Title: THE MATERIALS AND ARTICLES IN CONTACT WITH FOOD (ENGLAND) (AMENDMENT) REGULATIONS 2018

IA No: FOOD0160

RPC Reference No: FOOD0160

Lead department or agency: FOOD STANDARDS AGENCY

Other departments or agencies: N/A

Impact Assessment (IA)

Date: April 2018 (updated with 2020 figures)

Stage: Consultation

Source of intervention: EU

Type of measure: Secondary legislation

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RPC Opinion: RPC Opinion Status

Summary: Intervention and Options

Cost of Preferred (or more likely) Option							
Total Net Present Value	Business Net Present Value	Net cost to business per year (EANDCB in 2014 prices)	One-In, Three-Out	Business Impact Target Status			
£-0.12m	£-0.12m	£0.0m	Not in scope	Qualifying provision			

What is the problem under consideration? Why is government intervention necessary?

Unregulated transfer of chemicals from materials and articles intended to come into contact with food may detrimentally affect consumer health, which could potentially create a negative cost to others such as the National Health Service. Consumers are unable to assess the risks involved when consuming a product that has been in contact with food contact materials, because they cannot observe the level of chemical migration and do not have the full information to make informed choices about such risk. Government intervention is necessary to reduce the chronic and acute health risks to consumers arising from chemical migration from food contact materials into the food they eat.

What are the policy objectives and the intended effects?

- To provide for the execution and enforcement by enforcement authorities in England of Commission Regulation (EC) No. 282/2008 on recycled plastic materials intended to come into contact with foods, Commission Regulation (EU) No. 2016/1416 amending and correcting Regulation (EU) No. 10/2011 on plastic materials and articles intended to come into contact with food, and Commission Regulation (EU) No. 2018/213 on the use of bisphenol A in varnishes and coatings intended to come into contact with food.
- To update the existing offences and penalties in the Materials and Articles in Contact with Food (England) Regulations 2012.

What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base)

Option 1: Do Nothing – Do not provide for the enforcement and execution of Commission Regulation (EC) No. 282/2008, nor Commission Regulation (EU) No. 2016/1416 nor Commission Regulation (EU) No. 2018/213. The UK's obligation (under the Treaty on the Functioning of the European Union) to put in place provisions for their enforcement would not be fulfilled which would place the UK at risk of being subject to infraction proceedings.

Option 2 – Make appropriate domestic Regulations for the execution and enforcement of Commission Regulation (EC) No. 282/2008, Commission Regulation (EU) No. 2016/1416 and Commission Regulation (EU) No. 2018/213.

Option 2 is the preferred option as it meets all policy objectives and regulatory obligations.

Will the policy be reviewed? It will be reviewed. If applicable, set review date: 12/2025 (subject to laying date)

Does implementation go beyond minimum EU requirements?	No			
Are any of these organisations in scope?		SmallMediumYesYes		Large Yes
What is the CO ₂ equivalent change in greenhouse gas emissions? (Million tonnes CO ₂ equivalent)		Traded: N/A		raded: N/A

I have read the Impact Assessment and I am satisfied that, given the available evidence, it represents a reasonable view of the likely costs, benefits and impact of the leading options.

Signed by the responsible Minister: Edward Argar-Minister of State for Health Date: 02/12/2020

Summary: Analysis & Evidence

Policy Option 1

Description: Option 1: Do Nothing – Do not provide for the enforcement and execution of Commission Regulation (EC) No. 282/2008, nor Commission Regulation (EU) No. 2016/1416 nor Commission Regulation (EU) No. 2018/213.

FULL ECONOMIC ASSESSMENT

Price Base	PV Base	Time Period	Net Benefit (Present Value (PV)) (£m)				
Year	Year	Years	Low: Optional	High: Optional	Best Estimate:		

COSTS (£m)	Total Transition (Constant Price) Years		Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low	Optional		Optional	Optional
High	Optional		Optional	Optional
Best Estimate				

Description and scale of key monetised costs by 'main affected groups'

There are no monetised incremental costs associated with this option. This is the baseline against which other options are assessed.

Other key non-monetised costs by 'main affected groups'

There are no non-monetised incremental costs associated with this option. This is the baseline against which other options are assessed.

BENEFITS (£m)	Total Transition (Constant Price) Years		Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low	Optional		Optional	Optional
High	Optional		Optional	Optional
Best Estimate				

Description and scale of key monetised benefits by 'main affected groups'

There are no monetised incremental benefits associated with this option. This is the baseline against which other options are assessed.

Other key non-monetised benefits by 'main affected groups'

There are no non-monetised incremental benefits associated with this option. This is the baseline against which other options are assessed.

Key assumptions/sensitivities/risks

Costs of infraction may result from failure to implement the enforcement provisions of the Commission Regulations.

BUSINESS ASSESSMENT (Option 1)

Direct impact on b	usiness (Equivalent /	Annual) £m:	Score for Business Impact Target (qualifying
Costs: 0.0	Benefits: 0.0	Net: 0.0	provisions only) £m:
			0.0

Summary: Analysis & Evidence

Policy Option 2

Description: Option 2 – Make appropriate domestic Regulations for the execution and enforcement of Commission Regulation (EC) No. 282/2008, Commission Regulation (EU) No. 2016/1416 and Commission Regulation (EU) No. 2018/213.

FULL ECONOMIC ASSESSMENT

Price Base	PV Base	Time Period	Net Benefit (Present Value (PV)) (£m)				
Year 2017	Year 2017	Years 10	Low: Optional	High: Optional	Best Estimate: -0.12		

COSTS (£m)	Total Transition (Constant Price) Years		Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low	Optional		Optional	Optional
High	Optional	,	Optional	Optional
Best Estimate	0.10		0.0	0.12

Description and scale of key monetised costs by 'main affected groups'

Industry and Enforcement Authorities will face one-off familiarisation costs with the three EU Regulations and the amendment to the 2012 England Regulations. For England only, these amount to Industry costs of £104,150.04 (an Annual Equivalent Cost of £12,099.66) and Public-sector costs of £15,673.46 (an Annual Equivalent Cost of £1,820.87).

Other key non-monetised costs by 'main affected groups'

Some industry sectors may face costs of assessing compliance with the new migration limits for aluminium and zinc from plastics, new migration testing requirements for fresh unpeeled fruit and vegetables, and the migration limit for bisphenol A from varnishes or coatings applied to food contact materials.

Recyclers may face costs associated with the auditing of recycling processes by competent authorities and as a result of restrictions and specifications that may be set in the Commission Decisions.

BENEFITS (£m)	Total Transition (Constant Price) Years		Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low	Optional		Optional	Optional
High	Optional		Optional	Optional
Best Estimate				

Description and scale of key monetised benefits by 'main affected groups'

No monetised benefits have been identified.

Other key non-monetised benefits by 'main affected groups'

The deletion of the generic specific migration limit in Commission Regulation (EU) No. 2016/1416 removes an unnecessarily burdensome testing requirement for approximately 400 substances used in plastic food contact materials for which migration limits have not been specified. The Regulation adds ten new substances that can be used in the manufacture of food contact materials. This Regulation also provides some greater flexibility for business operators when testing plastic materials and articles.

Key assumptions/sensitivities/risks

Discount rate (%)

3.5

Proportion of micro, small, medium and large firms in England, Wales and Northern Ireland (E,W&NI) is assumed the same, for each country.

All recycling firms are assumed to be large.

80% of plastic manufacturing firms are assumed to be involved with food products.

BUSINESS ASSESSMENT (Option 2)

		Annual) £m:	Score for Business Impact Target (qualifying	
Costs: 0.0	.0 Benefits: 0.0 Net: 0	Not: 0.0	provisions only) £m:	
Costs: 0.0 Beriefits: 0.0	Net: 0.0	0.0		

Evidence Base (for summary sheets)

Problem under consideration and rationale for intervention

- 1. The unregulated migration of chemicals from materials and articles intended to come into contact with food may detrimentally affect consumer health, which could potentially create a negative cost to others such as the National Health Service. Consumers are unable to assess the risks involved when consuming a product that has been in contact with food contact materials because they cannot observe the level of chemical migration and do not have the information to make informed choices about such risks.
- 2. Government intervention to regulate such products reduces the chronic and acute health risks to consumers arising from chemical migration from food contact materials into the food they eat. The proposed Materials and Articles in Contact with Food (England) (Amendment) Regulations 2018 ("the proposed Regulations") will amend the Materials and Articles in Contact with Food (England) Regulations 2012 ("the 2012 Regulations") to provide enforcement authorities with the necessary powers for the execution and enforcement of the provisions of the three European Regulations mentioned below. This provides for the continuation of consumer protection against migration of chemicals from food contact materials that could carry an unacceptable long-term risk to consumer health.
- 3. Commission Regulation (EC) No. 282/2008 on recycled plastic materials intended to come into contact with foods ("the Recycling Regulation") was published in the Official Journal of the European Union (OJ) on 28 March 2008¹ and is directly applicable throughout the EU. Although the Recycling Regulation has been in force since 17 April 2008, several important provisions will only apply from the date of adoption of authorisation decisions on recycling processes. Therefore, the enforcement of the Recycling Regulation in the UK is deferred until the adoption of these decisions which are expected by the end of 2018 (discussed further in this Impact Assessment in paragraph 19).
- 4. Commission Regulation (EU) No. 2016/1416 ("the revised Plastics Regulation") amending and correcting Regulation (EU) No. 10/2011² ("the Plastics Regulation") on plastic materials and articles intended to come into contact with food, was published in the OJ on 25 August 2016³. The revised Plastics Regulation came into force on 14 September 2016, and is directly applicable throughout the EU. There is a transition period of one year allowing materials and articles that were compliant before entry into force of this Regulation to remain on the market, whilst the new migration limits for aluminium and zinc, set out in point 2(a) of the Annex and the assignments of food simulants in point 3(c) of the Annex, will apply from 14 September 2018.
- 5. Commission Regulation (EU) No. 2018/213⁴ on the use of bisphenol A (BPA) in varnishes and coatings intended to come into contact with food and amending Regulation (EU) No. 10/2011 ("the BPA Regulation") will be applicable from 6 September 2018. The BPA Regulation sets a lower specific migration limit (SML) for the use of BPA in plastics as currently given in the Plastics Regulation, and extends this to BPA use in varnishes and coatings applied to materials and articles intended to come into contact with food. It also bans the use of BPA in varnishes and coatings for food contact materials and in polycarbonate drinking cups which, due to their spill proof characteristics, are intended for infants and young children.

¹ OJ Ref L86, 28.03.2008, pg. 9-18 Available to download from the Eur-Lex website.

 $^{^2}$ OJ Ref L12, 15.01.2011, pg. 1-89 Available to download from the Eur-Lex website.

³ OJ Ref L 230, 25.08.2016, pg. 22-42 Available to download from the Eur-Lex website.

⁴ OJ Ref L41, 14.02.2018, pg. 6 Available to download from the Eur-Lex website.

6. The BPA Regulation requires that varnished or coated materials and articles containing BPA should be accompanied with a Declaration of Compliance (DoC), which should be renewed to reflect any changes in the migration levels from the varnish or coating that has been applied to materials and articles. A DoC is a document that provides assurance to customers that the material or article complies with the legislation.

Policy objective

- 7. The proposed Regulations will amend the 2012 Regulations. The purpose of this proposal is to meet several policy objectives:
 - to provide for the execution and enforcement in England of Commission Regulation (EC) No. 282/2008 on recycled plastics, Commission Regulation (EU) No. 2016/1416 on plastics and Commission Regulation (EU) No. 2018/213 on bisphenol A
 - provide for offences of contravening certain provisions of the three European Regulations
 - specify the penalties that the Courts may impose upon conviction for an offence
 - make changes to the existing offences and penalties in the 2012 Regulations so that these are more appropriate and proportionate

Changes to the offences and penalties in the proposed Regulations

- 8. The 2012 Regulations contain criminal offences for failing to comply with certain provisions of the European legislation they enforce and implement. Currently, the penalties for each of the offences includes failure to comply with:
 - 1. requirements for a DoC⁵
 - 'on conviction on indictment to a fine or to imprisonment for a term not exceeding two years or both; or on summary of conviction to a fine not exceeding the statutory minimum'
 - 2. supporting documentation
 - 'on summary conviction to a fine not exceeding level 5 on the standard scale'
- 9. The proposed Regulations introduce the use of compliance notices to act as a first intervention for the offences listed above. The compliance notice must state:
 - the reason for the serving of the notice;
 - the steps the person on whom the notice has been served must take;
 - what actions are required by a specific date;
 - that failure to comply with the notice is an offence; and
 - provide details on the right to appeal against the notice

⁵ Declaration of Compliance (DoC) requirements are applicable for food contact materials made from plastic, ceramic, regenerated cellulose film and active, intelligent materials and articles and recycled plastics and for materials containing the substance BADGE and its derivatives.

