Joint UKRN and ONS lunchtime seminar:
Inflation indices in price control decisions

Office for National Statistics

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Inflation indices in price control decisions

12:35	**Keynote by the Office for National Statistics, James Tucker and James Wells** *CPIH: update on progress, improvements and timescales* *PPI: latest trends and analysis* **Q&A**
13:20	**Keynote by Ofwat, Andrew Chesworth** *The journey from RPI to CPI so far: progress, barriers, benefits and projected implementation plans* **Q&A**
13:40	**Keynote by Ofgem, Ian Rowson** *CPIH vs RPI vs other indices: presenting information in real terms, indexing cost allowances, indexing investor interests* **Q&A**
14:00	**Keynote by the SSRO, Matthew Rees** *A different perspective: price controls in the regulation of single source MOD contracts* **Q&A**
14:20	**Final Q&A and concluding remarks**

Shaping the future of consumer price statistics

James Tucker
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Office for National Statistics

CPI: internationally comparable measure of inflation based on EU-wide rules. Adopted as the Bank of England's inflation target in 2004.

CPIH: CPI including owner-occupiers' housing costs. Launched in 2013, with data available from 2005. National Statistics status suspended in 2014.

RPI: long-standing measure of inflation, with data available from 1947. No longer a National Statistic.

- CPIH to become the preferred measure of consumer price inflation in March 2017
- Publish the minimum of RPI-related data from March 2017

2013

- RPI lost National Statistics status
- CPIH first published
- Review of consumer price statistics and consultation
- Suspension of CPIH National Statistics status
- UKSA assessment of CPIH
- Move to CPIH as main measure planned for Mar 17
- Scaling back of RPI-related data

2016

Review of UK Consumer Price Statistics

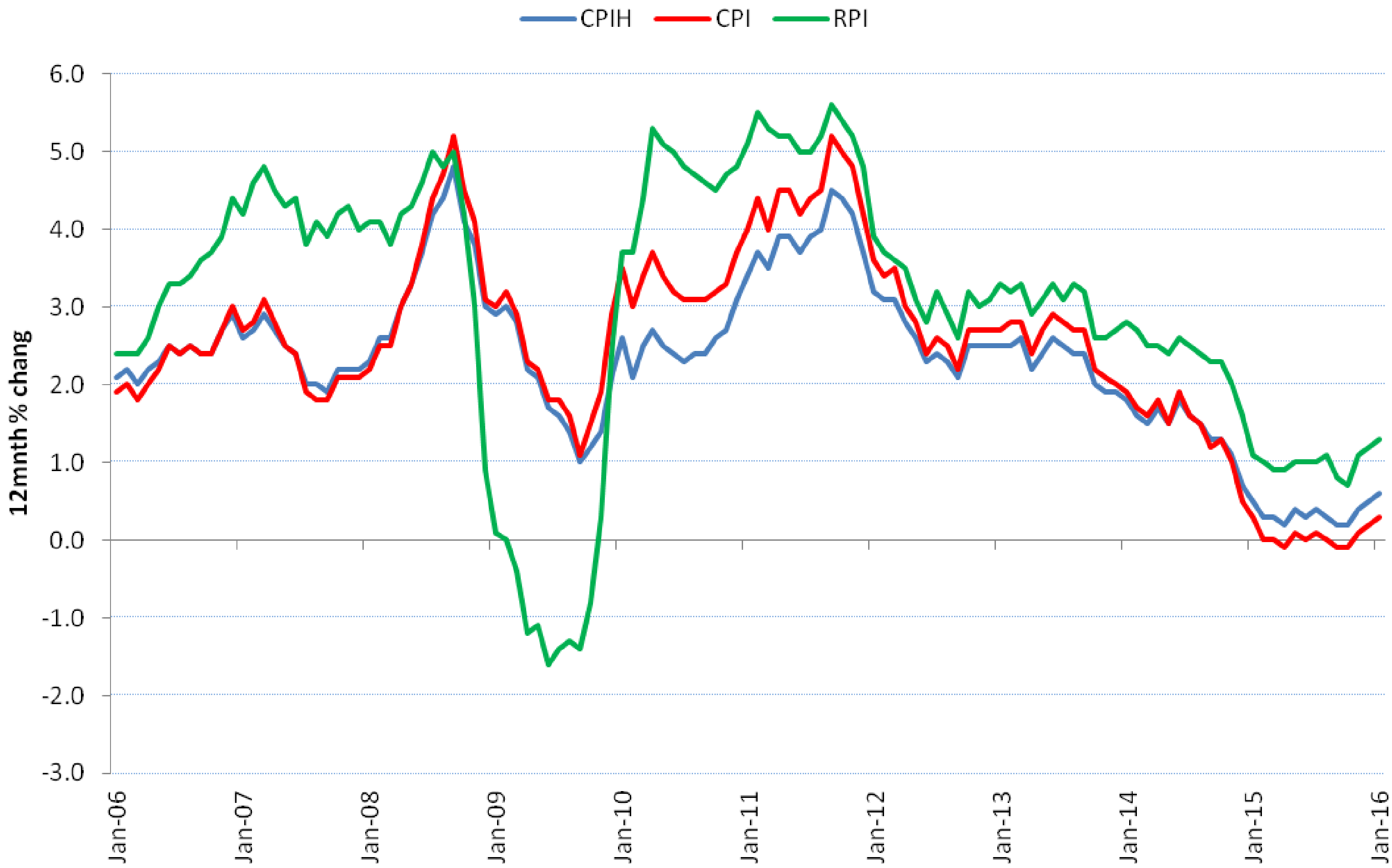
aka the Johnson Review

- RPI is weak, but still required
- Too many measures of inflation
- CPIH should become the main measure

What’s wrong with the RPI?

- The ‘Carli’ method of combining prices
- Does not include all households
- Housing costs do not fully separate out the asset price from the cost of ‘housing services’
- Governed by strict legislation

CPI, CPIH and RPI – a comparison



The RPI is still needed

- We will publish the minimum of RPI-related data necessary but we will not invest in improving it

ONS has created 'alphabet soup' of inflation measures, resulting in more problems than solutions – ITEM Club

Share

Andrew Goodwin, senior economic advisor to the EY ITEM Club, comments on today's inflation announcement by the ONS:

"The ONS was stuck between a rock and a hard place on this one and the conclusion that it has come to is a real fudge which doesn't solve anything. The methodology behind the calculation of RPI is fatally flawed and though the initial upheaval associated with a change would have been challenging, it would have taken us to a much more satisfactory place in the long run.

"We're now left with a real alphabet soup of different inflation measures – we were already getting one new measure in March, CPIH, but now we also get RPIJ to go alongside RPI, RPIX, RPIY, CPI and TPI. What was already a mess has now become messier."

Too many measures of inflation

From March 2017, we will discontinue:

- RPIJ
- Tax and Price Index (TPI)
- RPI excluding mortgage index payments and indirect taxes (RPIY)
- RPI Pensioners' indices

CPIH to become the main measure

- Includes owner occupiers' housing costs
- Not constrained by international regulations
- Not subject to the same legislative constraints as RPI

Measuring housing costs

- Method is widely debated
- The payments made are not a good measure, as they include asset prices
- CPIH uses ‘rental equivalence’, valuing ‘housing services’ according to the cost to rent an equivalent property

Suspension of National Statistics status for CPIH

- Issues with the private rents method
- Resolved in early 2015, and owner occupiers' housing series revised
- Full re-assessment by the UK Statistics Authority in 2015

CPIH: National Statistics status

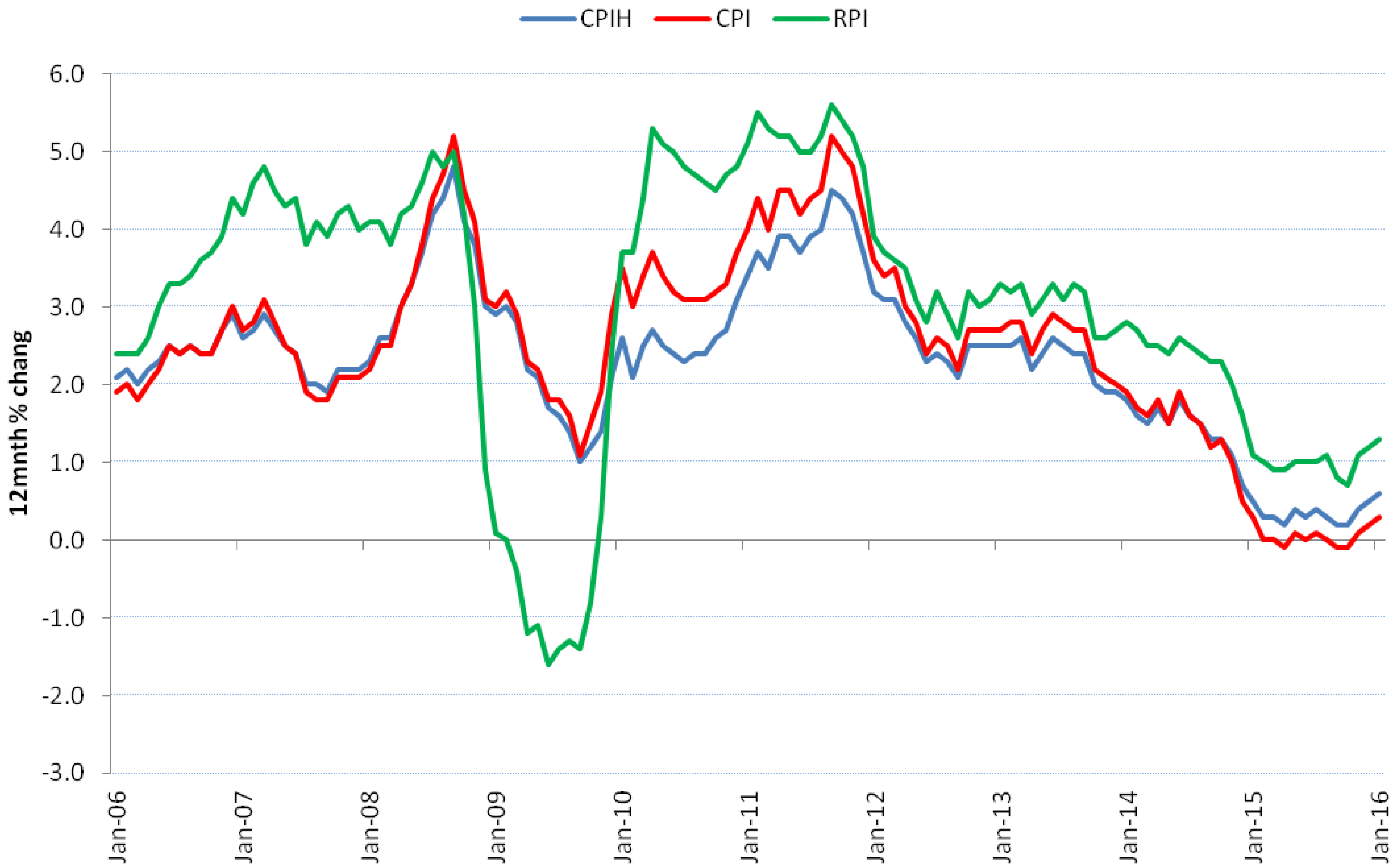
1) Strengthen QA of private rents data

2) Monitor how index behaves over time

3) Better explain the methodological choices made

- Recently published range of material including ‘CPIH compendium’

CPI, CPIH and RPI – a comparison



Summary of planned changes in March 2017

- CPIH to become the preferred measure of consumer price inflation.
  - will incorporate council tax
  - time series will be revised

- Publish the minimum of RPI-related data.

