

# Using PPIs and EPIs as proxies for IPIs

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# Motivation

- Concerns raised regarding the quality of some IPIs used by ONS
- We're therefore investigating alternative methods to create IPIs to supplement current series
  - Currently use PPIs where appropriate IPIs are unavailable
  - Primary development work on using Unit Values Indices (UVIs) to deflate trade of homogeneous products (in first instance)
  - This presentation is on experimental work investigating the possibility of using an aggregate of PPIs or EPIs from other countries as a proxy for our IPI – to be used as a tool to assess current IPIs or to replace them if appropriate

# Method

- Creating proxy index from PPIs and EPIs published by other NSIs to create an alternative deflator.
- Countries chosen based on which are sources of imports
- Split into EU and NEU

# Method

Collecting current prices and identifying relevant countries using admin imports data from HM Revenue and Customs (HMRC)



Calculating annual weights for those countries



Identifying and retrieving relevant PPI/EPI series from their NSIs



Aggregating PPIs/EPs using weights



Applying exchange rate factor to adjust for differences in exchange currency



Link T and T-1 series and re-reference

# Results

# Case study 1 – CPA C201

**Basic Chemicals, Fertilisers and Nitrogen  
Compounds, Plastics and Synthetic Rubber in  
Primary Forms**

# Case study 1

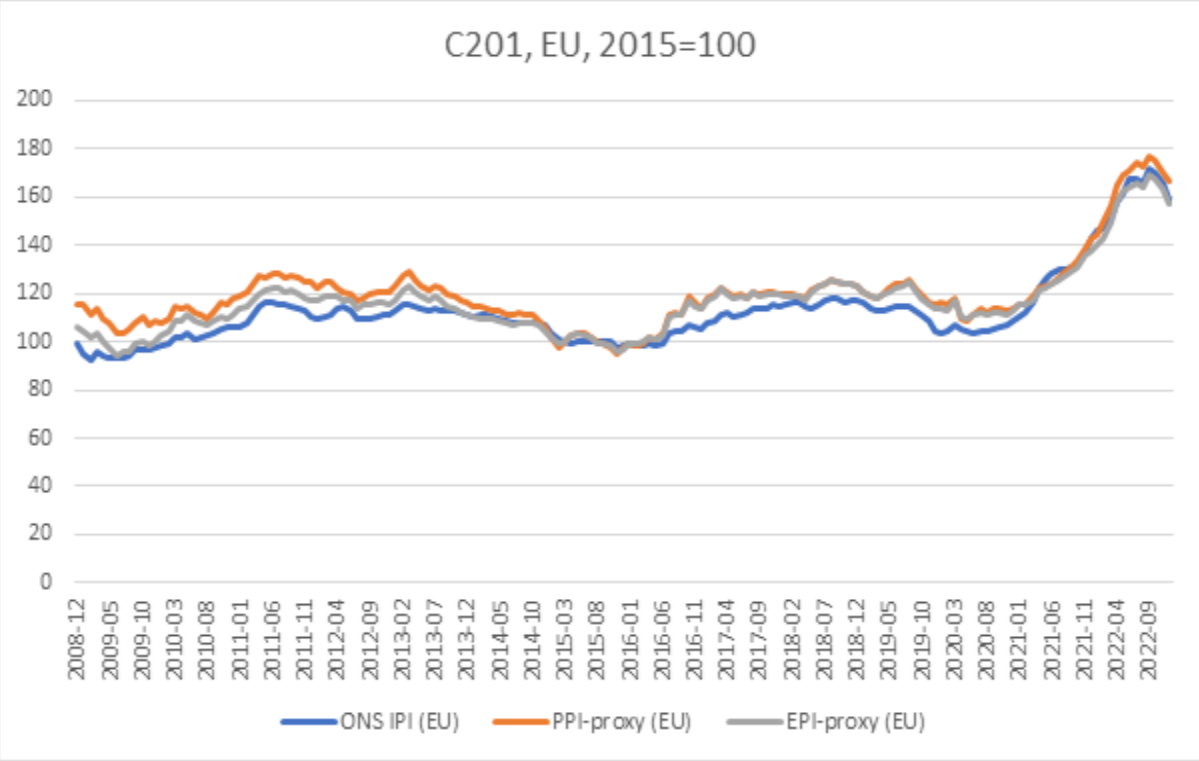
## Basic Chemicals, Fertilisers and Nitrogen Compounds, Plastics and Synthetic Rubber in Primary Forms