- 10. The aim of these changes is to ensure that sanctions are appropriate and proportionate, as the absence of a DoC or supporting documentation does not necessarily mean that the food contact material is a risk to health. Compliance notices are therefore considered a more appropriate first intervention in these instances.
- 11. A 'backstop' criminal offence will apply if a business fails to comply with a compliance notice, with a penalty on summary conviction of a fine. Without a 'backstop' criminal offence, there would not be a sufficient deterrent for manufacturers of food contact materials who fail to provide a DoC and this could ultimately lead to food contact materials being used inappropriately by the end user. This could result in increased risks for consumer health as the required safety information would not have been passed down the supply chain.
- 12. For food safety offences, existing criminal sanctions will continue to apply; these include the use of unauthorised substances or exceeding specified permitted limits of authorised substances. This is to ensure consumers are not exposed to migration from materials and articles not manufactured in accordance with good manufacturing practice, which could pose a risk to consumer health.
- 13. For the Recycling Regulation and the BPA Regulation, two new criminal offences will be created:
 - Failure to comply with the safety requirements for recycled plastic
 - Failure to comply with the migration limit for varnishes and coatings applied to materials and articles
- 14. In addition, two compliance notices will be created for failure to comply with the DoC requirements for these Regulations. As with the other changes to the DoC, a backstop criminal offence with the relevant penalties would apply upon failure to abide with a compliance notice.
- 15. The FSA is reviewing the approach taken to sanctions in food law to ensure these remain effective, dissuasive and proportionate in line with UK Government advice on the use of criminal sanctions. This could potentially lead to changes in the sanctions in the proposed Regulations in the future.

We particularly welcome responses and general feedback to the questions throughout the Impact Assessment. For each question please explain your response and provide evidence (where possible) to support your views.

- 1(a) We invite stakeholders to comment on the introduction of compliance notices to act as a first intervention for the offences listed above.
- 1(b) Will the introduction of compliance notices provide adequate protection for consumers?
- 1(c) We invite stakeholders to comment on the proposal to use 'backstop' criminal offences for failure to comply with a compliance notice. A criminal offence would apply, with a penalty on summary conviction of a fine.

Background

16. The general principles governing the safety of all materials and articles intended to come into contact with food are established in Regulation (EC) No. 1935/2004⁶ of the European Parliament and of the Council ("the Framework Regulation"). The Plastics Regulation is a specific measure within the meaning of Article 5(1) of the Framework Regulation and establishes the specific rules for plastic materials and articles intended to come into contact with food.

Requirements for recycled food contact materials and articles

- 17. Commission Regulation (EC) No. 282/2008 ("the Recycling Regulation") establishes the specific rules for food contact recycled plastic materials and articles⁷. It came into force on 17 April 2008, and is directly applicable throughout the EU. Food contact materials made from recycled plastics can only be placed on the market if they are manufactured from plastic, obtained from an authorised recycling process. Under Article 5 of the Recycling Regulation, the European Food Safety Authority (EFSA) is responsible for carrying out a safety assessment and publishing an Opinion on each recycling processes. This is to determine whether a process reduces potential contamination to a level which will not pose a health risk.
- 18. The Commission will publish Decisions on each EFSA Opinion to grant or refuse authorisation for individual recycling processes. This will contain a set of criteria and the critical steps associated with the recycling process which need to be adhered to by the recycler. Authorised processes must be managed by a quality assurance system that guarantees the reproducible quality of the recycled plastics.
- 19. Although the Recycling Regulation has been in force since 17 April 2008, the provisions of Article 3 (requirements for plastic materials and articles), Article 9 (community Register of authorised recycling processes), Article 10 (official control of recycling plants) and Article 12 (DoC and record keeping) will only apply to businesses when the Commission adopts authorisation Decisions on individual recycling processes. These are expected at the end of 2018. These decisions will consider risk assessments from the EFSA on each recycling process.
- 20. Trade in and use of recycled plastic from a recycling process already in place on the date of entry into force of the Recycling Regulation, for which authorisation is refused or no valid application has been submitted in accordance with Article 13, shall be permitted until six months after the date of the adoption of the Decisions.
- 21. Trade in and use of recycled plastic materials and articles containing recycled plastic from a recycling process already in place on the date of entry into force of the Recycling Regulation, for which authorisation is refused or no valid application has been submitted in accordance with Article 13, shall be permitted until exhaustion of stocks.

Auditing of the authorisation process for recycled plastics

22. Under Article 10 of the Recycling Regulation, Member State competent authorities are required to undertake official controls in the form of audits on the authorised recycling processes. These controls are to ensure that a given recycling process is operating in accordance with the relevant Commission Decision and that an effective quality assurance

 $^{^{\}rm 6}$ OJ Ref L338, 13.11.2004, pg. 4-17 Available to download from the Eur-Lex website.

⁷ OJ Ref L86, 20.03.2008, pg. 9-18 Available to download from the Eur-Lex website.

- system is in place, in accordance with <u>Commission Regulation (EC) No. 2023/2006</u> on good manufacturing practice for materials and articles intended to come into contact with food⁸.
- 23. The Food Standards Agency (FSA) is preparing for the implementation of this auditing requirement after 2018. The aim is to ensure that these audits produce the minimum administrative and economic burden to industry and competent authorities, whilst ensuring consumer protection. The frequency of auditing is not likely to be specified in the Commission Decisions, but left to individual Member States to decide upon on a risk basis. Proportionate to the potential risks to public health, the likely frequency of auditing is expected to be around every three to five years. The FSA is currently exploring options for the provision of audit functions. A recommendation paper has been written on the auditing options and is under consideration. It is likely that the cost of carrying out the auditing would be passed onto recyclers, in line with European Regulations on Official Controls and the FSA's future regulatory strategy which says that businesses should meet the cost of regulation⁹.

The Plastics Regulation

24. The Plastics Regulation is routinely amended to improve the clarity of the rules and to keep up with technological innovation. Applicants apply to the EFSA for evaluation of new substances that they wish to use in food contact plastics. The EFSA evaluates the risk to public health arising from the migration of these substances into food. If these substances are considered safe by the EFSA, the Commission amends the Plastics Regulation to include these substances.

Changes made by the revised Plastics Regulation to the Annexes of the Plastics Regulation

- 25. The changes to the Annexes to the Plastics Regulation do not require any changes to be made to the enforcement provisions in the 2018 Regulations as a result of the existing ambulatory reference in the 2012 Regulations. Ten new substances that can be used in the manufacture of food contact plastics and amendments to six existing substances have been introduced by ambulatory references. The other main amendments to the Annexes include:
 - the introduction of a migration limit of 1mg/kg for aluminium from plastics (Annex II point 1)
 - a reduction in the existing migration limit for zinc from plastics from 25mg/kg to 5mg/kg (Annex II point 1)
 - allowing the testing in only one food simulant if appropriate scientific evidence is documented showing that that food simulant is the most severe (Annex III point 5)
 - allowing the use of processing conditions used by business operators in food processing (such as pasteurisation or sterilisation) as testing conditions for migration testing (Annex V section 2.1.3 of chapter 2)
 - allowing the use of a single screening test to screen compliance with the Regulation if the migration behaviour of a material or article is well established (Annex III point 5)
 - the introduction of specific migration testing methods for fruits and vegetables (Annex III table 2)

⁸ OJ Ref L384, 29.12.2006, pg. 75-78 Available to download from the Eur-Lex website.

⁹ Developing the FSA's new approach to regulating food businesses https://www.food.gov.uk/sites/default/files/fsa160506.pdf

- 26. Several other minor clarifications and corrections have been made to the Annexes to remove any doubt about the application of the Plastics Regulation.
 - 2) We welcome stakeholders' comments on whether the new migration limit for aluminium from plastics; the lower migration limit for zinc from plastics; and simulant testing for unpeeled fruit and vegetables, is likely to lead to significant costs and whether any other costs are expected as a result of the EU Regulation.

Please explain your response and provide evidence (where possible) to support your views.

Changes made by the revised Plastics Regulation to the Articles in the Plastics Regulation (not covered by ambulatory references)

- 27. Very minor changes are required to Schedule 1 to the 2012 Regulations to take account of changes made to the Articles in the Plastics Regulation by the revised Plastics Regulation.
- 28. The revised Plastics Regulation amends Articles 3, 6, 11, 13, 17 and 18 of the Plastics Regulation. The specific changes include:
 - Article 3 was amended to revise the definitions for 'non-fatty food' and introduce a
 definition of 'hot fill'
 - Article 6 (3) was replaced to clarify that the derogation for specified metal salts of authorised acids, alcohols and phenols applies to multiple salts and not just double salts
 - Article 11 (2) was deleted to remove the requirement to test plastic materials that are not subject to specific migration limits with the generic specific migration limit of 60mg/kg
 - a new point 4 was added in Article 11 to clarify that where it is specified that no migration
 of a particular substance is permitted, compliance shall be established using appropriate
 migration test methods selected in accordance with Article 11 of Regulation (EC) No.
 882/2004 that can confirm the absence of migration above a specified limit of detection
 - Article 13 (3) was amended to clarify that substances not listed in the Union list, nor the
 provisional list, should not migrate through a functional barrier in accordance with the
 newly amended Article 11 (4)
 - Article 17 3(a) was amended to clarify how migration limits should be specified for caps, gaskets and stoppers and similar sealing articles
 - Article 18 (4) was amended to clarify that the whole of chapter 3 of Annex V is relevant for the verification of compliance with the overall migration limit for materials and articles not yet in contact with food
 - Article 18 (7) was amended to clarify that the correction factors in point 3 of Annex III and Chapter 4 of Annex V should be applied before comparing specific and overall migration test results with the migration limits

Requirements for bisphenol A (BPA) in varnishes and coatings intended to come into contact with food

- 29. BPA is a chemical substance used in the manufacture of certain food contact materials such as plastic (polycarbonates) and coatings (epoxy resins). Polycarbonate is mainly used in food contact applications such as water cooler bottles based on the properties that it provides compared to other plastics. BPA-based epoxy resin is used to make the coatings applied to the inside of metal food and beverage cans to act as a barrier to protect the surface of the packaging material from damage from certain foods.
- 30. In accordance with Article 6 of the Framework Regulation, some Member States have adopted national provisions in those areas for which specific measures have not been established at European level.
- 31. Due to these divergent rules in some Member States, the Commission felt it necessary to introduce a specific measure on the use of BPA in coatings and varnishes applied to food contact materials. This Regulation sets a Specific Migration Limit (SML) of 0.05mg/kg for the migration of BPA from varnishes and coatings applied to food contact materials. This SML is derived from the temporary tolerable daily intake (t-TDI) that the EFSA set for BPA in 2015¹⁰. The t-TDI takes account of some remaining uncertainties in relation to potential health effects and exposure estimates and therefore the precautionary principle is applied. It is expected that on-going long-term research will help to reduce these uncertainties.
- 32. The EFSA concluded that the dietary exposure to BPA for the highest exposed groups, which includes infants, children and adolescents, is below the t-TDI, indicating that there is no health concern at the estimated levels of exposure. The BPA Regulation amends the Plastics Regulation, reducing the existing SML for BPA so it is in line with the BPA Regulation.
- 33. The BPA Regulation also specifies that there shall be no permitted migration of BPA from varnishes or coatings applied to materials and articles specifically intended to come into contact with either infant formula, follow-on formula, processed cereal-based food, baby food, food for special medical purposes developed to satisfy the nutritional requirements of infants and young children, or milk-based drinks and similar products specifically intended for young children.
 - 3) We invite stakeholders to comment on our assessment that there may be costs associated with testing to demonstrate compliance with the new migration limits for BPA from coatings and varnishes.