- Publish additional level of detail published for CPI and CPIH (COICOP5)

Which?

StatsUserNet

Ofwat

BBC

Resolution Foundation

pwc

age UK

Ofcom

ukrn

CBI
THE VOICE OF BUSINESS

Department
for Work &
Pensions

TUC

ofgem

Institute for
Fiscal Studies

HM Treasury

ROYAL
STATISTICAL
SOCIETY

Department
for Transport

MoneySavingExpert.com

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Producer Prices Inflation

James Wells
Head of Business Prices
@ONS_BizPrices

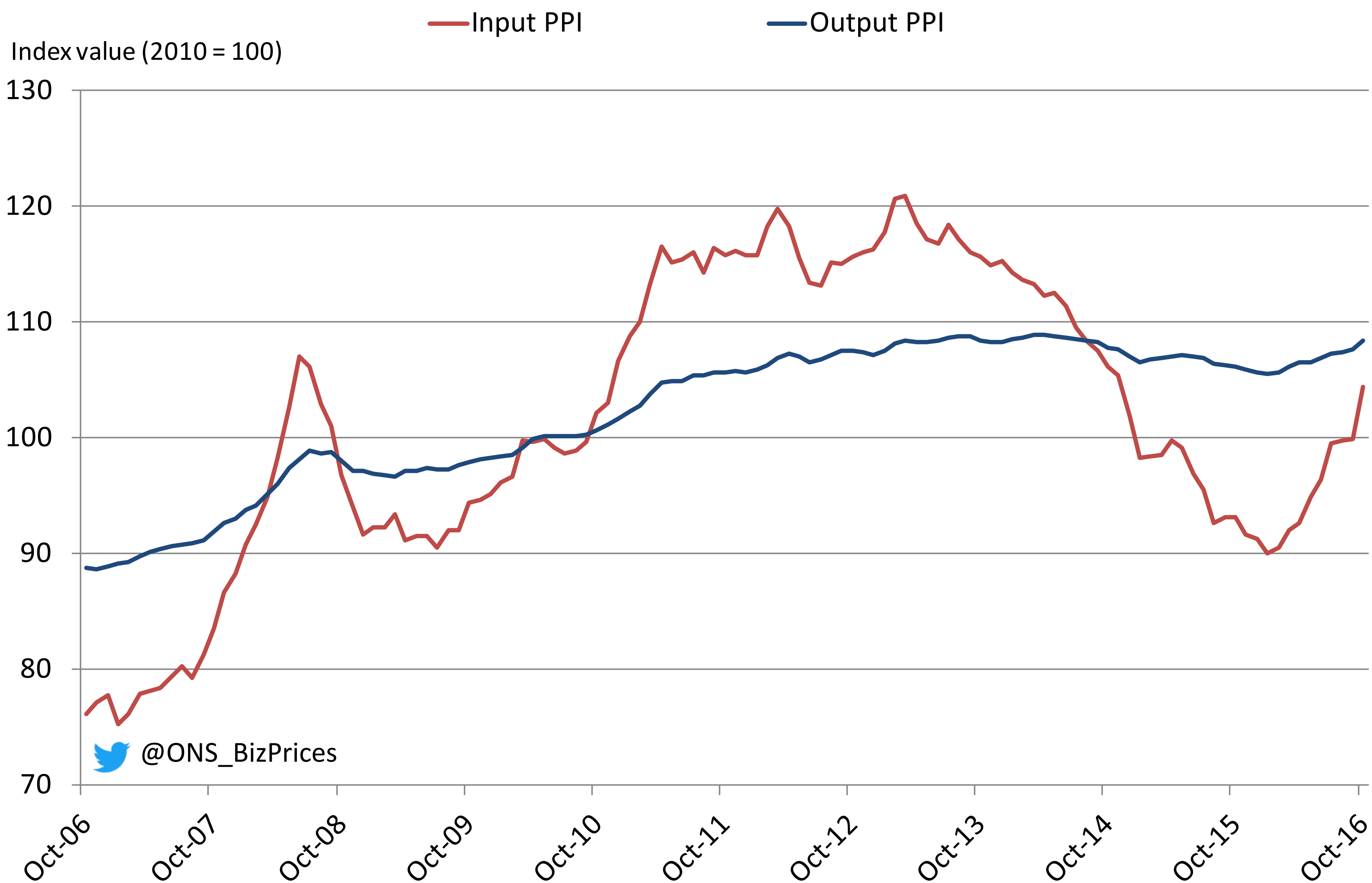
Today's agenda

1. Quick overview of Producer Prices Index
2. Recent trends and analysis
3. Quality of PPI
4. Planned sample size increases for import and export price indices

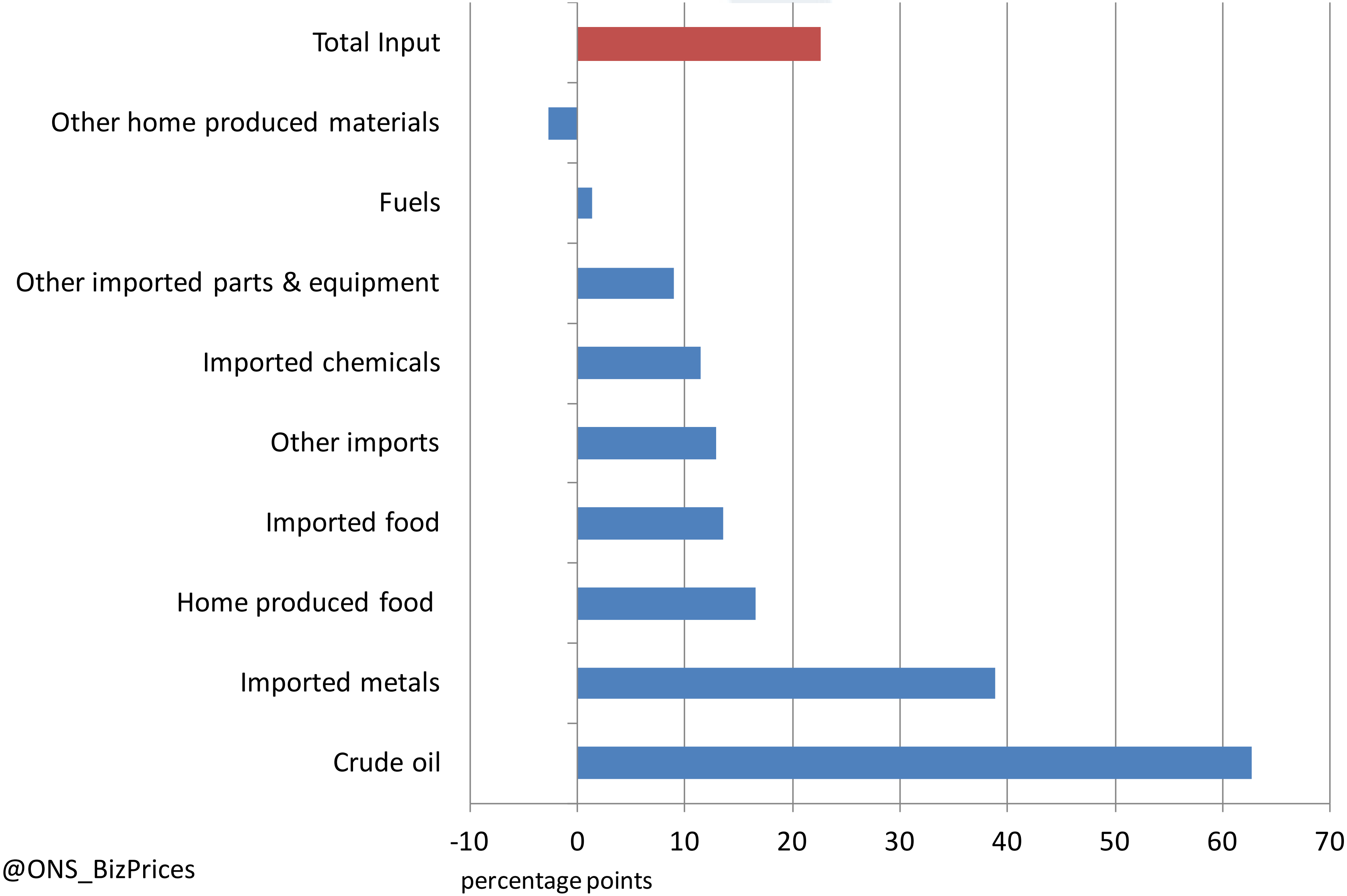
Producer Prices Index overview

- Producer Prices Index (PPI) consists of 3 monthly publications covering UK prices
  1. Domestic PPI (input & output)
  2. Import Price Index (67% weight into PPI input)
  3. Export Price Index (standalone dataset)
- Survey and admin data sources
- Survey sample frame
  - PRODCOM subset for domestic PPI
  - HMRC census of importers/exporters for IPI & EPI
- Survey sample based on 6.7k businesses & 11K prices
- All data is provisional for 2 months & is subject to revisions for up to 5 months

