounts (including data sources, methods, etc.)

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## National Accounts - where do we get our source data from?

### Non-ONS sources

- Administrative data from HMRC
  - INTRASTAT data from HM Revenue and Customs.
    - EU-wide survey of exports and imports of goods within the EU.
    - Monthly
  - EXTRASTAT data from HM Revenue and Customs
    - Based on customs declarations for detailed exports and imports of goods to and from non-EU countries.
    - Monthly
- VAT turnover data – not currently in use but over time will replace some of the Monthly Business Survey.
- Pay and profits relating to tax and employment records from collecting government departments.
- Mixed income data covering the self-employed.

# Overview of ONS National Accounts (including data sources, methods, etc.)

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## National Accounts - where do we get our source data from?

### Non-ONS sources continued

- Other government departments
  - Agriculture data from Department for Environment, Food and Rural Affairs.
  - Banking data from the Bank of England (the Central Bank).
  - Central government incomes and expenditures from HM Treasury (the finance ministry).
  - Local government incomes and expenditures in England from Department for Communities and Local Government.
  - Data on the devolved countries of the UK from the Scottish Government, Welsh Government, Northern Ireland Executive.
  - Data on the oil and gas extraction, electricity and gas supply industries from Department for Business, Energy and Industrial Strategy
- Other sources
  - Company annual report and accounts (the direct use is limited).
  - Accounts from regulatory bodies and trade bodies.
  - Insurance data from the Association of British Insurers.
  - Financial detail from company websites.



# Overview of ONS National Accounts (including data sources, methods, etc.)

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## Initiatives to improve ONS National Accounts' source data

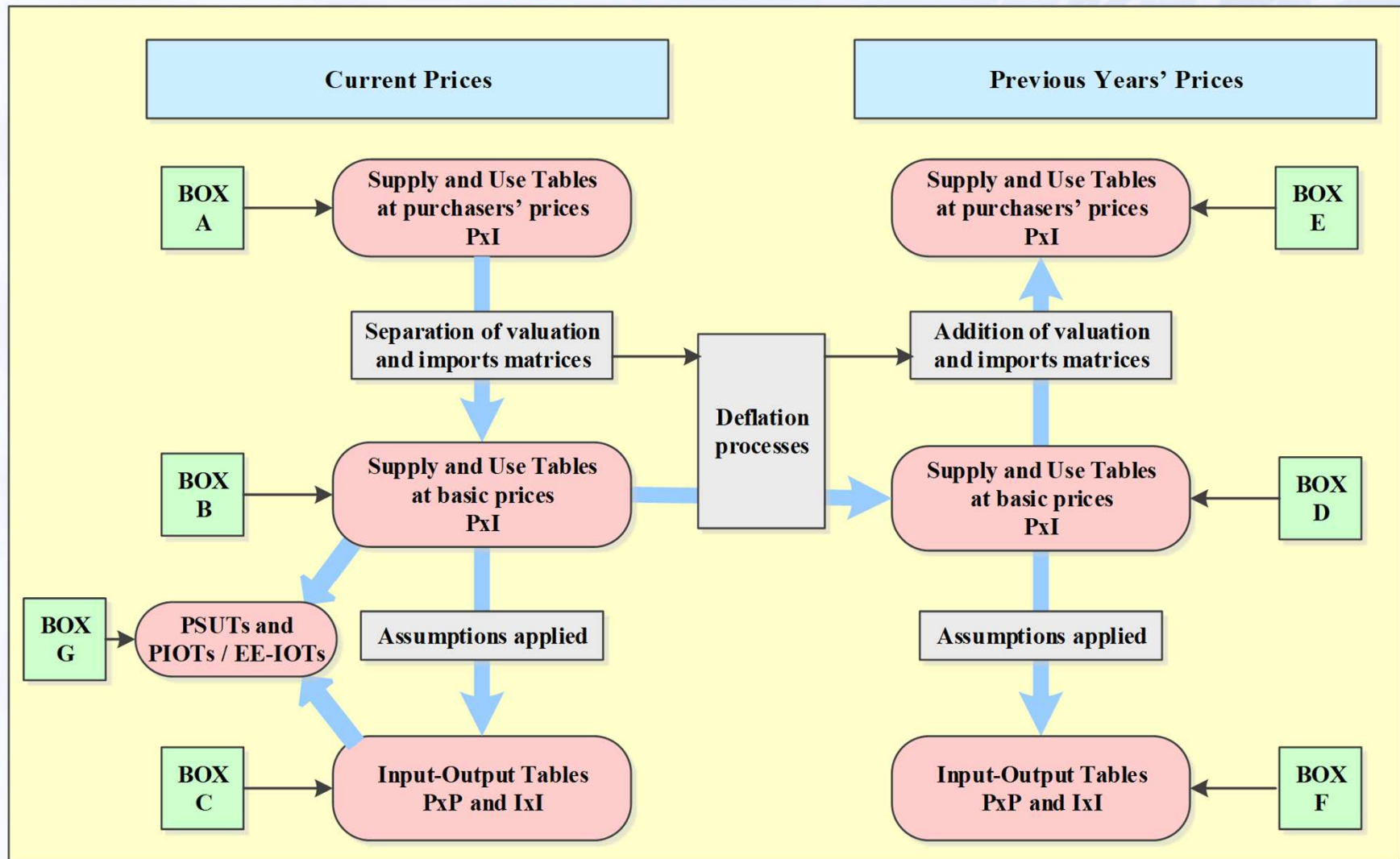
### Overall strategy

- Traditionally, ONS has preferred statistical surveys to administrative data.
- Changing over next few years - more use of administrative, open and big data.
- Still very reliant on statistical surveys but do have many other data sources.