If you agree or disagree with this assessment, please explain your response and provide evidence (where possible) to support your views.

Sectors affected

34. We have used the Interdepartmental Business Register (IDBR) to identify which sectors and industries in England, Wales and Northern Ireland (E,W&NI) may be affected by the policy. The IDBR is a comprehensive register of businesses, which covers 99% of UK economic activity. The data in the register is structured by the UK Standard Industrial Classification of Economic Activities (SIC 2007). Given the aggregate nature of the IDBR, it has been difficult to identify precise subsectors that will be affected by the proposed Regulations. This means that the sectors identified and used in the analysis will be larger (in terms of number of

¹⁰ A tolerable intake is the amount of a substance that can be consumed over a lifetime without presenting an appreciable risk to health.

businesses affected) than the number affected by the policy. For example: "manufacture of plastic packing goods" SIC-2222 refers to all plastic packaging manufacturers not exclusively those in contact with food. To minimise the impact of these uncertainties we have provided sensitivity analysis around the final costings (sector size of 50% and 80%, respectively, of the actual sector size in the available data), see Annex 2. The central estimate of 80% (which remains conservative) is used to calculate the best estimate of the costs and benefits.

Industry

The Recycling Regulation

- 35. This Regulation will affect:
 - the eight recycling businesses in England producing recycled material for food contact use (assuming their processes are authorised by Commission Decisions)
 - businesses using the recycled material produced from these recycling processes to make new materials and articles for food contact
 - businesses using recycled material produced from other authorised EU recycling processes
- 36. The FSA does not envisage that the adoption of the authorisation decisions on recycling processes will lead to additional costs for recyclers. Some of the authorisation decisions may set restrictions on the amount of recycled material that can be incorporated into finished products as a result of the safety assessments carried out by the EFSA. The eight businesses in England who have pending applications for authorisation of their recycling processes may therefore already be complying with any restrictions as the decisions are likely to closely follow the EFSA opinions. As mentioned in paragraph 23 it is likely that there will be a small cost to recyclers associated with the auditing provisions required by the Recycling Regulation. Conversely, there may also be a benefit for recyclers, as the authorisation decisions may open new markets for the recycled plastic produced under EU-authorised recycling processes.

The revised Plastics Regulation

37. Any costs to industry associated with the revised Plastics Regulation relate to businesses involved in the manufacture of plastic materials and articles intended to come into contact with food (including articles such as food packaging, cookware, cutlery, tableware, work surfaces and food contact parts of processing equipment), not the whole packaging industry. This will apply equally to all businesses in this sector regardless of size.

The BPA Regulation

- 38. The FSA does not envisage that a reduction in the specific migration limit for BPA from plastics will change the existing cost of compliance for plastic manufacturers. There will be a cost for businesses associated with testing for compliance with the new SML for BPA from varnishes and coatings applied to food contact materials and articles. However, at present businesses are still required to demonstrate compliance with the Framework Regulation on food contact materials, Regulation (EC) No. 1935/2004.
- 39. This Impact Assessment is based on England and all costs and benefits are provided for England only. However, as changes to the legislation in England will require similar changes

to be enacted in each of the devolved administrations we have provided analysis for E,W∋ Tables 1 and 2 summarise the distribution across E,W&NI of the sectors that are affected by the proposed Regulations. A more detailed description of the SIC codes is provided in Annex 3. There remains uncertainty as to the number of affected businesses using IDBR SIC classification. As a result, the number of businesses set out in Tables 1 and 2 represents 80% of the maximum number of potentially affected businesses (full sensitivity analysis can be found in Annex 2).

Table 1: Option 2 - Sectors affected by the Regulation by Country

Country	England	Wales	Northern Ireland	Total
Plastics manufacturer (2222)	376	24	8	408
Recyclers producing material for food contact	8	0	0	8
Food canners/coatings manufacturers (2529, 2592, 2561)	1455	60	45	1560

Source: IDBR 2020. For details and SIC codes see Annex 3

Table 2: Option 2 - Sectors affected by firm size for E, W&NI

Firm Size	Micro	Small	Medium	Large	Total
Plastics manufacturer (2222)	164	146	84	13	408
Recyclers producing material for food contact	0	0	0	8	8
Food canners/coatings manufacturers (2529, 2592, 2561)	938	490	116	16	1560

Source: IDBR 2020. For details and SIC codes see Annex 3

4) We invite stakeholders to comment on whether we have adequately captured the nature of the England, Wales and Northern Ireland markets or not. If not, please provide us with an approximation of the number of firms affected and their size in terms of number of employees.

Enforcement bodies

40. Enforcement authorities will also be affected by the proposed Regulations as they will be responsible for providing for the enforcement of the Recycling Regulation, the changes to the Plastics Regulation made by the revised Plastics Regulation and the BPA Regulation. There will also be one-off costs to enforcement bodies for familiarisation with the proposed Regulations and the three EU Regulations. Table 3 shows the number of enforcement authorities that are affected by the proposed Regulations. This includes Local Authorities (LAs), Port Health Authorities (PHAs) and Official Control Laboratories (OCLs).

Table 3: Number of LAs, PHAs and public OCLs in each country

Enforcement Body	England	Wales	Northern Ireland
LA	347	22	12
PHA	15	0	0
OCL	7	4	1

Source: FSA internal data

Options Considered

Option 1: Do not provide for the enforcement and execution of Commission Regulation (EC) No. 282/2008, nor Commission Regulation (EU) No. 2016/1416, nor Commission Regulation (EU) No. 2018/213.

41. Under this option, the three directly applicable European Regulations would still be applicable in England and the rest of the UK. However, enforcement authorities in England would not have the necessary powers to enforce certain provisions, which could consequently have adverse impacts on public health. Non-compliance with these legal requirements could not be prevented and penalties could not be imposed on those in breach of the requirements. The UK's obligation (under the Treaty on the Functioning of the European Union) to put in place provisions for their enforcement would not be fulfilled which would place the UK at risk of being subject to infraction proceedings.

Option 2: Make appropriate domestic Regulations for the execution and enforcement of Commission Regulation (EC) No. 282/2008, and Commission Regulation (EU) No. 2016/1416 and Commission Regulation (EU) No. 2018/213.

42. This option will provide enforcement authorities with the necessary powers and administrative arrangements to execute and enforce the provisions of the three EU Regulations in England. This ensures that enforcement authorities fulfil the requirement placed upon them and that the Courts can impose the associated penalties.

Options Appraisal

Costs and Benefits

Option 1: Do not provide for the enforcement and execution of Commission Regulation (EC) No. 282/2008, nor Commission Regulation (EU) No. 2016/1416, nor Commission Regulation (EU) No. 2018/213.

43. There are no relatable costs or benefits associated with this option to the main affected groups. This is the baseline against which the other policy option is appraised. There is however the risk of costs as a result of infraction proceedings as a failure to implement the enforcement provisions of the Commission Regulations.

Option 2: Make appropriate domestic Regulations for the execution and enforcement of Commission Regulation (EC) No. 282/2008, and Commission Regulation (EU) No. 2016/1416 and Commission Regulation (EU) No. 2018/213.

44. This is the preferred option as it will enable the execution and enforcement of the three European Regulations in England.

Costs - Option 2

Industry Familiarisation (one-off costs)

- 45. Under Option 2, there will be a one-off cost to industry for reading and familiarising themselves with the Recycling Regulation, the revised Plastics Regulation and the new BPA Regulation.
- 46. Familiarisation costs are quantified by multiplying the time it will take for a manager to familiarise themselves with the Regulations, by the median hourly wage rate of that manager, uplifted by 20% to allow for overheads. Total costs in England are calculated by multiplying total business cost by the number of businesses within that industry. We have assumed that for industry it will be one or more of either the regulatory, technical or production manager that will be responsible for familiarisation with the three EU Regulations. The median hourly wage rate for a production manager in the Annual Survey

of Hours and Earnings (ASHE 2019) is £22.45, which uplifted for overheads is £26.94¹¹. There is no median hourly wage posted for regulatory or technical managers within the ASHE. Therefore, the assumption has been made that their median hourly wage rate will be similar to that of a production manager, which will be taken as representative of the costs incurred for each role. The businesses affected under this Option are:

A] recyclers of plastic materials and articles producing material for food contact (there are 8 recyclers in England)

B] manufacturers of plastic packaging goods and other plastic products that are intended to come into contact with food, including businesses that use recycled plastic to produce these goods

C] coatings manufacturers, can makers and food canners.

A] Familiarisation costs for plastic recyclers producing material for food contact

- 47. We have assumed that one production manager at a recycling plant will be responsible for familiarisation with the Regulations. As they will already be familiar with the requirements of the Recycling Regulation through making an application for authorisation under the Regulation, we have assumed that costs will only result from familiarising themselves with the requirements of the authorisation Decision.
- 48. We estimate that 2 hours are required for familiarisation; one hour for the authorisation Decision and another hour to disseminate the information within the organisation. This results in a familiarisation cost per business of £53.88, giving a total familiarisation cost to plastic recyclers in England of £431.04. Table 4 presents total familiarisation costs by firm size and country and Table 5 presents familiarisation costs as annual equivalent costs:

Table 4: Familiarisation costs for plastic recyclers producing material for food contact

	Micro	Small	Medium	Large	Total
England	£0.00	£0.00	£0.00	£431.04	£431.04
Wales	£0.00	£0.00	£0.00	£0.00	£0.00
NI	£0.00	£0.00	£0.00	£0.00	£0.00

Table 5: Annual Equivalent Costs (AEC) for plastic recyclers producing material for food contact

	England	Wales	Northern Ireland	Total
AEC (£)	£50.08	£0.00	£0.00	£50.08

B] Familiarisation costs for plastic manufacturing industry (includes users of recycled material)

- 49. The revised Plastics Regulation is specific to food contact materials and articles manufactured from plastic. We have assumed that one production manager will be responsible for familiarisation.
- 50. We estimate that two and a half hours are required for familiarisation; one hour for the revised Plastics Regulation, half an hour for the requirements for recycled plastic used to make plastic materials and articles and another hour to disseminate the information within the organisation. This results in a familiarisation cost per business of £67.35, giving a total

¹¹ https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/earningsandworkinghours/datasets/occupation4digitsoc2010ashetable14 Includes an overhead of 20% (22.45*1.2=26.94)

familiarisation cost to the plastic manufacturing industry in England of £25,323.60. Table 6 presents total familiarisation costs by firm size and country and Table 7 presents familiarisation costs as annual equivalent costs:

Table 6: Familiarisation costs for the plastic manufacturing industry (includes users of recycled material)

	Micro	Small	Medium	Large	Total
England	£10,184.49	£9,083.47	£5,229.87	£825.77	£25,323.60
Wales	£650.07	£579.80	£333.82	£52.71	£1,616.40
NI	£216.69	£193.27	£111.27	£17.57	£538.80

Table 7: Annual Equivalent Costs (AEC) to the Plastic Manufacturing Industry (includes users of recycled material), by Country

	England	Wales	Northern	Total
			Ireland	
AEC (£)	£2,941.98	£187.79	£62.60	£3,192.36

- C] Familiarisation costs for coatings manufacturers, can makers and food canners
- 51. We have assumed that one production manager will be responsible for familiarisation with the BPA Regulation.
- 52. We estimate that two hours are required for familiarisation, one hour for the amendments and another hour to disseminate the information within the organisation. This results in a familiarisation cost per business of £53.88, giving a total familiarisation cost for coatings manufacturers, can makers and food canners of £78,395.40. Table 8 presents total familiarisation costs by firm size and country and Table 9 presents familiarisation costs as annual equivalent costs:

Table 8: Familiarisation costs for coatings manufacturers, can makers and food canners

	Micro	Small	Medium	Large	Total
England	£47,143.18	£24,630.99	£5,826.69	£794.55	£78,395.40
Wales	£1,944.05	£1,015.71	£240.28	£32.76	£3,232.80
NI	£1,458.04	£761.78	£180.21	£24.57	£2,424.60

Table 9: Annual Equivalent Costs (AEC) for coatings manufacturers, can makers and food canners

	England	Wales	Northern Ireland	Total	
AEC (£)	£9,107.60	£375.57	£281.68	£9,764.85	

Table Notes:

- 1. Totals may not sum due to rounding.
- 2. Due to the aggregated nature of IDBR, some subsectors covered by the analysis will be larger than the actual subsection covered by the policy. The IDBR does not disaggregate data by sector, business size and country simultaneously. These categorisations are therefore estimated based on the proportion of businesses in each country, for each size of business.