Input and output producer prices over the past 10 years

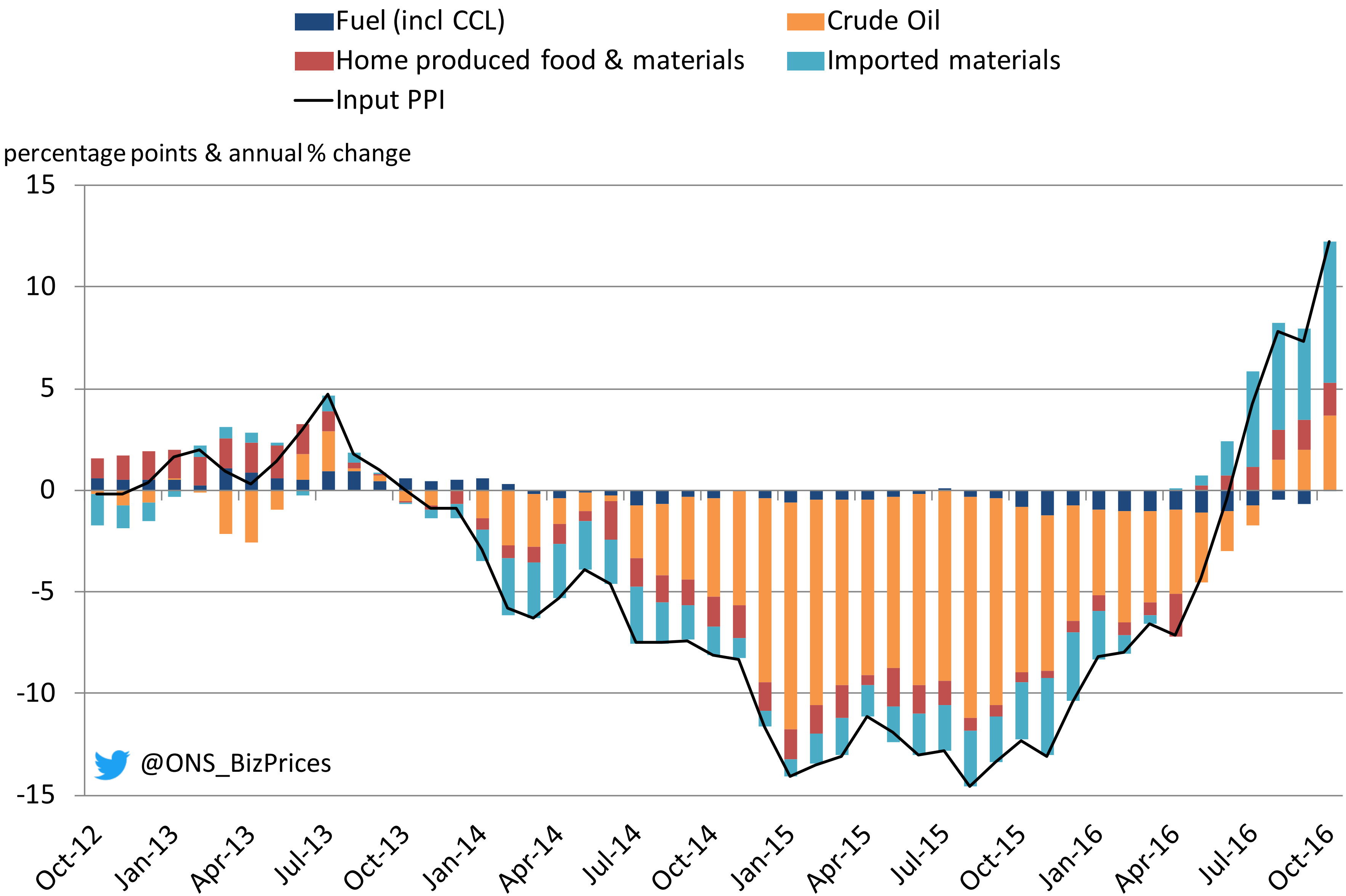


Input prices: change to 3 month average of annual rate (Aug-Oct) 2015 & 2016

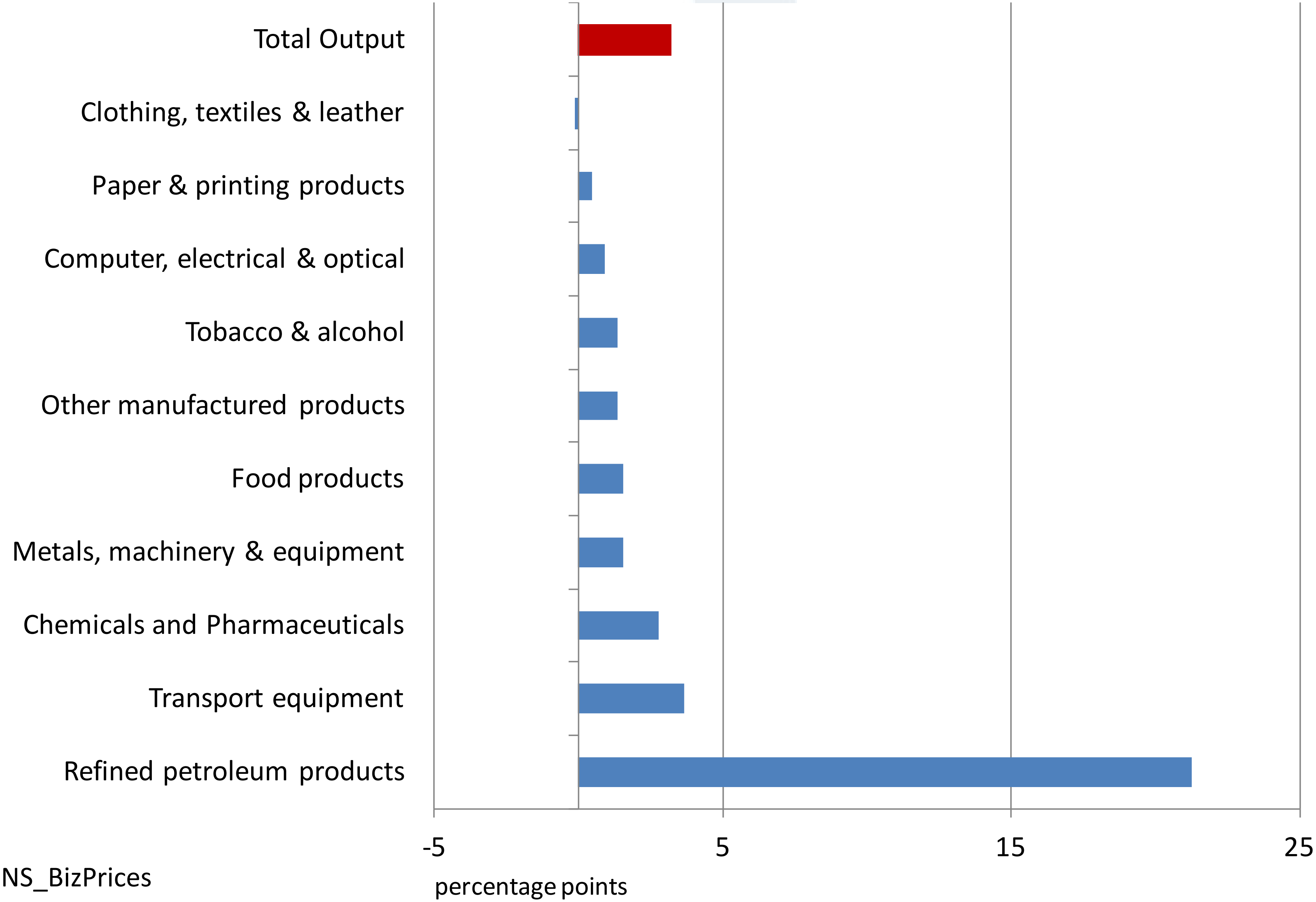


@ONS_BizPrices

Input prices: contributions to the annual rate and headline annual rate



Output prices: change to 3 month average of annual rate (Aug-Oct) 2015 & 2016



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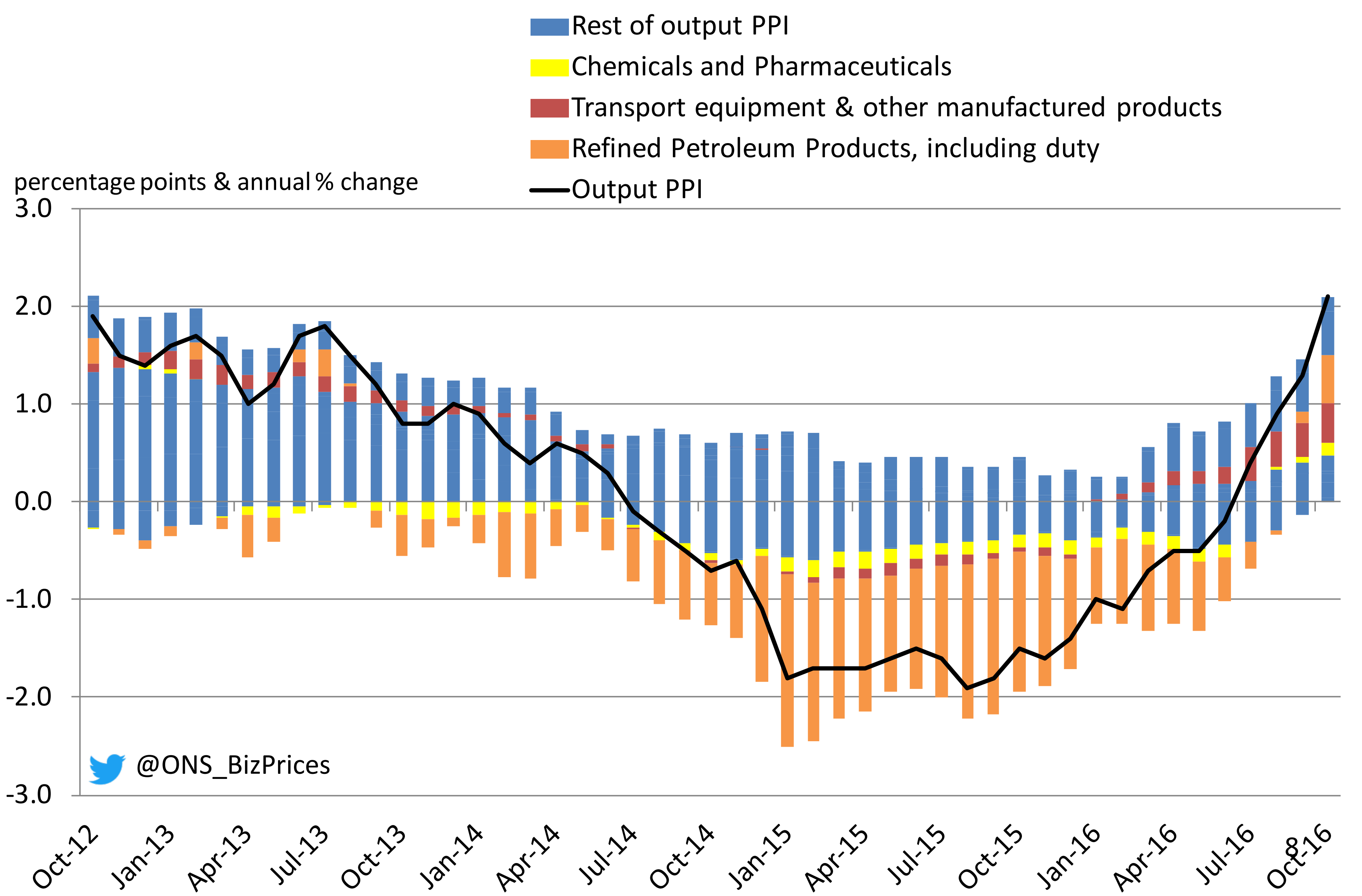
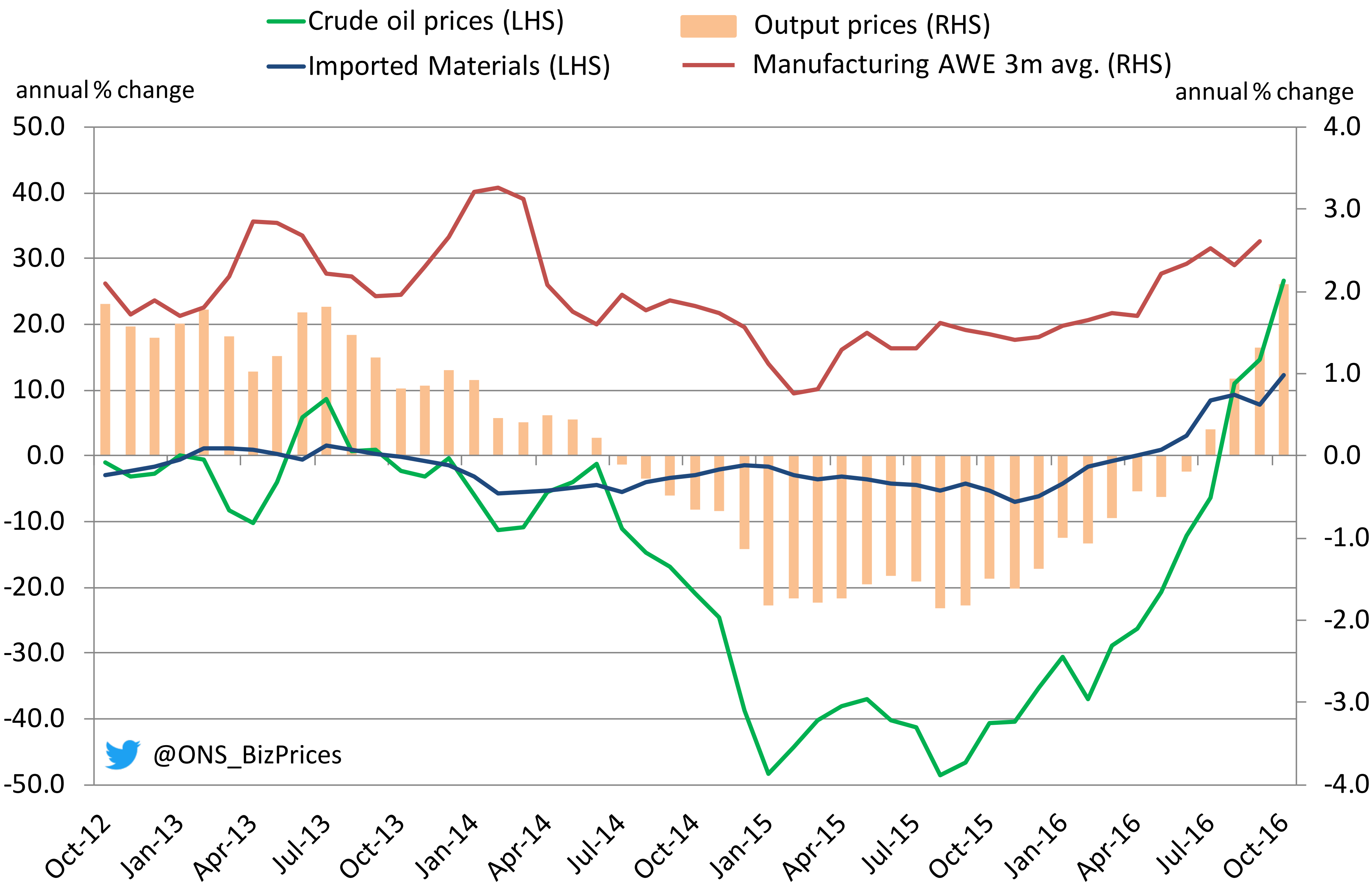
Output prices: contributions to the annual rate and headline annual rate



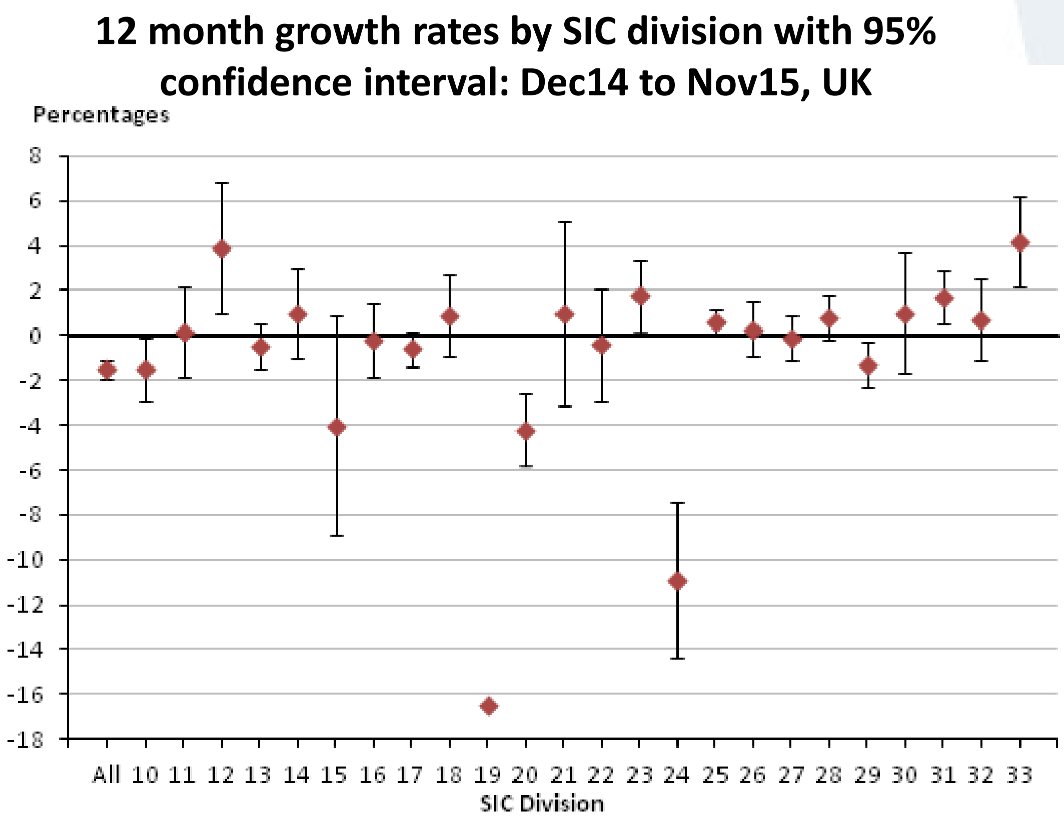
Rising cost of imported materials, crude oil & wages are feeding through to output prices



Quality of PPI:
Editing & validation of monthly survey data

- Validation of monthly price data is carried out by ONS Business Data Division (BDD)
- Large movements to prices that fail validation gates instigate a call to the reporting business to understand what has caused the movement
- If the movement in question cannot be validated our system imputes the price using movements for other similar items or a division average

Quality of PPI: Standard errors reporting



- PPI Standard errors report published annually
- Standard errors are produced for SIC divisions covered by PPI
- Latest publication Dec-15, next planned for Q1-17

Quality of PPI: Sample size increase for IPI & EPI

	Import price index	Export price index
Current sample (items)	2k	2k
Future sample (items)	6k	6k

- Drive is to increase coverage and quality
- Sample increase to be released in waves starting with export prices in Jun-17 and completing in Feb-19
- A paper will be published alongside PPI on 13th Dec that will outline the work and confirm which SIC divisions will be released in each wave

Questions?