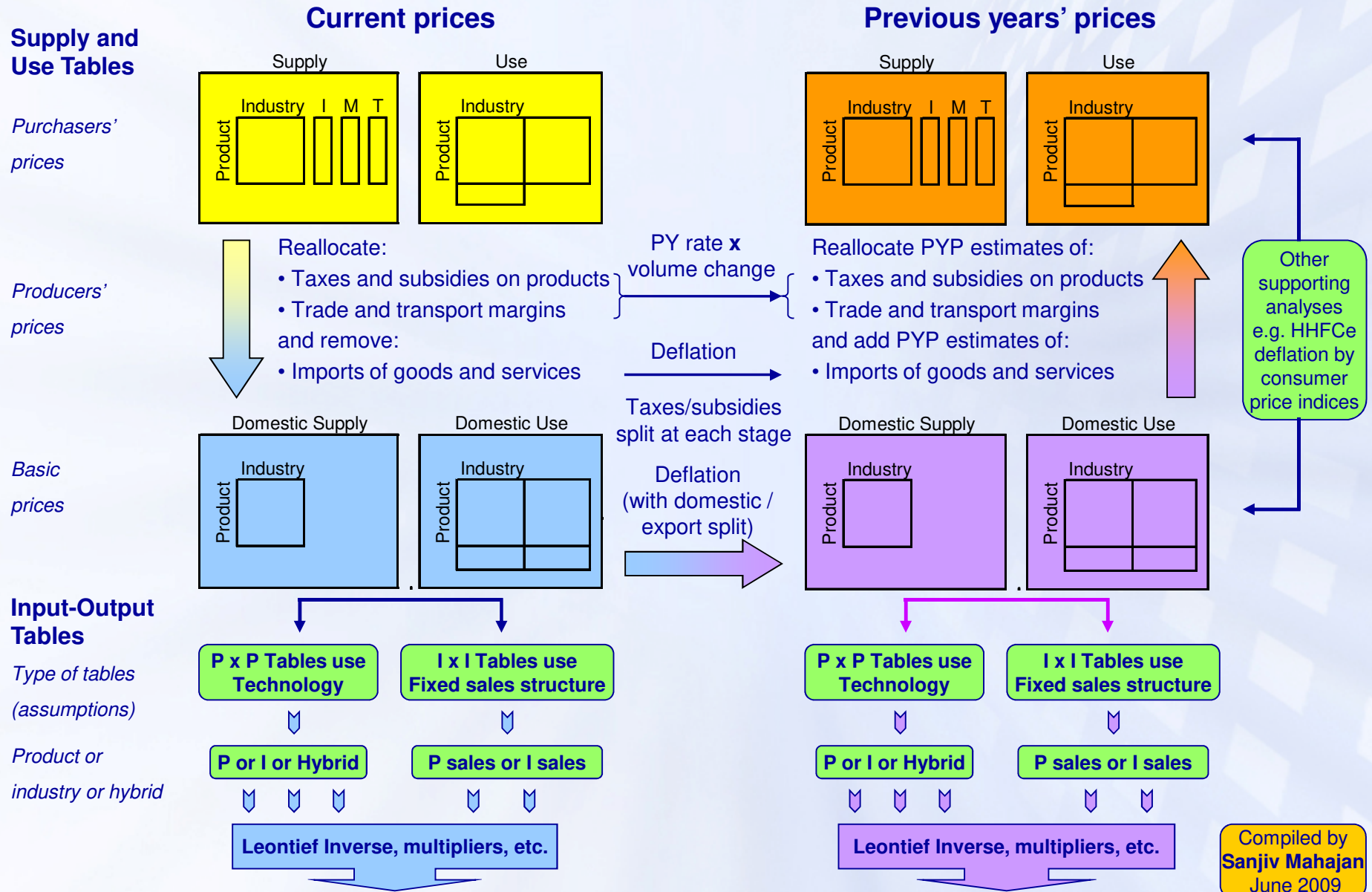
### Data collection and processing strategies

- Administrative data
  - Use of data collected by other Government departments.
- Direct data feeds
  - Data directly from companies' corporate systems and links to company accounts.
- Tailored Internet questionnaires
  - Avoiding duplicate data collection.
- Secure File Transfer
  - Respondents submitting spreadsheets securely.
- Telephone Data Entry
  - Collection of small amounts of data using touch-dial.
- Direct contact
  - Through regular respondent contact.
- Respondent strategies
  - Improving the respondents experience and response chasing strategies.
- Survey Reviews
  - Reviewing our processes to ensure they are efficient and effective.

## Simplified version of the “outputs” and the “flows” in the compilation schematic for SUTs, IOTs, PSUTs and EE-IOTs in current prices and SUTs and IOTs in previous years’ prices



# An overview of the compilation schematic integrating Supply and Use Tables and Input-Output Tables (“H-Approach”)



# Overview of ONS National Accounts (including data sources, methods, etc.)

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## Any questions?

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