- 3. Costs are estimated by uplifting wage rates by 20% to account for overheads; this means the wage rates reported in the text are approximate to 2 decimal places and when grossed may result in rounding error.
 - 5) We welcome stakeholders' comments on whether our estimates of familiarisation costs to industry (outlined in Tables 4, 6 and 8) and our assumption that it will take businesses up to one hour to familiarise themselves with the requirements of the EU Regulations (plus half an hour for the Recycled Plastics requirements where pertinent) and one hour to disseminate to other members of staff (two or two-and-a-half hours in total) is reasonable.

If you agree or disagree with our assumptions, please explain your response and provide evidence (where possible) to support your views/comments.

Other Costs

Recyclers

53. As discussed in paragraphs 22 and 23, recycling processes that are authorised by Commission Decisions will have to undergo auditing by Member States.

Plastic manufacturers

- 54. The revised Plastics Regulation introduces a limit on the migration of aluminium from plastic food contact materials of 1mg/kg. This is derived from the tolerable weekly intake for aluminium of 1mg of aluminium per kilogram of bodyweight per week, as a significant part of the population exceeds this level. Assessing compliance with this migration limit will only affect those manufacturers that use aluminium in their processes. Similarly, the revised Plastics Regulation reduces the existing migration limit of zinc from plastic food contact materials.
- 55. The revised Plastics Regulation also introduces specific migration testing provisions for plastic materials and articles in contact with fresh unpeeled fruits and vegetables. This will offer improved consumer protection from substances that could migrate from such plastics. It is a requirement that a food simulant should be assigned to certain products for the purposes of testing but this may result in overestimation (depending on size and shape of the fruits and vegetables, and whether fruits and vegetables are peeled or not). The overestimation should be addressed with a correction factor. Depending on the circumstances (type of food simulant required), additional costs may be incurred.

BPA

- 56. The introduction of a SML for migration of BPA from coatings and varnishes applied to food contact materials has cost implications with regards to migration testing and possibly the frequency of such tests. The coatings industry has said that they will no longer be able to use total extraction to measure the migration of BPA.
- 57. Despite the costs of compliance, the industry was very keen to see this measure adopted as it will lead to harmonisation of the internal market, which is expected to outweigh their costs.

Enforcement Authorities Familiarisation (one-off costs)

58. There will be a one-off cost to Enforcement Authorities (EAs) for reading and familiarising themselves with the new Regulations. Local Authorities (LAs) and Port Health Authorities (PHAs) are responsible for enforcing food safety and food hygiene legislation in their

respective areas and as such, will need to be aware of the legislative changes. In addition, there will also be a one-off cost to Official Control Laboratories (OCLs) for reading and familiarising themselves with the changes to testing requirements.

- 59. Familiarisation costs are quantified by multiplying the time it will take for an official to familiarise themselves with the Regulations, by the median hourly wage rate of the official, uplifted by 20% to allow for overheads, and the number of enforcement authorities or laboratories affected. A two-hour familiarisation time for all enforcement authorities and OCLs was used as per the original impact assessment.
- 60. For LAs and PHAs, either an Environmental Enforcement Officer (EEO) or a Trading Standards Officer (TSO) will be required to familiarise themselves with the new enforcement provisions. To account for the differences across enforcement authorities¹², wage rates for both TSOs and EEOs are used to produce a range of values for hourly pay. As the lower bound we have used the uplifted, median hourly wage of a TSO (£19.01¹³) and as the upper bound the uplifted, median hourly wage rate of an EEO (£23.29¹⁴). This gives a central estimate of £21.15. (For full sensitivity analysis, see Annex 1).
- 61. For OCLs we have used an ASHE median hourly wage estimate for a science and technology professional of £21.48 which increases to £25.78 when adjusted for overheads.
- 62. We have estimated that that one enforcement officer per EA and one science professional per OCL is required for familiarisation.

For LAs and PHAs, this results in a lower bound familiarisation cost of £38.02 and an upper bound familiarisation cost of £46.58 and a central (mid-point) estimate of £42.30 per authority. For OCLs the familiarisation cost per authority is £51.55. Multiplying the cost per authority by the number of authorities, taking into account the wage differences between PHAs/LAs and OCLs, results in a total familiarisation cost to E,W&NI enforcement of £117,369.42. Table 10 presents the familiarisation costs by country.

For one-off costs to be compared with annual costs on an equivalent basis across the entire time span of the policy, one-off costs are converted into Annual Equivalent Costs (AEC) by dividing the one-off cost by an annuity factor.

The total one-off cost to enforcement authorities and OCLs in England affected by this proposal is estimated to be £15,673.46 which yields an annual equivalent cost of £1,820.87 for a period of 10 years. Table 11 presents familiarisation costs as annual equivalent costs.

Table 10: Table summarising the familiarisation costs by country

	England	Wales	Northern Ireland	Total
LA	£14,678.10	£930.60	£507.60	£16,116.30
PHA	£634.50	£0.00	£0.00	£634.50
OCL	£360.86	£206.21	£51.55	£618.62
Total	£15,673.46	£1,136.81	£559.15	£17,369.42

Table Notes:

1. Totals may not sum due to rounding.

 $^{^{12}}$ Note that TSOs or EEOs may be responsible for enforcing this legislation depending on resource in each local authority

¹³ https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/earningsandworkinghours/datasets/occupation4digitsoc2010ashetable14 Includes an overhead of 20% (15.84*1.2=19.01)

¹⁴ https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/earningsandworkinghours/datasets/occupation4digitsoc2010ashetable14 Includes an overhead of 20% (19.41*1.2=23.29)

2. Costs are estimated by uplifting wage rates by 20% to account for overheads; this means the wage rates reported in the text are approximate to 2 decimal places and when grossed may result in rounding error.

Table 11: Annual Equivalent Costs (AEC) for enforcement authorities by country

	England	Wales	Northern Ireland	Total
EAC	£1,820.87	£132.07	£64.96	£2,017.90

6) We invite stakeholders' comments on whether our estimates of familiarisation costs to enforcement bodies and official control laboratories (outlined in Table 10) and our assumption that it will take enforcement bodies and official control laboratories one hour to familiarise themselves with the requirements of the EU Regulations, and one hour to disseminate to other members of staff (two hours in total) is reasonable.

If you agree or disagree with our assumptions, please provide explain your response and provide evidence to support your views / comments.

Benefits - Option 2

Industry

- 63. A benefit of the revised Plastics Regulation is that it allows industry to use new substances in the manufacture of plastic materials and articles to keep up with innovation. The requirement to test for compliance with the generic specific migration limit for substances for which no specific migration limit has been set has been removed as the migration levels from all substances are already subject to compliance with an overall migration limit. The removal of this overly burdensome testing requirement will be a benefit to businesses. Another benefit of the revised Plastics Regulation is that it provides more flexibility in compliance testing.
- 64. Having all the legislation in one place is helpful for smaller businesses if they are given confidence there is only one main regulation they need to reference to ensure compliance. Without this reassurance there will be concern that a regulation amendment such as this may be missed.
 - 7) We welcome stakeholders' comments on our assessment that there may be benefits to industry for using new substances in the manufacture of plastic materials and articles, and benefits from the removal of the generic specific migration limit.

If you agree or disagree with this assessment, please explain your response and provide evidence (where possible) to support your views / comments.

Enforcement authorities

65. The amendment will provide for the execution and enforcement in England of Commission Regulation (EC) No. 282/2008 on recycled plastics, Commission Regulation (EU) No. 2016/1416 on plastics and Commission Regulation (EU) No. 2018/213 on bisphenol A; and provide for offences of contravening certain provisions of the three European Regulations,

- provide for the provision of Compliance Notices, together with specifying the penalties that the Courts may impose upon conviction for an offence.
- 66. As with business, local authorities have expressed the attitude that a single consolidated piece of legislation is a benefit as it provides clarity on the EU Regulations they provide enforcement for. They are unlikely to miss the new requirements due to fragmentation of the legislation, and will provide the clarity as to their powers to enforce the new European legislations.

Consultation

- 67. During the course of negotiations with the Commission, FSA officials have frequently consulted interested organisations, including industry, research institutes, consumer groups, enforcement bodies, public analysts and others with an interest in policy issues related to food contact materials.
- 68. Numerous consultations on harmonising food contact materials have been carried out/conducted since 2002. The FSA carried out two informal consultations in 2004 and 2008, which enabled the FSA to acquire useful information on the practicalities of setting out auditing provisions within the recycling Regulation. The 2008 consultation involved comments from enforcement bodies, allowing the FSA to consider frequency of auditing and other factors.
- 69. The FSA continued to hold informal discussions with stakeholders whilst keeping in touch with developments at the EU level. In 2014, the FSA wrote to local authorities and other government departments to help identify who would be best placed to perform the official controls. The latest comments form the basis of on-going consideration of the auditing provisions of the Recycling Regulation.
- 70. In 2017, the Commission and the EFSA welcomed comments via a public consultation on the draft BPA Regulation and the hazard assessment protocol respectively. The FSA actively encouraged stakeholder participation for both consultations. For the BPA Regulation, there was the option for stakeholders to share their views via the FSA rather than responding directly to the consultation platform. This helped inform the UK on its negotiation position on BPA.
- 71. A total of 151 comments from European stakeholders were received via the public consultation on the hazard assessment protocol, which was held between 30 June to 3 September 2017. The EFSA had also carried out separate public consultations on BPA in 2013 and 2014, which focussed specifically on general BPA human exposure and BPA toxicology, respectively. Almost 500 comments from European stakeholders were received from these earlier consultations.

Formal Consultation

72. The FSA will conduct a formal public consultation from 9 April 2018 on this Impact Assessment and draft Statutory Instrument. This will be of interest to businesses that manufacture, import, wholesale and/or retail plastic and recycled plastic materials and articles intended to come into contact with food, PHAs, Local Enforcement Authorities, consumers and other parties that deal with policy and legislation on food contact materials.

Small and Micro Businesses Assessment

- 73. As the E,W&NI food and drink packaging industry sector is comprised of mainly small and micro businesses, these will be impacted the most by changes in the new EU Regulations. For this reason, the FSA assesses the impact on small and micro businesses as standard when undertaking impact assessments.
- 74. The food and drink packaging industry is highly fragmented and diverse and is served by many suppliers. In 2001, the packaging industry employed approximately 100,000 people in around 2,700 companies 85% of which are described as small-to micro-sized companies. In 2003¹⁵, a study of the UK's entire packaging industry identified 13,000 packaging companies which combined, employ 250,000 people. The study also revealed that half of all packaging companies have a turnover less than £10 million, and that 85% are small to medium size enterprises. It should be noted however, that not all the packaging would be destined as food packaging.
- 75. The potential commercial impact of the proposals applies equally to all businesses involved, small or large. EU legislation generally applies to food businesses regardless of size, as requirements are intended to be risk based to reflect the activities undertaken. Due to the high ratio of small and micro food businesses in E,W&NI, which was highlighted within this Impact Assessment, it is often not feasible to exempt smaller businesses from new food measures. This is because it would fail to achieve the intended effect of reducing risks to consumer health. That said, the FSA makes every effort to minimise burdens on small and micro businesses and pays particular attention to impacts on them.
 - 8) We invite stakeholders' comments on whether or not you agree with our assumption that there will not be a significant impact on small or microbusinesses as a result of this legislation.