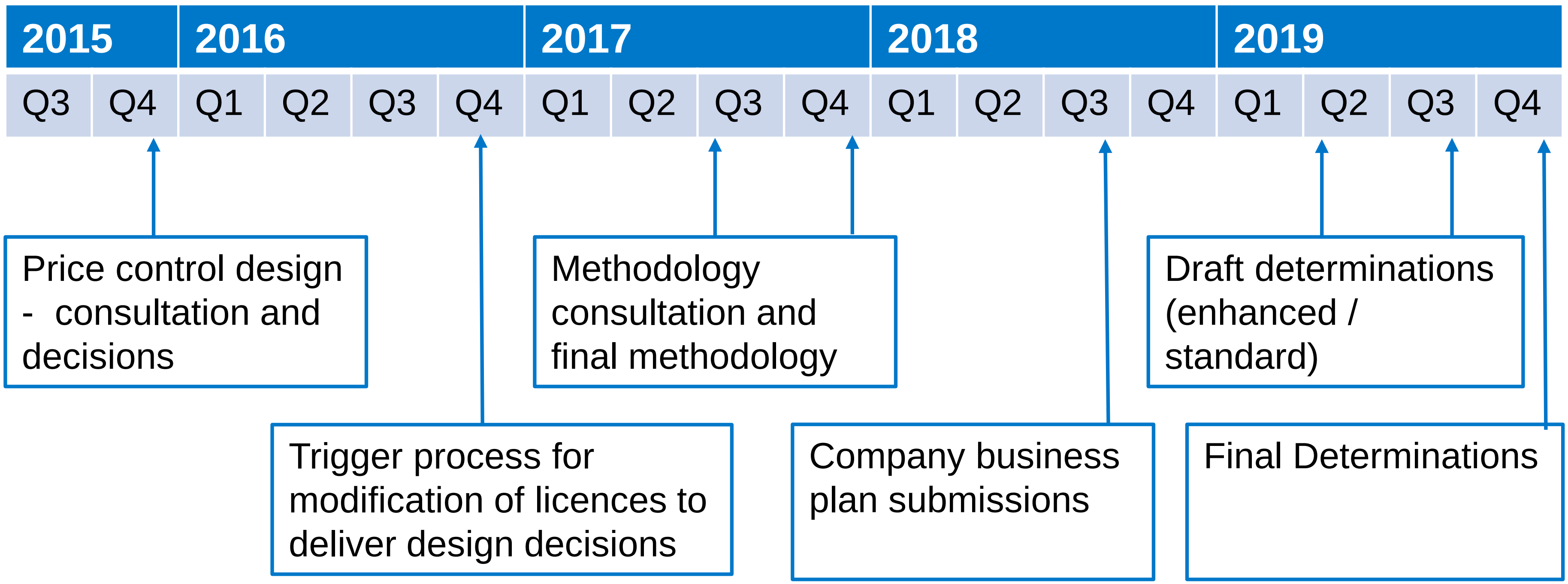
James Wells
Head of Business Prices
@ONS_BizPrices

Inflation indices in price control determinations

Andrew Chesworth – Director, Risk and Return
Water 2020

Martyn Andrews – Director, Finance and Governance

21 November 2016



Design issues that require licence modification:

- Indexation of the wholesale price controls by CPI or CPIH
- Separate Water Resources, Network Plus Water, Bioresources and Network Plus Wastewater controls
- Provision for additional information remedies for Water Resources and Bioresource activities and provision to allow in-period adjustments for outcome delivery incentives

CPI as a regulatory measure of inflation

Ofwat July 2016 "RPI is losing **legitimacy**: customers increasingly recognise CPI as the main inflation index"

As inflation risk is passed to customers**, it is important the inflation measure we use is credible** and statistically robust in the eyes of customers and their representatives **to maintain the legitimacy of the regulatory regime**

Government no longer recognises RPI as an official inflation measure

- Since December 2003 the Chancellor of the Exchequer has set inflation targets for the Monetary Policy Committee on a CPI, rather than RPI, basis.
- Since March 2013 the ONS has no longer classified RPI as an official National Statistic, as it "failed to meet international standards".
- In January 2015 the UK Statistics Authority published the findings of an independent review, led by Paul Johnson (Director of the Institute of Fiscal Studies) into UK price indices. The Johnson report found serious issues with RPI, describing it as "statistically flawed". He further recommended that "Government and regulators should work towards ending the use of the RPI as soon as practicable….no taxes, benefits **or regulated prices** should be linked to the RPI."

A number of economic regulators have adopted CPI

- CAA was the first regulator to switch to CPI, which it applied in the 2011 price control for National Air Traffic Services (NATS).
- Ofcom has used CPI in relation to a number of charge controls and regulatory decisions. For example, they applied CPI in relation to BT's wholesale line rental, local-loop unbundling and wholesale broadband access charge caps, as well as to some annual licence fees for mobile providers.
- WICS moved away from RPI indexation to CPI indexation in its 2014 determination of Scottish Water's price controls. However, WICS do not calculate a cost of capital or calculate revenues based on a return on RCV. Their approach is therefore very different to Ofwat.

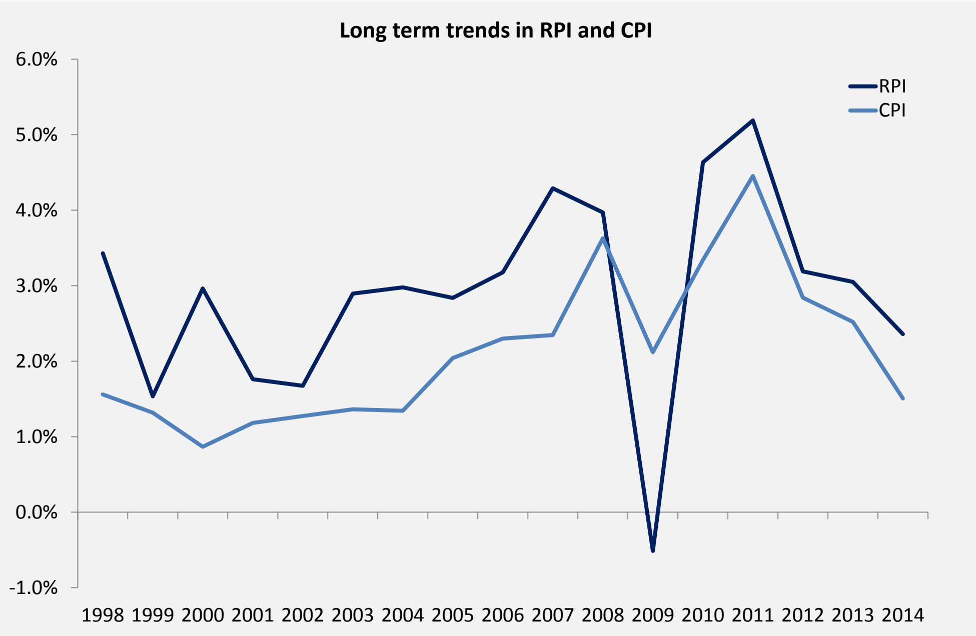
Lower volatility of CPI could be beneficial to customers

CPI is less volatile than RPI and so a switch to would be beneficial to customers.

For companies, we found that in practice, no aggregate price index will closely reflect actual cost inflation risk in the sector.

Oxera, in its work for us, suggested CPI is no worse a predictor of costs than RPI

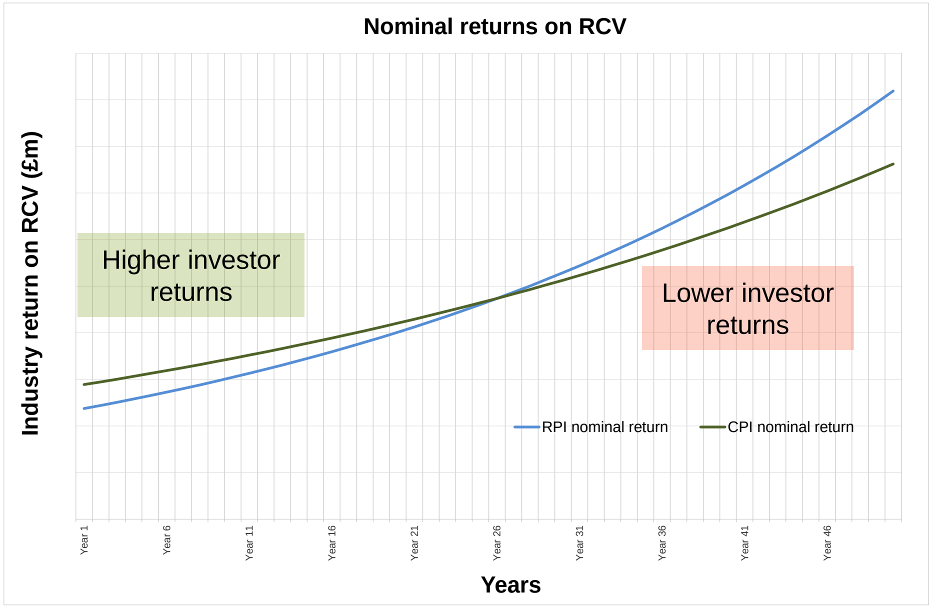
All companies agreed that the indexation basis for revenues should be switched to CPI

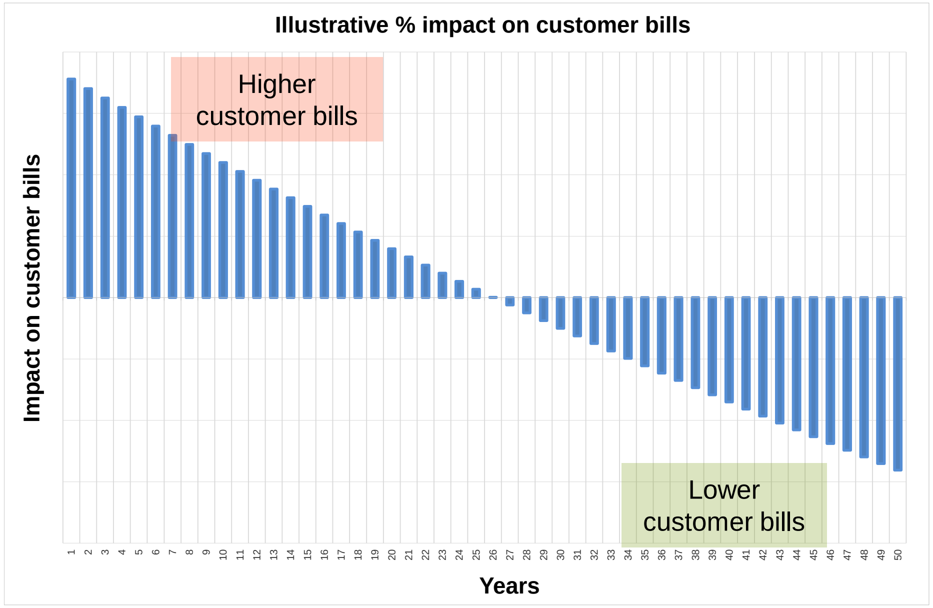


Volatility of inflation measures 2006-15

	RPI	CPI	CPIH
Stan dev	1.7%	1.2%	1.0%
Stan dev / mean	0.57	0.49	0.43
Range	7.2%	5.4%	4.5%
Range / mean	2.33	2.14	1.92

Full switch to CPI (both revenues and RCV) could, on average, lead to an immediate increase in bills of around 7% unless adjustment is smoothed or offset





Where CPI is less than RPI….