- Product selected is Basic Chemicals, Fertilisers and Nitrogen Compounds, Plastics and Synthetic Rubber in Primary Forms.
- Current IPI is considered “good” for EU Imports, and “poor” for NEU imports, based on current sample size and coverage.
- Created proxies using PPIs and EPIs

# Case study 1

## Basic Chemicals, Fertilisers and Nitrogen Compounds, Plastics and Synthetic Rubber in Primary Forms

EU IPI proxies

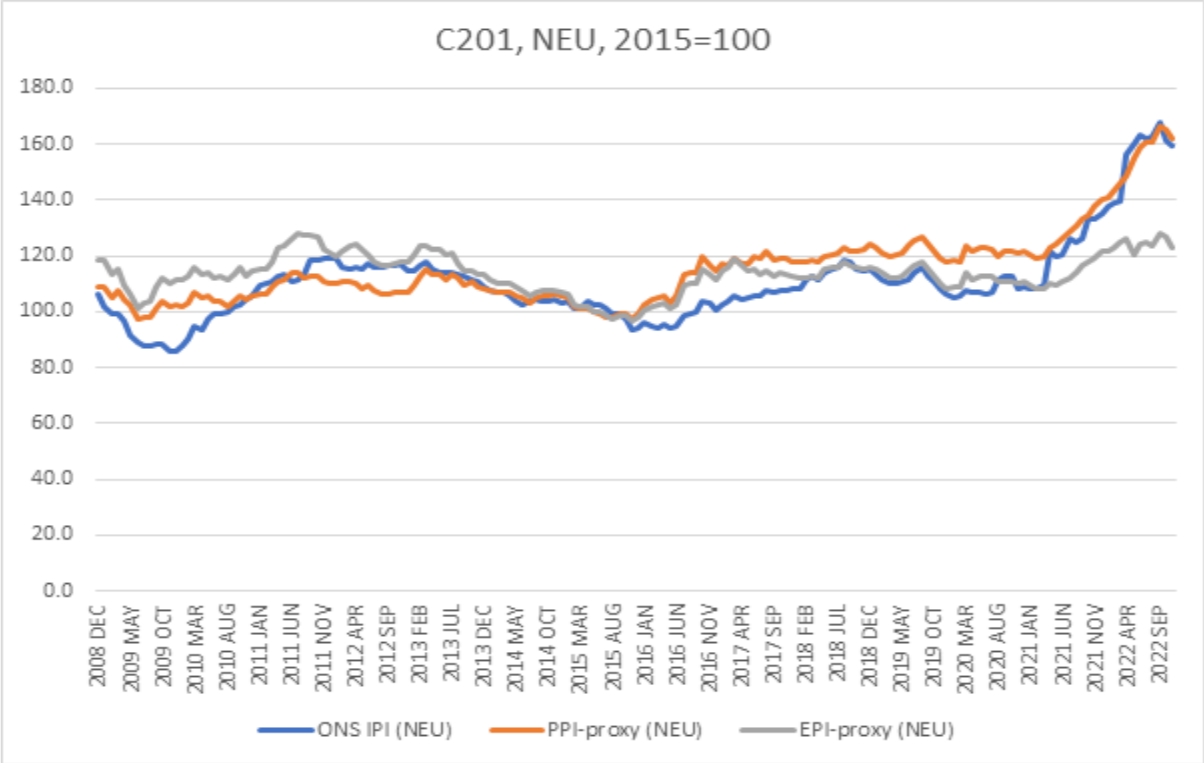