If you agree or disagree with this assessment, please explain your response and provide evidence (where possible) to support your response.

Statutory Post-Implementation Review

76. The FSA is required by the UK Government to carry out a review every five years on the way in which EU legislation is implemented and enforced by the relevant domestic legislation and, to the extent that it is reasonably practicable, to compare that with how the same EU measures are implemented or enforced in other Member States. The FSA will carry out a review in October 2023 (or earlier) to assess whether the Regulations are achieving their intended objectives.

Race/Gender/Disability Equality Issues

- 77. There will be no impacts on existing health, wellbeing or other social inequalities, on human rights, on levels of crime or crime prevention, or on skills and education. There will be no differential impact on rural or urban areas, nor are there any specific local or regional effects.
 - 9) We welcome stakeholders' comments on whether you are aware of any other impacts as a result of the EU Regulations and national Regulation?

Please explain your response and provide evidence (where possible) to support your response.

¹⁵ Mintel, March 2003

- N.B: Annex 4 is an additional Annex that was not previously included within the original 2018 Impact Assessment that accompanied the consultation pack.
- 78. Given that the proposed laying date of the Materials and Articles in Contact with Food (England) (Amendment) Regulations 2018 is now expected to be in 2020, the original Impact Assessment has been updated to account for latest figures (to update the original familiarisation costs) and these can be found within the main body of the Impact Assessment and within Annex 1, 2 and 3. Full details of the updates, including direct links to the published summary of responses to the original 2018 consultation can be found within the newly created Annex 4.

Annex 1 Sensitivities of One-off Familiarisation Costs under Different Wage Rates (Central, Low or High) per LA, PHA and OCL by Country (updated to reflect 2020 rates)

Enforcement Body	England	Wales	Northern Ireland
LA	347	22	12
PHA	15	0	0
OCL	7	4	1
Familiarisation Cost LA			
Low	£13,191.55	£836.35	£456.19
Central	£14,678.10	£930.60	£507.60
High	£16,164.65	£1,024.85	£559.01
Familiarisation Cost PHA			
Low	£570.24	£0.00	£0.00
Central	£634.50	£0.00	£0.00
High	£698.76	£0.00	£0.00
Familiarisation Cost OCL			
Central	£360.86	£206.21	£51.55
Total (low)	£14,122.66	£1,042.56	£507.74
Total (Central)	£15,673.46	£1,136.81	£559.15
Total (high)	£17,224.27	£1,231.06	£610.56

Annex 2 Sensitivities of One-off Familiarisation Costs under percentages of plastics manufacturers involved in food contact materials (Central, Low or High)

Cost	Description	0	1	2	3	4	5	6	7	8	9	Total	Average/ AEC	Present Value
80% of businesses	Familiarisation costs	£27,478.80	0	0	0	0	0	0	0	0	0	£27,478.80	£3,192.36	£27,478. 80
100% of businesses	Familiarisation costs	£29,297.25	0	0	0	0	0	0	0	0	0	£29,297.25	£3,403.61	£29,297.
50% of businesses	Familiarisation costs	£14,648.63	0	0	0	0	0	0	0	0	0	£14,648.63	£1,701.81	£14,648. 63

Annex 3 Description of the SIC codes

Industry Manufacturing: Food Contact Plastics	SIC Code
Manufacturer of plastic packaging goods	2222
Manufacture of other plastic products	2229
Manufacturing	SIC Code
Manufacture of other tanks, reservoirs and containers of metal	2529
Treatment and coating of metals	2561
Manufacture of light metal packaging	2592

Annex 4 Updated Impact Assessment and FSA responses to the consultation

N.B. Please note that Annex 4 is a new Annex as a result of updating the Impact Assessment.

- The original consultation ran from 9 April to 4 June 2018, which included a published Impact Assessment for the proposed regulations. Given that there has been a delay in implementing these provisions, the FSA has now updated the Impact Assessment to ensure that it accurately accounts for the latest 2020 figures and rates. Should you wish to view the original Impact Assessment that accompanied the 2018 consultation pack, it can be viewed at:
 https://www.food.gov.uk/sites/default/files/media/document/materialsandarticlesincontact
 - $\underline{https://www.food.gov.uk/sites/default/files/media/document/materials and articles in contact}\\ withood 0.pdf$
- As indicated in the Explanatory Memorandum, we had responded to the feedback obtained from two stakeholders following the original 2018 consultation. Our original responses were previously provided in the 'Summary of responses' section on our website.

Original responses (refer to 'Summary of responses')

- To view the original published responses, please refer to 'Summary of responses' at the consultation page. The Explanatory Memorandum can be referred to for additional details.
 https://www.food.gov.uk/news-alerts/consultations/the-materials-and-articles-in-contact
 - https://www.food.gov.uk/news-alerts/consultations/the-materials-and-articles-in-contact-with-food-england-amendment-regulations-2018
- The comments received by industry on the familiarisation costs within the original Impact Assessment was that it did not account for time spent by industry to discuss declarations of compliance with their suppliers. The FSA considered this, however the potential discussions involving declarations of compliance could be construed as normal practice given that a declaration of compliance is already required for certain types of food contact materials, including for plastic articles (the BPA Regulation amends the Plastics Regulation). Many of these suppliers will also be aware of the need to provide a declaration of compliance for materials and/or articles that they are already manufacturing.
- The Trading Standards Association (TSA) said that they didn't completely agree that the additional burden as a result of these changes on enforcement authorities would be minimal, due to the additional training required for all food officers, including implementation of new internal policies and procedures; and the redrafting of business information leaflets. Similarly, the FSA had considered this. As there has been a delay in implementing these new provisions, several food policy areas have, or are, in the process of introducing compliance notices as a first line of intervention, therefore there will be a standard template in which enforcement officers can use and they should be becoming familiar with the enforcement process, particularly given the delay in making these enforcement provisions. The FSA is happy to support individual enforcement authorities with any initial concerns. A paper on the proposals was also shared with the Food Standards & Labelling Focus Group, which delivered updates to Local Authorities. It helped to increase awareness of proposed and existing food contact material enforcement requirements. The FSA had previously noted this feedback, and this was one of the actions that it had taken.

- The FSA has also regularly provided updates to Local and Port Health Authorities concerning specific high-profile issues at the EU level and appropriate enforcement. Although enforcement is the responsibility of the enforcement authorities, the FSA provided advice and recommendations about how to potentially approach the enforcement of complex articles whilst EU work was ongoing and not fully unresolved.
- The TSA's additional concerns about auditing of recycled plastic processes is no longer relevant as the FSA is looking to obtain a third party to carry out these audits. At the time, the FSA responded to say that it was developing a national strategy for the auditing of recycling processes which is not envisaged to involve enforcement officers at the local authority level. This has not changed as the FSA recently published a tender in an attempt to acquire a suitable third party to carry out the individual audits of recycled plastic processes within the UK, which is an EU requirement for operators that are placing recycled plastic material onto the EU market. The FSA can confirm that Local Authorities will not need to carry out additional training in relation to this.

Please also refer to Annex 5 below for further information on the data included within the Impact Assessment.

Annex 5: 2020 Data to accompany the updated IA for Materials and Articles in Contact with Food (England) Regulations

Sectors:

2020 Data

Option 2 Sectors affected by the Regulation by Country

	England	Wales	Z	\ Y	3 Countries	acitamiliose %08
Plastics manufacturer (2222)	376	24		8 424	408	
Other Manufacturer (2895 - paperboard construction)	40	0		0 40	40	
Food canners/coatings manufacturers (2529, 2592, 2561)	1455	09	4	5 1670	1,560	
Recyclers producing material for food contact	8	0		0	8	
Retailers (4729, 4711)	44635	2550	1435	5 53600	48,620	
Packaging activities (8292)	4660	100	3	35 4865	4,795	
Total	51,174	2.734	1,523	3 60608	55,431	

UK	Micro	Small	Medium	Large		lotal	
							80% assumption
Plastics manufacturer (2222)	148	132		92	12	368	applied
Other Manufacturer (2895 - paperboard construction)	15	15		10	0	40	
Food canners/coatings manufacturers (2529, 2592, 2561)	890	465	-	110	15	1,480	
Recyclers producing material for food contact	0	0		0	ω	6	
Retailers (4729, 4711)	31,465	3,240	· ·	210	20	34,965	
Packaging activities (8292)	4,365	235		85	20	4,705	
Total	36,883	4,087	7		105	41,567	

Percentage of firms in each size by sector					
UK	Micro	Small	Medium	Large	
Plastics manufacturer (2222)	40.22%	35.87%	20.65%	3.26%	
Other Manufacturer (2895 - paperboard construction)	37.50%	37.50%	25.00%	0.00%	
Food canners/coatings manufacturers (2529, 2592, 2561)	60.14%	31.42%	7.43%	1.01%	
Recyclers producing material for food contact	0.00%	0.00%	%00:0	100.00%	Assumed large as per re policy
Retailers (4729, 4711)	89.99%	9.27%	%09.0	0.14%	
Packaging activities (8292)	92.77%	4.99%	1.81%	0.43%	

recommendation from

			Northern		
Country	England	Wales	Ireland		Total
Plastics manufacturer (2222)	928	24		8	408
Recyclers producing material for food contact	8	0		0	8
Food canners/coatings manufacturers (2529, 2592, 2561)	1455	09		45	1560

Firm Size	Micro	Small	Medium	Large	Total
Plastics manufacturer (2222)	164	146	8	4 13	408
Recyclers producing material for food contact	0	0		8 C	8
Food canners/coatings manufacturers (2529, 2592, 2561)	938	490	116	3 16	1560

		-
3 Countries	435	217.5
	15	7.5
Z		
Wales	25	12.5
England	395	197.5
Sensitivity analysis	100%	20%

<u>Assumptions</u> The proportion of micro, small, medium & large firms taken from the UK is the same at a country specific

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An overheads factor of 20% was applied to wages

Firm size is defined by staff headcount: micro: 0-9, small: 10-49, medium: 50-250, large: 250+

All recycling firms assumed large 80% of plastic manufacturing firms assumed to be involved in food 4 ro

Industry:

Number of firms

Plastic	Micro	Small	Medium	Large
England	151.2174	134.8696	77.65217	12.26087
Wales	9.652174	8.608696	4.956522	0.782609
z	3.217391	2.869565	1.652174	0.26087

£1,616.40 £538.80

£52.71 £825.77

£333.82 £5,229.87

£9,083.47 2579.80 £193.27

£10,184.49 £650.07 £216.69

England Wales £17.57

£111.27

£25,323.60

Familiarisation Costs for the plastic manufacturing industry

Small

Z	I		
6087		Total	53 100 36
0.2	industry		08 683
1.652174	ufacturing i	Northern Ireland	ч
2.869565	olastic man	Northerr	
3.217391 2.869565 1.652174 0.26087	Costs for the p	Wales	07 797 70
	nual Equivalent Costs for the plastic manufacturing industry	England	20 011 08

Number of firms

Familiarisation Costs for plastic recyclers producing material for food contact

	Micro	Small	Medium	Large	Total
England	£0.00	£0.00	£0.00	£431.04	£431.04
Wales	00.03	£0.00	00.03	£0.00	00.03
Z	00.03	00.03	00.03	00.03	00.03

Annual Equivalent Costs for plastic recyclers producing material for food contact

England	Wales	Northern Ireland	Total
250.08	£0.00	\$0.00	00 £50.08

Number of firms

Large	14.74662	0.608108	0.456081
Medium	108.1419 14.74662	4.459459	3.344595
Small	453	18.85135	27.06081 14.13851 3.344595
Micro	874.9662	36.08108	27.06081
Coatings	England	Wales	N

Familiarisation Costs for coatings manufacturers, can makers and food canners

		:	:		
	Micro	Small	Medium	Large	Total
England	£47,143.18 £24,630.99 £5,826.69 £794.55 £78,395.40	£24,630.99	£5,826.69	£794.55	£78,395.40
Nales	£1,944.05	£1,015.71	£240.28	£32.76	£3,232.80
	£1,458.04	£761.78	£180.21	£24.57	£2,424.60