- RCV rises more slowly over time
- Real WACC would be higher

We proposed transition – ie 50% of RCV indexed to RPI from 2020 – the remainder, and any RCV growth to be linked to CPI

Transition options

We considered a range of options for the speed of RCV transition

These included slower transition options, faster transitions and those based on company choice.

Companies favoured slower or no transition of RCV – suggesting that speed of transition should be driven by development of CPI linked debt market or the wind down of their current RPI linked liabilities

We opted for an approach based on a notional financial structure, which recognised:

- the role of embedded long term debt (based on PR14 assumptions)
- the potential short- to medium- term bill impact of an immediate bill switch
- there is no clear reason why equity or new RCV should be linked to RPI
- importance of maintaining trust and confidence of investors by adopting a planned transition

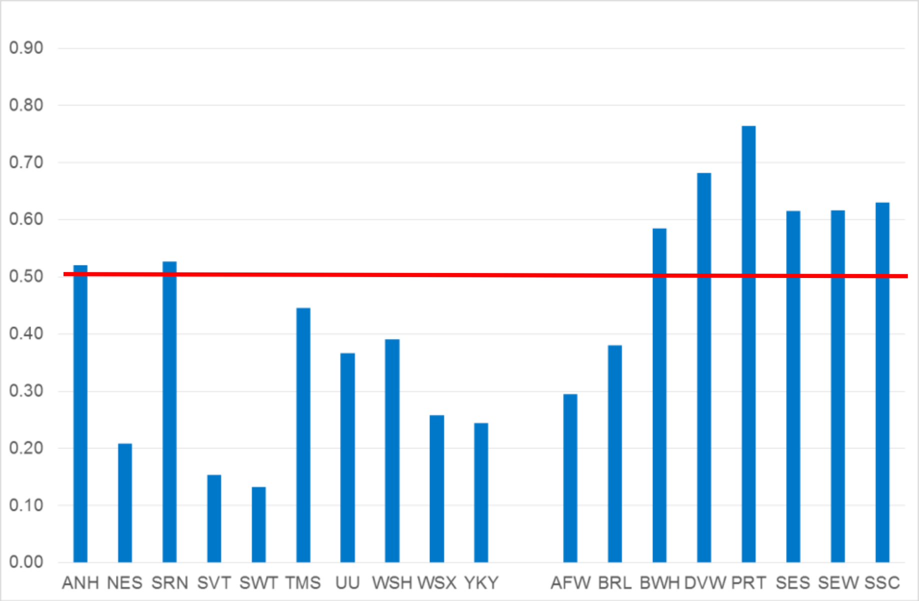
Policy allows us to take account of market developments when considering the speed of future transition

Proportion of index linked debt to RCV for WaSCs is c.30%, WoCs c.60%

We recognise that for some companies RPI linked liabilities represent more than 50% of RCV at 31 March 2020

But

- our transition driven by view of efficient notional structure
- not clear that it is in customer interest for transition to be driven by company choice of financial structure; companies with greater proportion of index-linked debt benefit from lower cash interest costs than we assume in the short term
- no historic commitment that RCV remains linked to RPI for all time



Companies can make use of PAYG / RCV run-off levers to mitigate financeability impacts, if able to demonstrate customer agreement

Companies can mitigate impacts through financing choices for new debt

Transition – future considerations

Financial levers

To smooth the impacts of the transition, we proposed companies could make use of financial levers – following consultation with customer groups – we will consider this in our risk based assessment of business plans

NPV neutral true ups for the CPI/RPI 'wedge'

At PR19 we will need to state a single, nominal, cost of capital which we will decompose into CPI-real and RPI-real terms. This will require us to assume a 'wedge' between forecast CPI (or CPIH) and RPI. We have committed to true up for the actual outturn wedge so that companies are not exposed to any mis-forecast. This true up will be carried out at PR24

Clarification about the future path of the transition

Companies sought clarification on the continued use of these policies at PR24 and beyond – and so we published a set of principles we will adopt when considering the speed of transition at PR24 and beyond (see annex)

CPI or CPIH?

We have not concluded at this stage whether the transition will be to CPI or CPIH. This, at least in part, links to the future designation of CPI / CPIH as national statistics, but also the wider use of these indices. Through the licensing process, we have committed to companies that we will make this decision by January 2018

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"We will retain discretion and flexibility to respond to developments with no pre-committed, specified path. In making the decision at future price controls about the pace of the ongoing transition we will take into account the need to ensure the:

- approach to inflation is seen as legitimate by customers and their representatives;
- price controls are underpinned by robust indices to maintain the credibility of the regulatory regime and to ensure efficient finance continues to be attracted to the water and wastewater sectors;
- future transition does not distort the incentives for companies to raise debt efficiently;
- prior commitments* are maintained; and
- objective of avoiding unnecessary or undue complexity is maintained.

Our assessment will:

- take account of the legitimacy of the inflation index to customers and their representatives;
- be made by reference to a notional financial structure;
- consider the extent to which RPI-linked debt instruments, embedded at PR19, remain embedded at the time we make our decisions; and
- take relevant factors into consideration, including the impact on customer bills and evidence on the use of inflation indices by the Government, other regulators and the financial markets.

*Prior commitments means:

- the continued use of the PAYG and RCV run-off levers to address bill impacts where there is evidence of customer support;
- reconciliation calculations to address any mismatch between the forecast and actual difference between RPI and CPI/H; and
- a single, nominal cost of capital, stated separately in real RPI and CPI/H terms.

We will consult on the future path of transition and take account of stakeholders' views in making our decisions."

ofgem Making a positive difference for energy consumers

CPIH vs RPI

Presenting information in real terms, indexing cost allowances and indexing investor interests

Ian Rowson

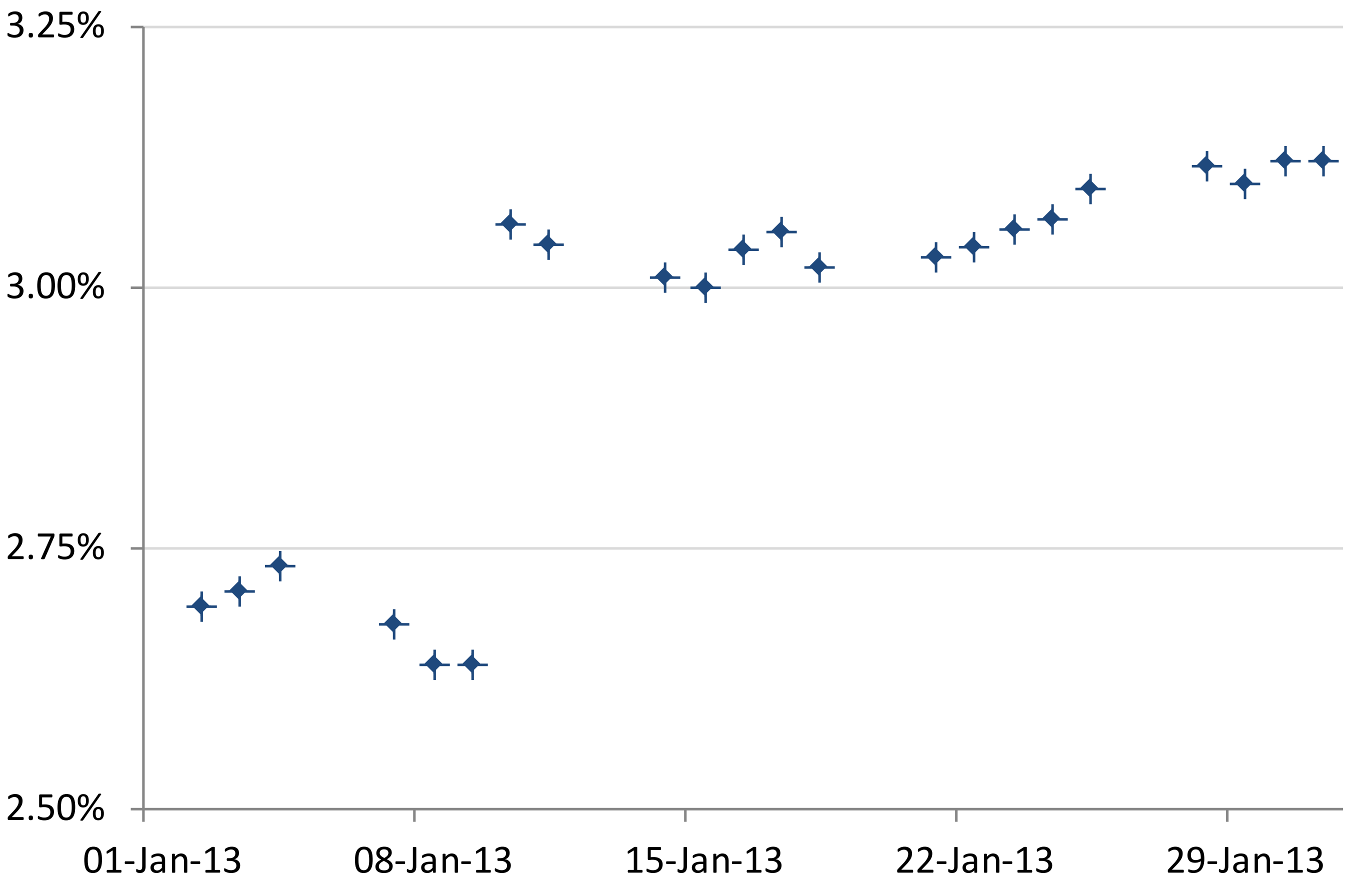
November 2016

Why do we use indices

- We use inflation indices to:
  - Present information in constant price terms
  - Ensure our benchmarks remain valid after inflation *(incentives)*
  - Maintain the real value of what investors have invested *(which helps minimise the cost of financing)*

The problem: 10 January 2013

Implied forward inflation



Source: Bank of England, 10-year zero coupon yields

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What we did in RIIO-ED1

- Recalibrated our relative price indices
- Established a principle

We adjust for any structural change in the index we use for the RAV

  - We reduced our estimate of the real cost of equity by 0.4%
  - We recalibrated our allowances for ‘relative price effects’
  - We calibrated our cost of debt index in light of new index outlook

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How legitimate is RPI now?