# Case study 1

## Basic Chemicals, Fertilisers and Nitrogen Compounds, Plastics and Synthetic Rubber in Primary Forms

NEU IPI proxies



# Case study 2 – CPA B061

## Crude Petroleum

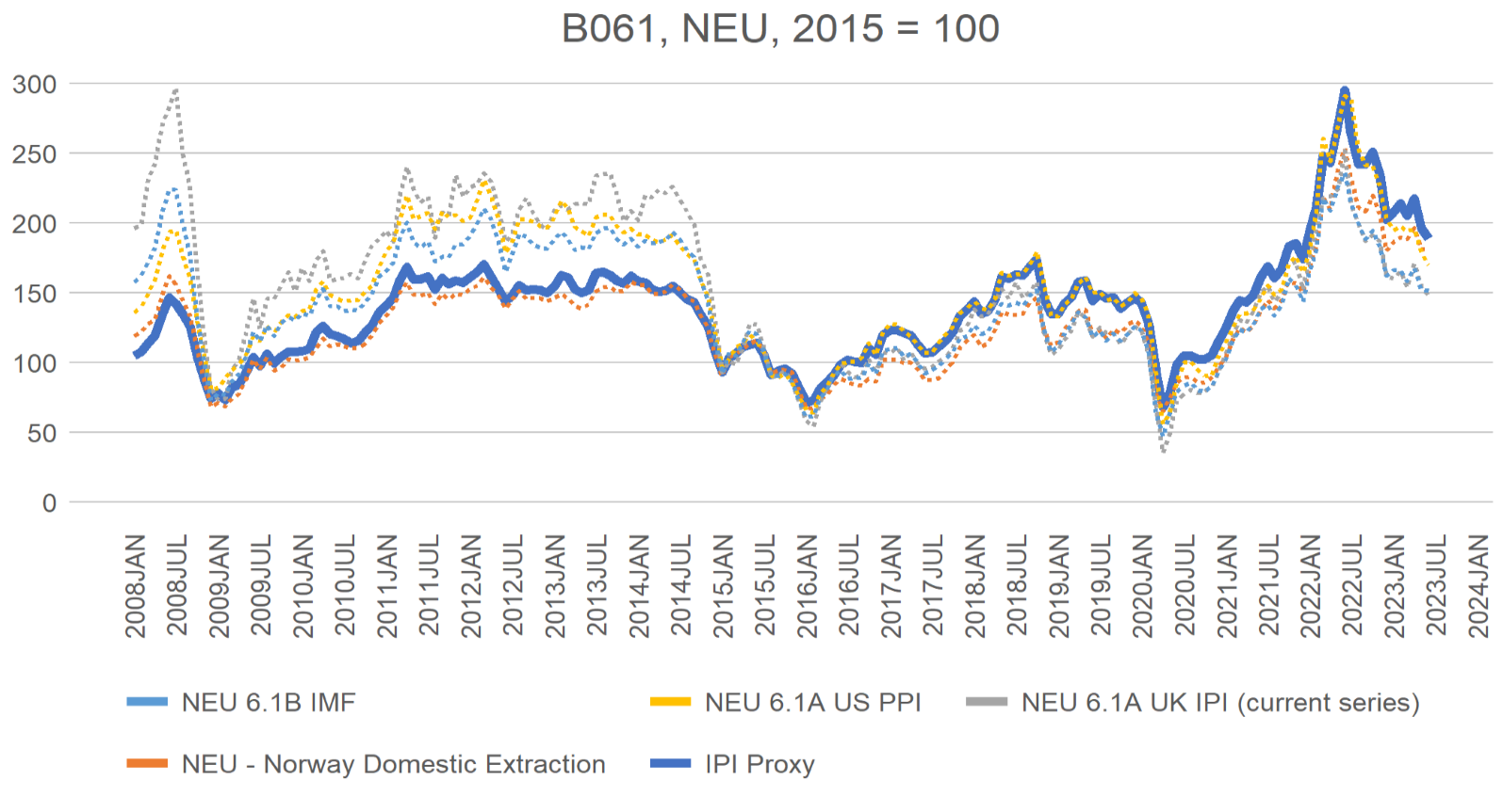
# Case study 2

## Crude Petroleum

- Chosen as one of the products for which we are researching the use of UVIs
- Countries included in proxy:
  - US
  - Norway
  - Russia (until 2022)
- NEU only due to very few EU imports