Annual Equivalent Costs for coatings manufacturers, can makers and food canners

Total	£9,764.85
Northern Ireland	£281.68
Wales	£375.57
England	29,107.60

2016: Workforce data, 22 (plastics & rubber manufacturers) Option 2 Sectors affected by country and firm size

Number of Firms	Micro	Small	Medium	Large	Total
England	3,015	1,440	510	80	5,045
Wales	180	75	40	2	300
Z	150	40	20	2	215
Σ	3,470	1,625	595	95	5,785

				,)
Z	150	40	20	5	215
A.	3,470	1,625	595	95	5,785
Percentage	Micro	Small	Medium	Large	Total
England	86.89%	88.62%	85.71%	84.21%	87.21%
Wales	5.19%	4.62%	6.72%	5.26%	5.19%
Z	4.32%	2.46%	3.36%	5.26%	3.72%

Enforcement Authorities (EA):

Table X Number of LAs, PHAs and public OCLs

Enforcement					
Body	England	Wales	Northern Ireland 3	3 Countries	United Kingdom
LA	347	22	12	381	428
PHA	15	0	0	15	15
OCL	7	4	1	12	16
Familiarisation					
Cost LA					
Low	£13,191.55	£836.35	£456.19		
Central	£14,678.10	£930.60	8207.60		
High	£16,164.65	£1,024.85	2559.01		
Familiarisation					
Cost PHA					
Low	£570.24	00.03	00.00		
Central	£634.50	20.00	00.003		
High	£698.76	20.00	00.03		
Familiarisation					
Cost OCL					
Central	£360.86	£206.21	£51.55		
Total (low)	£14,122.66	£1,042.56	5207.74		
Total (Central)	£15,673.46	£1,136.81	2559.15		
Total (high)	£17,224.27	£1,231.06	2610.56		

Lower bound familiarisation cost

Cost	England	Wales	Northern Ireland
4	£13,191.55	£836.35	£456.19
PHA	£570.24	£0.00	00.03
OCL	£360.86	£206.21	£51.55
Total	£14,122.66	£1,042.56	£507.74

Upper bound familiarisation cost

Cost	England	Wales	Northern Ireland
۲	£16,164.65	£1,024.85	£559.01
PHA	£698.76	00.03	00.03
OCL	£360.86	£206.21	£51.55
Total	£17,224.27	£1,231.06	£610.56

Central estimate familiarisation cost

Total	£16,116.30	£634.50	£618.62	£17,369.42
Northern Ireland	2507.60	00.03	£51.55	£559.15
Wales	£930.60	£0.00	£206.21	£1,136.81
England	£14,678.10	£634.50	98.09£3	£15,673.46
	LA	PHA	OCL	Total

Central estimate EAC

			Northern	
	England	Wales	Ireland	Total
EAC	£1,820.87	£132.07	£64.96	52,017.90

Familiarisation:

Plastic manufacturing industry sensityity analysis

ו ומסנוס ווומוומומים ווואס ווומסנון ססווסוניון	adding conditing analysis												
Cost	Description	0	1	C)	4	5	9	7	8	6	2 3 4 5 6 7 8 9 Total	Average/EAC	verage/EAC Present Value
80% of businesses (central)	Familiarisation costs	27478.8									£27,478.80	£3,192.36	£27,478.80
100% of businesses	Familiarisation costs	29297.25									£29,297.25	£3,403.61	£29,297.25
50% of businesses	Familiarisation costs	14648.625									£14,648.63	£1,701.81	£14,648.63

Plastic recyclers producing material for food contact

ost	Description	0 1 2 3 4 5 6 7 8 9 7	Fotal A	verage/EAC	Present Value
ne-off cost	Familiarisation costs	431	£431.04	\$20.08	£431.04

Coatings manufacturers, can makers and food canners

Cost	Description	0	-	2	3	4	9	7	8	6	Total	Average/EAC	Present Value
One-off cost	Familiarisation costs	84052.8									£84,052.80	£9,764.85	£84,052.80

Enforcement

Lower bound												
Cost	Description	0 1	2 3 4 5 6	3 4	4 5	9	7	9 2 2	6	9 Total	Average/EAC	Average/EAC Present Value
One-off cost	Familiarisation costs LA	14484.1								£14,484.10	£1,682.69	£14,484.10
	Familiarisation costs PHA	570.24								£570.24	£66.25	£570.24
	Familiarisation costs OCL	618.624								£618.62	£71.87	£618.62

Average/EAC Present Value £81.18 £2,061.94 £71.87 £17,748.50 \$698.76 £618.62 2 3 4 5 6 7 8 9 Total 17748.5 698.76 618.624 Familiarisation costs PHA Familiarisation costs OCL Familiarisation costs LA Upper bound One-off cost

£17,748.50 5698.76 £618.62

Average/EAC Present Value £73.71 £71.87 £1,872.31 £16,116.30 £634.50 £618.62 2 3 4 5 6 7 8 9 16116.3 634.5 618.624 Familiarisation costs PHA Familiarisation costs OCL Familiarisation costs LA Description Central estimate One-off cost Cost

£634.50 £618.62

£16,116.30

17369.42

Wage data:

Industry Plastic manufacturing industry

				Total
Position	Median Hourly Wages	Overhead adjustment	Familiarisation time (hours)	Cost
Production managers and directors (manufacturing)	22.45	26.94	2.5	67.35

Plastic recyclers producing material for food contact

riastic recyclers producing material for room confiact				
				Total
Position	Median Hourly Wages	Overhead adjustment	Familiarisation time (hours)	Cost
Production managers and directors	22.45	26.94	8	53.88

Coatings manufacturers, can makers and food canners

53.88	2	26.94	22.45	Production managers and directors (manufacturing)
 Cost	Familiarisation time (hours)	Overhead adjustment	Median Hourly Wages	Position
Total				

Enforcement LA

				פוסום
Position	Median Hourly Wages	Overhead adjustment	Familiarisation time (hours)	Cost
Environmental enforcement officer	19.41	23.29	0	46.58
Trading standards officer	15.84	19.01	2	38.02
Central estimate		21.15	2	42.30

PHA

Position	Median Hourly Wades	Overhead adjustment	Familiarisation time (hours)	Total	
Environmental enforcement officer	19.41	23.29	2	4	6.58
Trading standards officer	15.84	19.01	2	33	38.02
Central estimate		21.15	2	4	.2.30

OCL

51.55	0	25.78	21.48	Technology professional
Cost	Familiarisation time (hours)	Overhead adjustment	Median Hourly Wages	Position
l otal				

Table 14.5a Hourly pay - Gross (£) - For all employee jobs^a: United Kingdom, 2019

		Number		Annual		Annual	Oli+acovo	oli+e								
	7	of jobs ^b	() () () () () () () () () ()	ge	3	ge	S	D E								
Description	စ ဝ	(trousan d)	Media	change	z Z	change	9	20	25	30	40	09	20	75	8	06
		I			17.2)	1		ļ	10.2	11.5	15.5	18.3	20.0	22.1	28.8
All employees		26,703	13.28	0.4	,	3.3	8.35	9.18	9.6/	_	ກ	0	ი	_	0	တ
Managers, directors and senior			:		27.1	1	10.2	12.6	13.9	15.3			29.8	33.2	36.9	50.0
officials	-	2,846	21.11	2.5	78 o	2.5	9 9	4 4	ر د د	ر بر بر	4 6	2 2 0	9 7	35 6	30 7	τ 2 α
Corporate managers and directors	Ξ	2,395	23.00	1.7	50.3 7	2.1		2.0	ე ე	Θ	0		1. 1. 0.	0.0	φ	5.5 5.5
Chief executives and senior					55.1		17.6	24.7	27.8	31.6	36.5	48.1	57.2	61.6	69.3	
officials	111	104	42.11	0.5	7		ω	Ø	4	-		2	8	တ	7	×
Chief executives and senior officials	111	96	44.04	4-9	57.5	0.8	20.8	27.3	31.1	33.5 3	37.9 9	51.1	59.1 4	65.4	70.9	×
Elected officers and	111				20.7				10.6		12.5					
representatives	9	∞	×		7	4.7	×	×	2	က	9	×	×	×	×	×
Production managers and					27.5		10.5	14.1	15.5	17.0		25.4	29.9	33.5	36.7	49.2
directors	112	742	22.19	1.4	6	3.3	2	0	2	0		6	9	7	က	9
Production managers and	112	(28.3	(10.4	13.9	15.3	16.9	19.6	25.9	31.1	34.6	38.3	51.1
directors in manutacturing	-	622	22.45	0.1	-	2.3	0	_	က	N		တ	တ	N	N	0
Production managers and	112	9	6	C	24.2	(11.7	15.0	16.4	17.3		23.6	26.2	28.2	29.7	
directors in construction	N	80 -	21.32	0.0	>	0.0	-	4	N	Ω		\	ກ	0	2	×
Production managers and directors in mining and energy	112 3	12	21.59	-6.6	24.4 6	-2.4	×	12.8 3	13.3	15.0	18.9 2	23.4	26.3 3	×	×	×
Functional managers and					35.5		14.8	19.0	20.7	22.6	26.0	34.3	39.6	43.2	47.2	60.2
directors	113	855	30.08	0.5	က	2.3	7	7	6	က	∞		9	∞	7	7
Financial managers and	113			-	38.3	(14.8	18.9	20.7	22.9	27.3	36.3	42.0	46.4	50.9	9.99
directors	1 1	330	31.61		70 -	3.6	1 0	ος 4 α	ол 5	27 20	, 20 20 20 20 20 20 20 20 20 20 20 20 20	9 0	/ 1/ 0	7 0	- o	/ 65.0
Marketing and sales directors	2 0	199	37.10	4.7	5 4	5.4	Σ	i -	5.5	ာ့ က	၁ က	-		- 0	5 4	2 2
Purchasing managers and	113				27.3		14.8	17.8	19.2	20.4	22.9	26.7	29.8	32.0	34.3	
directors	က	69	24.50	2.4	N	0.0	7	∞	7	0	0	0	9	2	4	×
Advertising and public relations	113	7	0	1	34.1	,	:	20.5	23.0	24.4	27.4	32.7	;	:	;	
directors	4 (N	29.33	-10.7	\ . !	<u>o</u> .		- (!	o (- 0				× 1	× 1	× (
Human resource managers and directors	113	141	24.53	-0.4	27.1 4	-1.8	14.2 9	17.6 1	18.8 1	20.0 0	22.1 6	26.5 3	29.5 5	31.7 8	33.7	40.9 8
				•		•										