- RPI is not a <u>fair</u> measure of general inflation
  - Affects how we present 'constant price' information
  - Ensure our benchmarks remain valid after inflation *(incentives)*
  - Maintain the real value of what investors have invested *(which helps minimise the cost of financing)*

Should we use CPI or CPIH?

- CPI is well established, but not comprehensive
- CPIH is comprehensive, but not yet well established
  - Encouraged that ONS is responding to UKSA challenges
  - Expect re-designation as a National Statistic
  - Aware of controversies

Does it affect real price effects?

Not really

- In principle, it just rebases RPEs
- CPIH should be more stable basis for RPEs

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What about RAV indexation?

- We expect CPIH ~1% lower than RPI
  - Implication: 1% increase in cost of capital allowances
  - Scope to adjust depreciation/capitalisation rates to neutralise revenue/cash flow effects and protect inter-generational and financeability objectives
- But should we index RAV to CPIH?
  - What is best for consumer?
  - Where is demand for index-linked assets?
  - There may be strong arguments for remaining with RPI

ofgem Making a positive difference for energy consumers

Ofgem is the Office of Gas and Electricity Markets.

Our priority is to protect and to make a positive difference for all energy consumers. We work to promote value for money, security of supply and sustainability for present and future generations. We do this through the supervision and development of markets, regulation and the delivery of government schemes.

We work effectively with, but independently of, government, the energy industry and other stakeholders. We do so within a legal framework determined by the UK government and the European Union.

www.ofgem.gov.uk

SSRO

Single Source Regulations Office

Price controls in the regulation of single source MOD contracts

Matthew Rees, Director of Analysis and Reporting

November 2016

The SSRO: who we are and what we do

SSRO

Independent regulator and custodian

* Review of Act and Regulations

* Statutory guidance
* Assessment of profit rates
* Compliance monitoring

* Maintaining database and analysing data
* Delivery of additional services by agreement

Coverage

- Scheme applies to qualifying defence contracts (QDCs)
- Qualifying sub-contracts (QSCs) are also covered, following assessment and notification

Price control

- Price is controlled by a formula: price = AC + (CPR x AC)
- Costs must be allowable costs (AC)
- Contract profit rate (CPR) determined by a six-step process

Transparency

- Suppliers keep accounting records for audit purposes
- Suppliers submit reports on contracts, overheads and forward planning
- SSRO analyses reported data

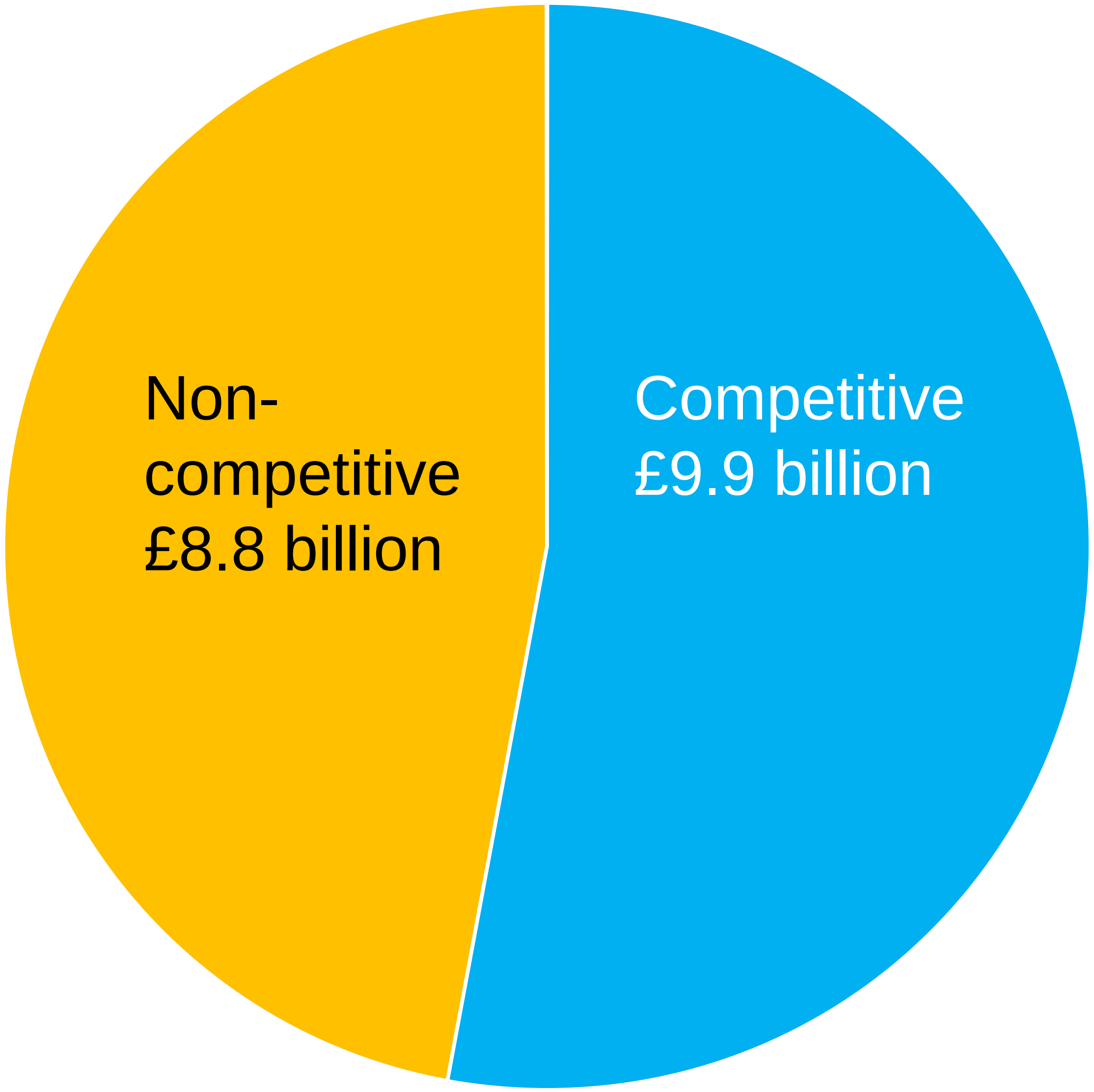
Referrals

* Issues resolved by the SSRO on referral
* Opinions
* Determinations

Enforcement

* MOD responsible for enforcement
* Compliance notices
* Penalty notices

Direct MOD payments paid through competitive and non-competitive contracts in 2015/16

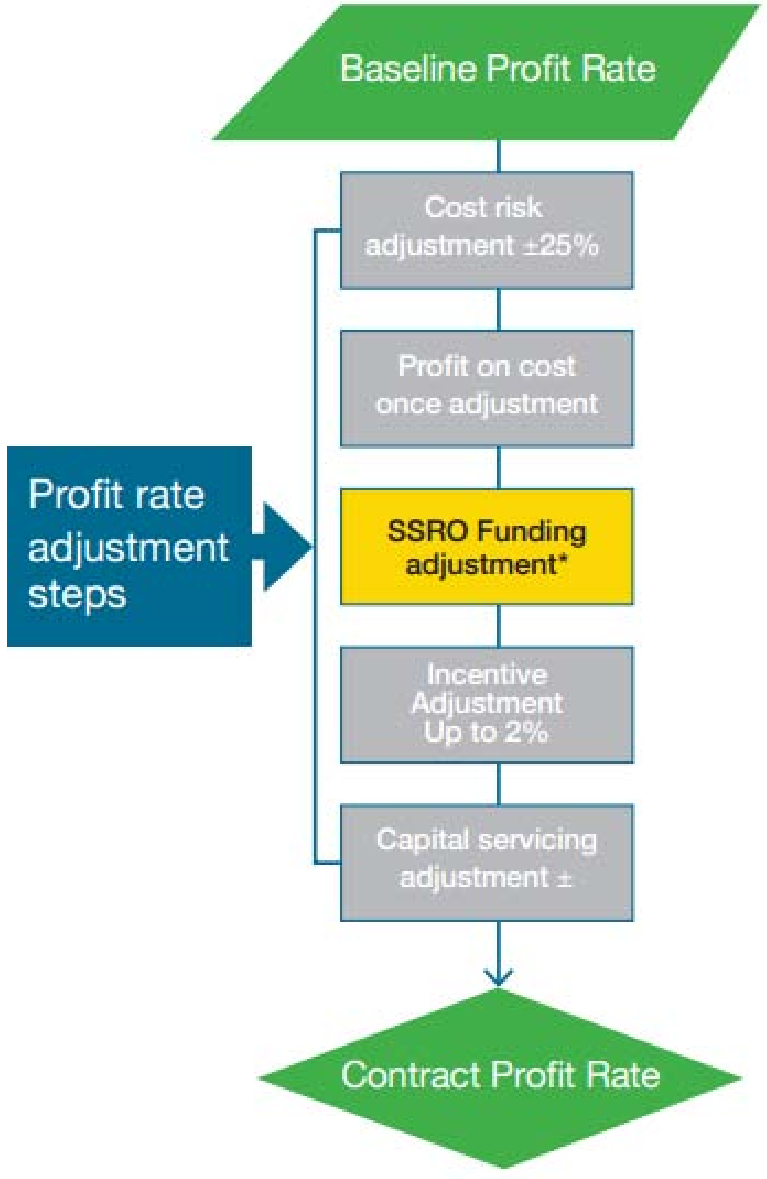


£3.1 billion placed in new non-competitive contracts in 2015/16

Source: MOD Official Statistics - Trade, Industry and Contracts (published 25 August 2016)

The SSRO each year recommends the Baseline Profit Rate, and adjustments, paid to industry

- SSRO annually reviews the baseline profit rate, which must be used when calculating the contract profit rate of QDCs
- The SSRO makes a recommendation to the Secretary of State for Defence on whether the rate should be changed
- Current rate: 8.95 per cent
- The SSRO is developing multiple profit rates for 2017/18



* Not applicable until 2017

It’s not just about profit. All costs claimed must be ‘Allowable’ – Appropriate, Attributable and Reasonable

- Allowable Costs are those incurred in a contract that are billed to the customer - they are the key driver of the contract price

- A legal requirement to have regard to guidance in determining whether costs are *Allowable* under a qualifying defence contract and qualifying sub-contract

- Principles, rather than rules, based

The SSRO’s value for money studies and analysis programme includes work on inflation

VFM studies programme, 2016/17 to 2018/19

Study title
The treatment of inflation in single source contracts
Wage inflation in single source contracts
Overhead rates used in delivery of single source contracts
Cost of the back office
Consideration of risk in single source contracts
Procurement and contract management processes

Statistical bulletins

The SSRO also plans to publish the first results from its monitoring of the impact and performance of the regime in June 2017.