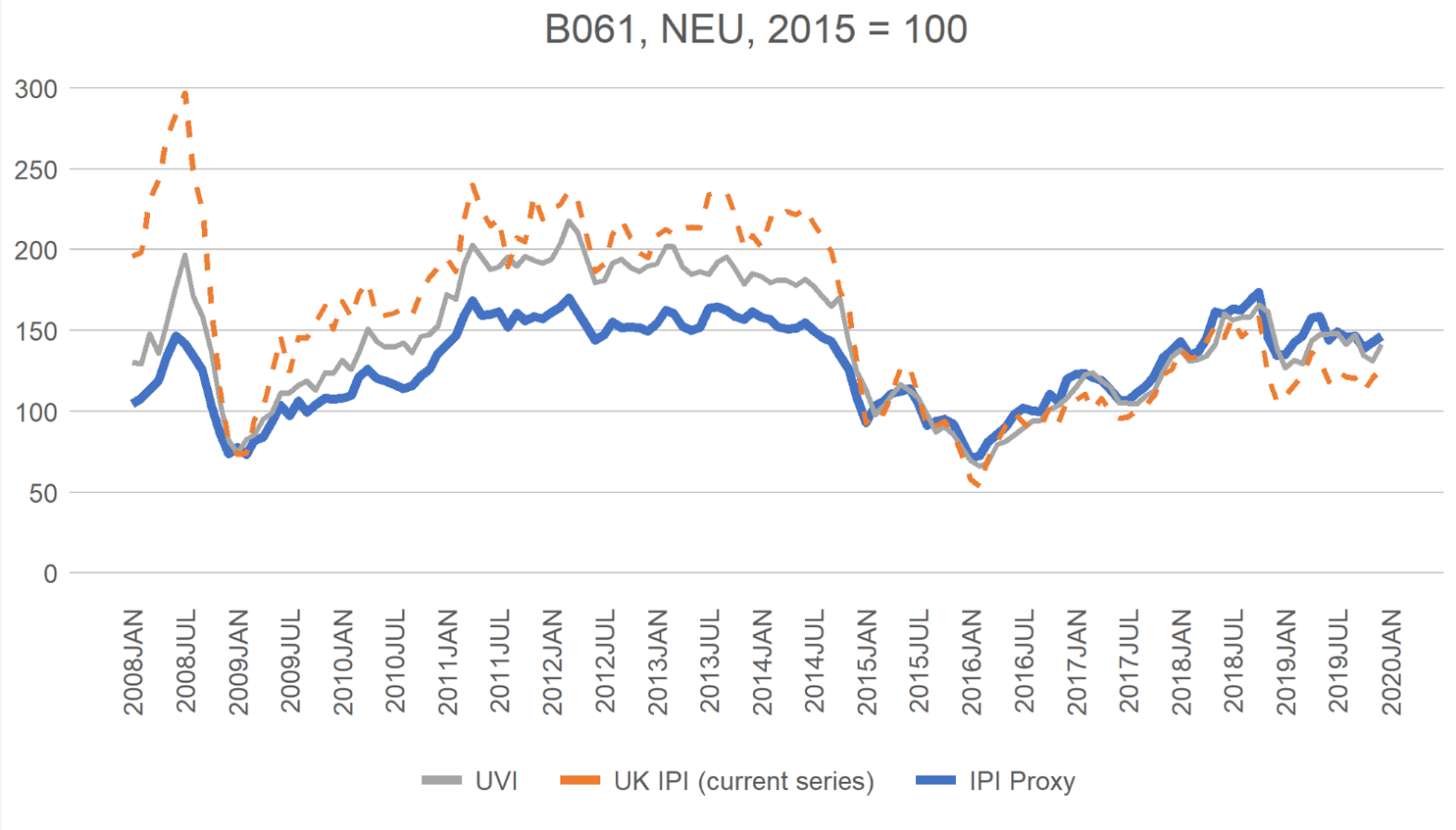
# Case study 2

## Crude Petroleum



# Case study 2

## Crude Petroleum



# Case study 3 – CPA H53

## Postal and Courier Services

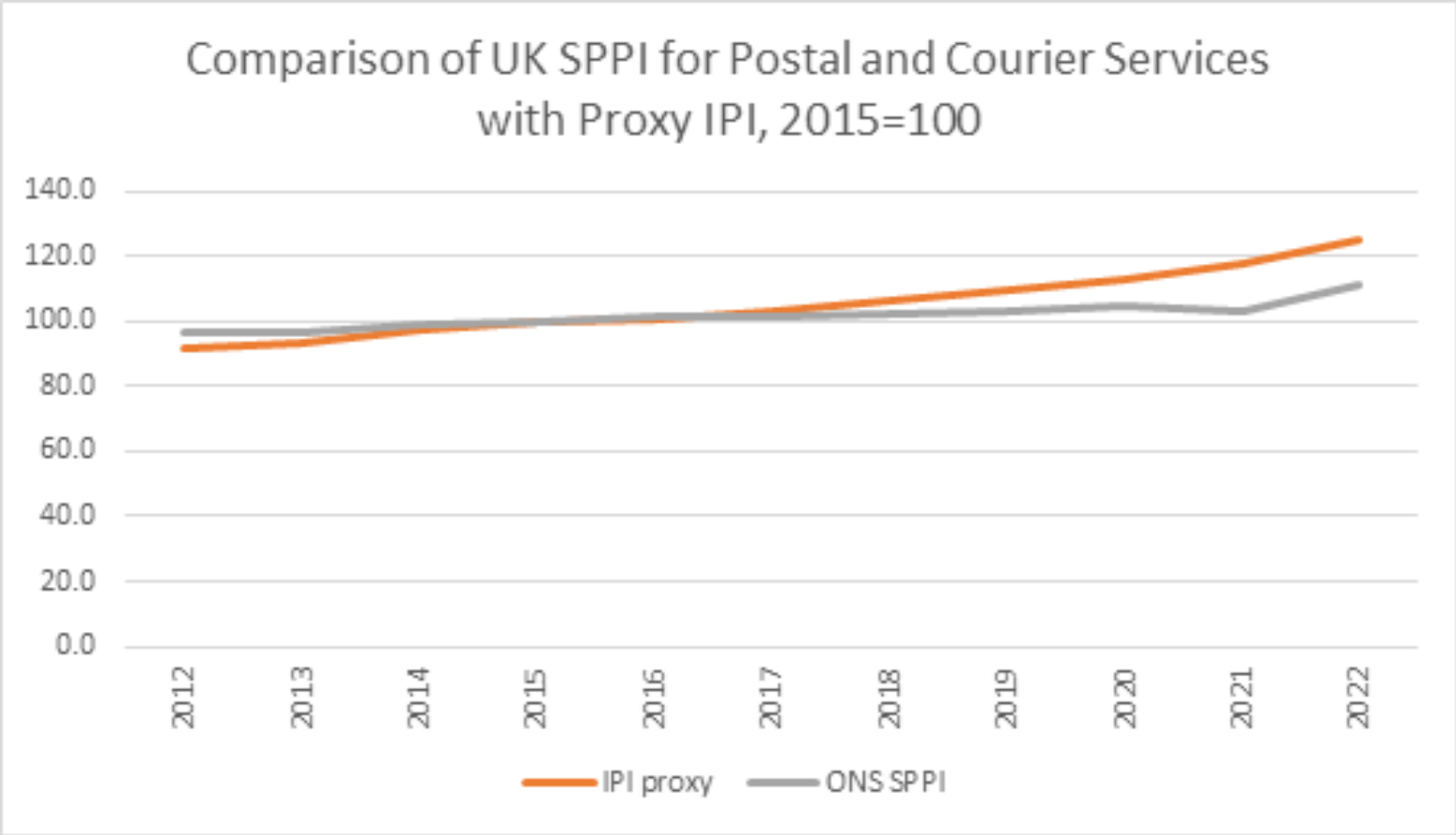
# Case study 3

## Postal and Courier Services

- No suitable deflator for trade in Postal and Courier Services currently
- Created a new deflator using other countries' SPPIs
- There was a minimal difference between proxy index and current SPPI; ONS is now considering using existing SPPI with exchange rate adjustment to deflate imports of these services

# Case study 3

## Postal and Courier Services





# Findings and conclusions

# Findings

- **First case study:** Both the proxies created using PPIs and EPIs closely tracked the IPI, providing supporting evidence for our own IPI
- **Second case study:** Experimental UVI may be better measures of prices than our traditional IPIs. Our proxy approach may have use for comparison purposes
- **Third Case study:** The SPPIs for the countries with which we engage in trade experienced similar trends in price movements as the UK's SPPI and a proxy IPI for services could be generated. Further investigation into the use of this would be required

# Conclusions

- Useful tool to compare to existing deflators or other alternatives
- May be viable in some situations
  - Needs to be considered on case-by-case basis
- Use of PPIs may help to address areas where quality adjustment is needed if it's already been applied in the source-index