×		×	×		×	27.4		×	23.1		×			×	×	<	×	×		×	27.9 7	27.9	7 0 70	0.79 0.00	;	<	×
48.1	38.3		38.3	38.3		21.6	26.6	9	18.9		×			×	×	32.9	9	35.0		×	20.2	20.2	2 0 0	<u>ა</u> ი	>	<	×
45.6	36.4	7	35.1 9	35.1	တ	20.0	24.3	4	17.6 1	28.9	6			×	×	30.3	6	31.6	25.1	က	18.3 6	18.3	9 - 6	- 0	17.9	187	4
42.9	34.5		33.1 0	33.1		18.6 8	22.4	9	16.7 5	28.1	2		29.5	က	×	29.1	80	30.5	23.9	ဂ	16.8 3	16.8	0 0	9.0	16.4	17.6	Σ Θ
38.9	30.2	က	29.0 0	29.0	0	16.9	20.2	_	15.4 6	26.7	တ		28.2	က	22.9	25.7	6	27.9 3	21.1	0	14.6 5	14.6	1 7 7	0	14.8	15.1	
33.7 7	22.6		21.7	21.7	_	14.1 0	16.7	6	12.7	24.9	2		26.7	6	19.4	21.5	_	23.6	18.3	သ	11.9	11.9	ر ب ب		12.2	1 1 7	
30.6	19.3		19.4 4.8	19.4	∞	12.7	15.4	0	11.6	22.3	9		26.2	6	17.8	19.1	80	21.0 5	16.3	-	10.9	10.9	; 0 0		11.2	100	6.0 0
29.4	17.6	4	18.7	18.7	-	12.0	14.4	က	11.1	19.8	7		25.6	∞	17.1	17.9	-	19.3	14.8	9	10.3 6	10.3	7 0		10.7	107	
25.3	15.5		16.8 1	16.8	_	11.4 7.	13.7	6	10.5	18.9	4		25.4	တ	16.2	16.1	7	17.9	13.5	4	9.90	,	9.90		10.2	100	
18.9	11.5		14.3 5	14.3	2	62.6	11.9	∞	9.50	16.0	တ			×	×	12.9	9	14.1	11.3	ဢ	8.95	ļ	8.95	9.41	9	2	×
-0.9		6.0-	-5.7		-5.7	2.5		2.8	1.3		0.8			4.1	رب در	i	-1.5	-0.3	(-3.4 4.2	3.9		ა დ	2.4	7	† †	4.9
0.0	_	0	⊳ .6	7	0	~ 0	· ব	80	6 5	က	m		က	7	ω ო		7	۲- 0	0	N	4 /	₹	\ -	ţ 0	/ c	ισ	n m
39.	31			31		17	2		15.	26.			29.		22.	26.		27	22		16.	16.	1	<u>-</u>	4.	7	
-2.4		0.0	0.5		0.5	2.7		4.2	3.0		-5.7			-1.0	4-	?	3.6	4.9	1	7.7-	3.1		 	4.8	• •	-	9.9
36.39		26.34	24.76		24.76	15.56		18.17	14.10		25.62			27.65	20.37		23.94	25.32		19.62	13.12		13.12	14.84	10 50	0.0	13.23
35		69	99		99	200		72	128		18			10	α		99	47	Ó	20	345		345	450	0	2	14
113	113	တ	115	115	0	116	116	-	116		117	117	117	N	117)	118	118	118	4	119	119	0	12	ç	1 5	<u> </u>
Information technology and telecommunications directors	Functional managers and	directors n.e.c.	Financial institution managers and directors	Financial institution managers	and directors	Managers and directors in transport and logistics	Managers and directors in	transport and distribution	Managers and directors in storage and warehousing	Senior officers in protective	services	Officers in armed forces		Senior police officers	Senior officers in fire, ambulance, prison and related services	Health and social services	managers and directors	Health services and public health managers and directors	Social services managers and	directors	Managers and directors in retail and wholesale	Managers and directors in retail	and wholesale	Other managers and proprietors	Managers and proprietors in	Managare and proprietors in	agriculture and horticulture

	Č				0						7 0					
Managers and proprietors in forestry, fishing and related services	<u> ၂</u> က	×	13.98	16.3	5 5 5 4	4.1	×	×	×	×	<u>-</u> –	 ပ် က	×	×	×	×
Managers and proprietors in	100	126	10 00	т. +	14.5	+	8 84	09 6	10.0	10.2 7	11.3 7.	13.5 5	15.0	15.8	17.0	21.2
Hotel and accommodation	1 22	24	1	- 5	16.5	:	5	8	10.5	11.6	12.5	15.7	18.2	-		1
managers and proprietors	-	18	13.78	12.3	9	10.1	9.41	9.98	7	-	7	7	9	×	×	×
Restaurant and catering establishment managers and	122	;		1	12.3				!	I	10.3	11.9	12.9	13.6	14.4	
proprietors	က	22	11.16	9.6		4.1	8.49	9.29	9.57	9.74	-	-	က	ည	0	×
Publicans and managers of licensed premises	122	7	11.98	15.1	12.4	6.4	×	9 47	10.0	10.0	10.6	12.0	12.8	13.5	×	×
	122		2	- - -	17.2	- 5	<	10.2	10.8	11.5	13.1	15.6	17.8	19.5	20.5	<
Leisure and sports managers	2	38	14.37	2.0	-	-4.6	9.26	N	-	7	7	2	7	9	တ	×
Travel agency managers and proprietors	122 6	×	14.20		17.3	-1.3	×	×	×	×	12.1	16.2	×	×	×	×
Managers and proprietors in	C T	7.7	16.60		17.4	7	11.0	12.6	13.1	13.8	15.4	18.1	19.4	20.5	21.8	;
neallt and care services	124	†	20.00	Ն	18.0	<u>.</u>	11.9	12.7	13.9	2 4 5	15.6	184	21.0	22.3	23.2	<
Health care practice managers	<u>-</u>	18	16.63	4.5		7.4	2	i		ာ -	ာ တ	0	ω	က		×
Residential, day and domiciliary	124				17.2		10.7	12.5	13.1	13.7	15.0	18.1	19.2	20.1	21.2	
care managers and proprietors	7	56	16.61	4.2	7	-0.1	က	4	9	-	ω	-	4	2	0	×
Managers and proprietors in other				(19.3	I	1	1.3	1.9	12.6	14.1	18.4	20.7	22.3	24.0	31.3
services	125	232	16.18	დ დ.		2.7	ıci	2	∞		0	4	4			2
Property, housing and estate	125	7	7	Č	19.7	1	10.6	12.1	12.8	13.5	15.3	19.1	21.4	22.7	24.1	;
managers	- I	<u>-</u>	ار 45.7	- Ö		0.7	ဂ	٥	\		O (מ	4	מ	α	×
Garage managers and proprietors	1 <u>2</u> 5	7	16.52	2.1	20.9	-7.7	×	×	×	13.8 5	15.0 9	×	×	×	×	×
Hairdressing and beauty salon	125				12.0						-	11.7	12.2			
managers and proprietors	က	∞	11.54	5.3	7	-4.0	×	9.55	9.85	96.6	-	0	-	×	×	×
Shopkeepers and proprietors – wholesale and retail	125 4	10	13.01	4.9	17.9	5.1	×	9.49	10.3	11.5 5	12.2 2	13.8	×	×	×	×
Waste disposal and	125	Q	7	7	27.3	7	;	;	17.6	18.7	19.5	23.0	;	;	;	;
Managers and proprietors in	ر ا ا	0	67.03	1.,	18.7	<u>+</u>	<	4 0	۷ و د	11 0	ر بر بر	17.7	× 00) 7 7	24 F	<
other services n.e.c.	ე ი	84	15.36	11.3		5.8	9.10			<u>-</u>	j			5 2		×
	C	770	7	o o	23.1	0	13.1	15.5	16.6	17.5	19.3	23.0	25.4	26.8	28.7	34.9
Professional occupations	V	0,043	71.17	o.0		<u>o.</u>	- 0			ا ا		V 1		ا ا	ე .	v ;
Science, research, engineering and technology professionals	2	1,388	21.48	1.5	22.9 9	0.8	13.0 4	15.7 0	16.8 6	17.9 3	19.7 6	23.5 0	26.0 4	27.4 9	29.1 7	34.4 8
				-		-										

29.4		×	×		×	×		× 0	<u>ာ</u> ၁ ထ		×	×		×		×	30.7	7			31.3		36.5		38.4 5		×	37.8	Ω	35.3		×
25.6		×	5.0		×	×	25.2	5 27 2	ر د 0	26.1	789	က (၁)	31.5	8		×	27.0	0	25.4		27.4	က	30.9	_ ;	55 4. 8	36.6	0	33.6	က	29.4 6	0000	
24.3 9		× 7			×	×	23.8	7 20	0.02	25.2	0 27 0		30.4	5		×	25.8	N	24.3	0	26.3	Ψ-	28.8	ກ (ي ت	33.1	5	31.8	ω	27.9	20.4	4.04
22.9 2	20.4	λ α α α	6.1 0.0	27.7	∞	×	22.5	2,0	6.4.0 0.1	24.4	1 24 6	1 : 5 4	29.1	3		×	24.7	∞	23.5	4	24.8	တ	27.3		30.1 9	30.9	9	30.1	0	26.3 5	19.4	t 0
21.2 3	17.9	- 0		24.7		18.6	21.4	- 5	22.4 4 —	21.9	4 7		26.0	4	24.3	∞	22.7	က	21.9	4	22.1	9	24.6	\ . !	L/2 4	28.6	2	26.9	7	24.0	1 2	ე
18.4	15.7	4 α	- - - - -	20.9	0 0	7. 7. 0	19.1	0 0	<u>.</u> й 4	18.9	19 19 19	<u> </u>	22.3	-	20.9	7	19.2	N	19.3	7	18.8	တ	20.4	4 (22.3 2	25.0	2	22.3	_	20.2 6	44	5 4
17.1	13.7	4 7 9	. ^	19.1	1 0	7.7	17.7	4 0	; , &	16.5	7		19.9	6		×	17.5	_	17.2	7	16.8	N	18.4	φ .	20.7 6	22.0	7	20.2	4	18.5	13.4	6
16.3 0	13.5	0 0	2	18.4	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	- K	17.3	2 0	ა. –	15.2	9 16 9	4	19.1	6		×	16.7	2	16.2	0	15.7	4	17.3	φ.	ე. ე. ნ	21.0	0	19.1	9	17.2 o	13 0	
15.4	13.3	2 3 6	5 4	17.9	0	×	16.5	7 7 7	0. 0	14.5	8		17.0	0		×	15.8	∞	15.6	∞	14.5	/	16.1	N (9./-	20.3	9	18.1	7	15.9	1 0	<u>i</u> –
12.7		× 4	<u>.</u> Θ		×	×	14.5		<u>,</u> 0 0	12.8	2 2	7	13.8	2		×	13.2	4	12.6		12.0	0	13.2		გ.	17.8	2	15.7	N	13.3	106	2 0
0.9	,	4 4	0.3	L	2.5	-2.5		-0.5	-0.1		-	-2.5		-1.3	I	3.7		0.5		3.2	l	-0.5	,	<u>-</u>	2		3.6		0.7	7 0	j	1.5
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20.9	19.0	5		24	7	- 4. 4	20.9	č	ν ο ε	20.9	23 3		24.		22.	2	21.6	9	20.		21.3		24.1	(26.0	28.2		26.	9	23.6	9	
2.3		L Si	1.9	L (9.5	3.3		2.5	0.5		3.1	-6.3		4.1-		8.6		2.1		2.7		-1 2	(2.0	2.1		1.3		-0.3	0	į	4.
19.71		16.58	19.74		22.81	17.14		19.94	20.75		20.45	20.46		24.18		23.29		21.03		20.58	:	20.46		22.45	24.46		26.57		24.53	20.04	1	16.15
134		21	55	,	ZI	7		48	420		48	34		23		×		93		20		167	1	7.28	172		21		122	252	1	51
211	211	71	- 2	211	, t	л - 4	211	တ	212	212	210	i N	212	က	212	4	212	9	212	7	212	တ	9	213	213 3	213	4	213	2	213	213	7
Natural and social science professionals		Chemical scientists Biological scientists and	biochemists		Physical scientists	Social and humanities scientists	Natural and social science	professionals n.e.c.	Engineering professionals		Civil engineers	Mechanical engineers)	Electrical engineers		Electronics engineers	Design and development	engineers	Production and process	engineers		Engineering professionals n.e.c.	Information technology and	telecommunications professionals	IT specialist managers	IT project and programme	managers	IT business analysts, architects	and systems designers	Programmers and software	Web design and development	professionals