Inflation is a factor in the regulatory framework for single source defence contracts

For example:

Allowable Costs

The SSRO's guidance on Allowable Costs refers to inflation

Inflation, labour and material rates
9.37 Labour and costs of material inflation applied to a contract has to be relevant to the cost category or activity being benchmarked.
9.38 Labour and costs of material inflation should be evidenced against an appropriate benchmark or indices in order to be an Allowable Cost.

Pricing methods

There are six pricing methods for contracts, some of which use indices

For example, in the fixed pricing method the Allowable Costs are the costs estimated at the start of the contract, with an adjustment in accordance with a specified index (for example RPI) at a specified time or times. The profit earned by the supplier is calculated by applying the profit rate to the Allowable Costs at the end of the contract once the index change is known.

Contract reporting

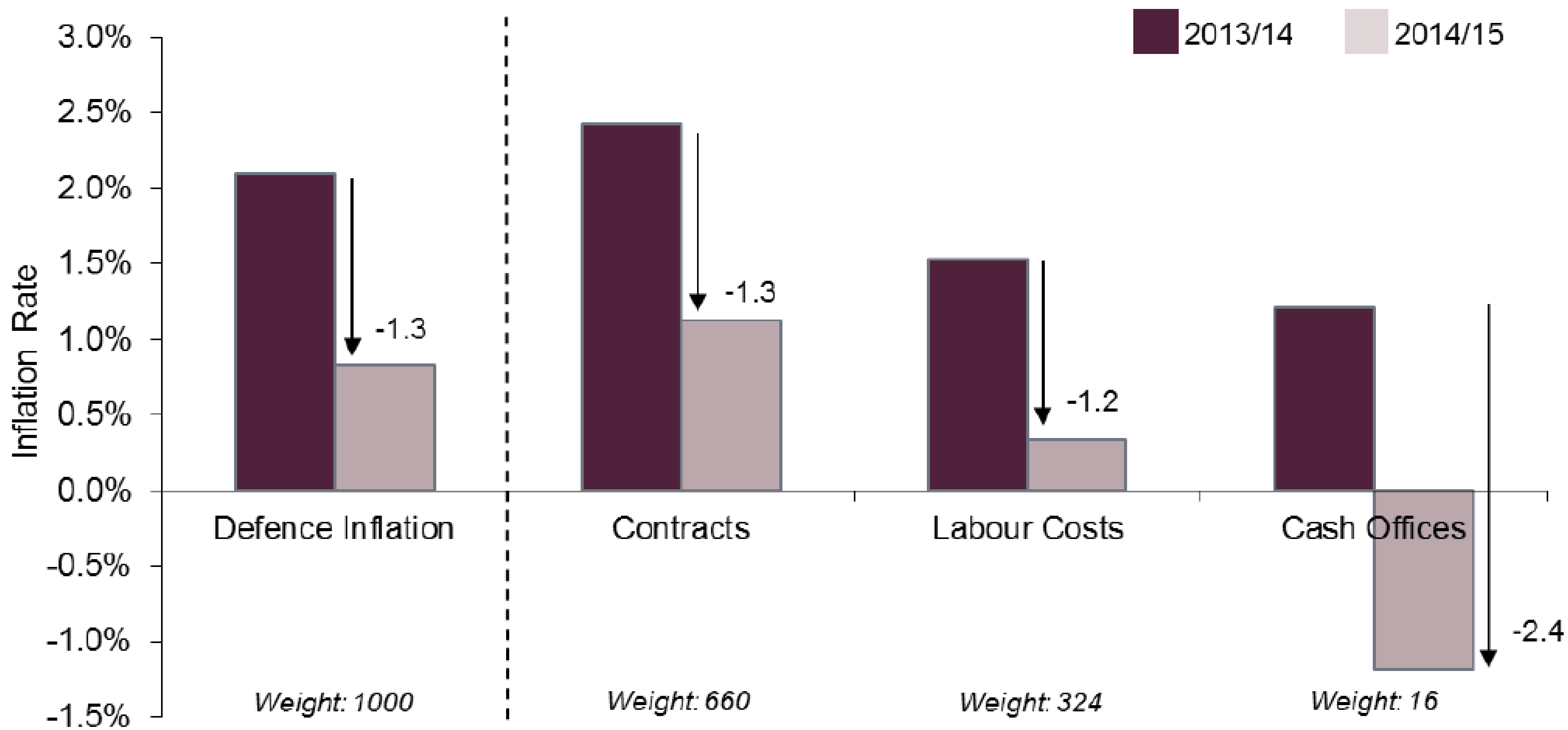
Contractors return data to the SSRO on contracts, which may include inflation data

For example, a contract pricing statement requires a description of "the contractor's facts, assumptions and calculations relevant to each element of the allowable costs", and of course this can include information on inflation rates assumed in calculating prices.

The MOD publish statistics on inflation in defence contracts

"Inflation in contract expenditure was 1.1% in 2014/15, which is a decrease from the previous year (2.4%) and the lowest since estimates began"

Figure 2: Components of Defence Inflation, 2013/14 to 2014/15

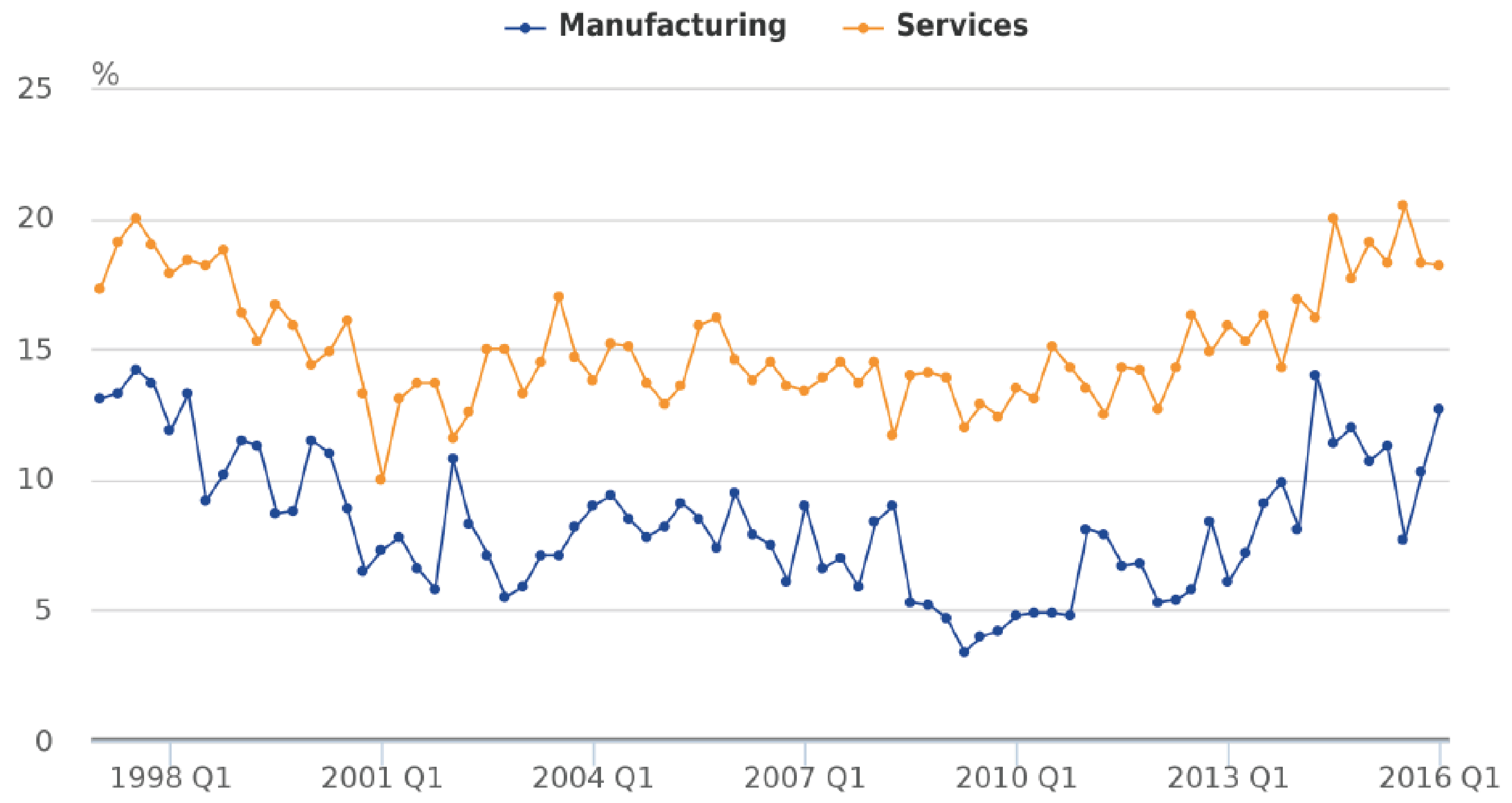


Source: MOD, Finance & Economics Annual Bulletin Defence Inflation Estimates 2014/15

As well as inflation, the SSRO also has an interest in the ONS data on return on capital employed in the UK

Figure 2: Net rate of return of manufacturing and services companies, Quarter 1 (Jan to Mar) 1997 to Quarter 1 (Jan to Mar) 2016

UK



Source: Office for National Statistics

Notes:

1. Q1 refers to Quarter 1 (January to March), Q2 refers to Quarter 2 (April to June), Q3 refers to Quarter 3 (July to September) and Q4 refers to Quarter 4 (October to December).

SSRO Single Source Regulations Office

Any questions?