Information technology and telecommunications professionals	213				000		10	44	ر م		787	ر ب		0 2 0	7	33.9
n.e.c.	ာ	110	20.38	4.0-		-3.2	-		•	်လ	2	- -	iα			. -
Conservation and environment	2	П	0	7	19.1	Ċ	11.3	12.7	13.7	14.5	17.0	19.7	21.0	22.4	23.4	;
professionals	4 7	C4	10.50	7.	7 7 7	V. 0	0		100	7 0	ر ا ا	- α - π	100		ĺ	×
Conservation professionals	<u>1</u> —	1	16.30	-5.0	. 4	-0.4	×	<u>်</u> -			- 0 <u>†</u>	0.		×	×	×
	214	Č	6	(19.6	•	11.6	13.1	14.4	14.9	17.7	19.9	21.7	23.0	23.8	
Environment protessionals	N	34	18.52	5.8	4 0	4.0	- ·		_ ,		_ 0	α 1	n (4 1		×
Research and development managers	215	63	25.51	7.3	26.0 9	-1.7	15.4 9	18.8 7	19.6 8	20.3 0	22.2 33.3	27.3 1	29.2 4	30.7 8	32.5 9	×
Research and development	215				26.0		15.4	18.8			22.2	27.3	29.5		32.5	
managers	0	63	25.51	7.3	o -	-1.7	6	<u></u>	ω (0 0			4 0	ω (တ (
Health professionals	%	1,605	19.46	9	L.22.	000	 	15.2 2.0		9.6 3.3	ار. 9 د	21.1 6	55.8 9		25.8 1	33.1 2
)) - - -)		29.2) i	14.4	17.2			22.1	27.2	32.9		42.0	51.5
Health professionals	221	483	24.41	-0.2	— i	-2.1	0 !	- 6	2		91	9	2	က	9 .	
Medical practitioners	221	274	31.43	-6.0	34.7 0	-2.5	15.9	20.0 1				37.7 6	44.0 6		50.1 5	60.0
	221	i) - - -)	24.2	i	13.7	15.7				27.1	29.0		31.1	
Psychologists	7	30	24.82	7.9	∞	9.3	8	တ ်			6	∞	-	6		×
	221				21.0		12.6	15.5					24.0	25.0	25.5	
Pharmacists	က	53	21.14	0.5	N	-0.2	-	7	2		ω	9	2	က	9	×
:	221	(L	L	23.6	,		18.1					24.9 o			
Ophthalmic opticians	4 5	∞	23.05	9.6	1 00	0.1	×			100		4 d	ာ	×	×	×
Dental practitioners	- 22	6	×		52.5 1	-1.6	×	o 0		л У			×	×	×	×
	221				19.5) :	13.5	14.8		16.7	18.2	21.5	23.1	23.8	24.6	(
Veterinarians	9	23	19.23	9.0		0.9	2		4	7	0	9	7	2	7	×
	221				20.2		14.1	16.3					22.8		25.3	
Medical radiographers	/ 7	35	20.11	0.8		5.2	/			9 0	. .	ω ,		တ	4	×
Podiatrists	8	7	19.42	8.9	9. - 0.	9.9	×	0 7 8	5 4	5. 2.	0.6 0.6	- 8 8	0. -	×	×	×
	221				19.4		12.3	14.0			16.6	19.8	21.5		23.0	
Health professionals n.e.c.	တ	45	18.76	3.5		6.2		ဝ	6	2	က	0		ဝ	0	
-	0		0		18.7	L	12.3	14.2		15.7	17.0	19.9	21.5			25.3
i nerapy protessionais	222	127	18./8	4. S.	– o	5.6	ν ν ν	λ Σ α		ر م م	4 4	ა ა	2 7 8)) 5	να	4
Physiotherapists	-	57	18.73	3.2		6.1			0	5 4	4	i —		i a		×
	222				18.3		12.5	14.8		16.2	17.1	19.5	21.4		21.9	
Occupational therapists	000	35	18.50	2.7		9.9	(ى ،	1 1	ω (က		ω (×
	222	U T	17 07	c	 	Ċ	12.4	14.3		15.5	16.6	19.4 1	21.0 7		22.7	;
Speech and language merapists	ာ	<u>C</u>	/0./	ა ა	n	o o	מ	V		ဂ	າ	_	_	٥		×

	222				19.0		12.3	13.2	13.4	14.4	17.0		22.8	24.3	25.3	
Therapy professionals n.e.c.	တ	19	19.30	2.7	∞	1.5	∞	0	-	6	7	7	4	9	0	×
Nursing and midwifery					18.8		12.8	14.8	15.4		17.1		20.9			25.5
professionals	223	995	18.26	5.4		6.2		9		0		N	2	9	9	
	223				18.7		12.8	14.7	15.4	15.9			20.7		22.5	25.4
Nurses	_	952	18.08	5.2	4	6.1	-	∞		-	0		-	∞	0	-
	223				21.0		15.5	17.4	18.5	19.1			23.4	24.0	24.9	
Midwives	N	44	21.02	10.0	7	11.8	2	က	4		2	_	2	0	7	×
Teaching and educational					23.9		14.0	17.1	18.3			24.7	26.8		29.8	34.6
professionals	23	1,536	23.16	2.1	-	1.9	_	_			_		4	က	2	
Teaching and educational					23.9		14.0	17.1	18.3		21.4	24.7	26.8		29.8	34.6
professionals	231	1,536	23.16	2.1	-	1.9	-	-		∞	_		4	က	2	
Higher education teaching	231				29.1		17.2	20.5					31.7			41.9
professionals	-	169	26.76	2.0	6	2.7	0	Ŋ	7		2	ω	6	2	9	က
Further education teaching	231				21.1		14.0	16.2		17.9			24.4		26.3	30.0
professionals	N	143	20.47	2.2	9	2.0	-	က	က		2	N	ဝ	က	∞	က
Secondary education teaching	231				23.9		15.2	18.5			22.3			28.2	29.5	33.0
professionals	4	473	23.63	3.2	6	2.5	က	ω			ω			9		
Primary and nursery education	231				22.1		13.9	16.6	17.9		20.6	23.2	24.6	25.8	27.1	30.9
teaching professionals	2	478	22.09	1.4	0	1.4	တ	2			2	9	∞		9	9
Special needs education	231				20.5		-	14.8	16.1	16.7		22.8	24.5	25.7	27.2	
teaching professionals	9	43	21.68	1.9	∞	0.1	9	4	က	6	2		N	∞	7	×
Senior professionals of	231				32.6		17.1	21.5	23.5	25.1	29.0	35.3	38.3	40.6	42.5	49.0
educational establishments	7	106	32.40	3.5	0	2.5	7	0	တ	ω	0		Ŋ	0	9	7
Education advisers and school	231				21.1		11.0	13.1	14.8	15.7	18.0		25.8		28.8	
inspectors	∞	18	20.63	-5.6	7	-3.8	9	2	0	2	9	7	7	9	7	×
Teaching and other educational	231				16.7		10.0	11.5	12.2	13.2		18.7	21.2	22.8	24.7	30.0
professionals n.e.c.	တ	106	17.29	4.4	တ	4.7	0	0		4	0	∞	ဝ	0	0	က
Business, media and public service					23.4		12.4	15.0	16.0	17.0	18.9		25.5	27.0	29.2	36.8
professionals	24	1,516	20.63	3.4	6 6	. 8.		, 1	ω (- (- (4 (
مارميونيموليو المعروا	0.44	100	26 10	^	32.4	o c	74.7	8./L	19.6 1	20.8	23.6	0.15 0.0	36.9 0	0.r4	44 ю. п	7.96.
רכשמי אייייייייייייייייייייייייייייייייייי	241	2	2.04	ò	20.2			>		12.0		22.2)	۲)	1
Barristers and judges	. N	6	×		<u>ه</u>	-14.6	×	×	×	4		4	×	×	×	×
	241				27.2		13.8	16.6	17.8		21.1		29.8		35.5	
Solicitors	က	82	22.99	0.0		1.8			9	2	7	4		4		×
	241				43.1		20.5	25.5	26.1	28.1		45.5	50.9	52.6	57.4	
Legal professionals n.e.c.	တ	48	39.73	3.9	က	2.8	2	4	7		2			7	∞	
Business, research and	(I			24.4	(13.3	15.8	16.9	17.9	19.7	24.3	26.9	28.7	30.8	37.5
administrative professionals	242	/40	21.90	3.1	છ	8.0	တ	Ç	N	က	N	-	ກ	Ω	_	4

	34.9		43.			24.9			3	31.5 9		×	×	;	×	×	×			24.2	25	į		×	×		×		×	×	
27.3	29.		36.4 3		×	22		28.2	1	72	27.6			28.1	25.			27.		21.6	2	İ		9	<u> </u>	21.7		18.		×	
26.0	27.8		33.1 0	33		21		27	C	22	26.0			27	23.8			24		20	2	i	20	7	o.	2	ı	17.2	7	л У	
24.6	26.5		31.1 2	31.7	3	20.5		26.	2	24.	25.5			26.	22.5			22.		20	20	Ì	19	4	0	20.4		16.8	7	7.01	. (
22.0	24.0		27.7 6	27.7		19.3	_	25.5		7.12 6	23.0	19.4	t. 0	23.6	20.7	4		20		19	6	-	19	7	<u>-</u> 4	18		15.7	7	7.0 9	0 (
18.6	19.2		22.6 8	20.6	8	17.3	_	20.8	0 0	18.3 4	20.1	- Y	. 0	19.2	17.0		×	16.7	က	16.9	18 1	4	17.7		1. 4.0	14.7	6	13.5		ν. Ο	1
16.8	17.2	က	20.0 5	18.4	4	16.1	9	19.0	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	16.3 4	18.2	4 0 71	- 1 1 4	16.7	15.7	_	×	14.5	2	15.3	17.0	က	17.4		_ ლ	13.4	4	11.6	o ,	_ - 4. ∞	(
15.8	16.0		18.9 8	17.8	-	15.5	4	18.0	N C	15.3 6	17.7	124	5. t	15.3	15.1	6	×	13.8		14.4 4.4	16.4 16.4		15.6	∞	×	12.7		11.3		- 8	
14.7	15.1	က	17.4 9	16.9	8	14.6	∞	16.6		14.4 4.4	16.7	7		12.9	14.2		×	12.8		13.2	- 57 - 8	<u> </u>	15.5	9 C	_ _ л 4	11.8	4	10.9			1
12.0	12.7		14.4 7	14.3	0	12.8	က	14.8	- ;	12.1	13.9	מ		10.0	12.5		×	11.2	က	11.2	ე 13.4	9	12.8	4	9 65		9.59		9.97	9.89	
α 7	,	-2.3	2.2		1.3		3.2	L	5.1	2.1	i d	N.	-4.6	7	0.7	3.5	9.5		-0.1	Ċ	ა.	2.8		2.6	7	;	2.2		4.1	2.9	i
21.6	23.4		27.7	28.2	0	19.1	4	23.1		27 25 25 25 25	23.5	200		22.0	20.0	5	21.1	20.3	∞	17.9	ر ا ا		18.0	ر د د	14. /	16.7		15.6			
o C		2.0	4.0		-2.8		3.1	7	14.2	4.6	1	4.	9.6-	C	Z.3	7.4	10.0		-5.6	7	4 δ	3.0		4 Ω	9))	2.6		4.3	7.9	:
"	2	(O	m		0		_	L	0	m		0	QI.	_	D	m	CI.		ıO	C	0	(0		₹+	ιc		m		₹	m	
20.06	0.04	21.36	24.73		23.09		18.41	C	23.55	20.08	7	21.45	16.62	Č	8C.17	19.08	19.22		18.65	0	18.00	18.96		18.14	13.55	<u> </u>	17.03		14.44	13.83	
6	0	195	270		30		102	Ĺ	25	182		40	7	7	40	69	×		24	101	/Ω	115		13	42	1	18		22	13	
01-	- 01	~	a	0.1		0.1	9	01.0	ກ				2.01	~ •	0 00		വത		9			- 01		—						-	
242	242	က	242 4	242	5	242	v	242	<i>.,</i>	243	243	- 243	, ,	243	د 243	4	243	243	v	ç	244 444	. 2	244	0 7 7	744 444	244	0		245	Λ 1	- !
Chartered and certified	Management consultants and	business analysts	Business and financial project management professionals	Actuaries, economists and	statisticians	Business and related research	professionals	Business, research and	administrative professionals n.e.c.	Architects, town planners and surveyors		Architects	Town planning officers	() () () () () () () () () () () () () (dualinty surveyors	Chartered surveyors	Chartered architectural technologists	Construction project managers	and related professionals		wellare professionals	Social workers	į	Probation officers	Clerdy	, and a second	Welfare professionals n.e.c.	Librarians and related	professionals	Librarians	

on on order	312	70	, ,	C C	15.8	C	10.5	12.0	12.7	13.2	4.2	16.2	17.2	17.9	18.6	>
Draughtspersons Information technology	N	40	01.61	K.3	16.6	7.4	0	+ c	12 O			16.7	18.4	19 A		× × 24.7
technicians	313	264	15.38	2.8		0.5	9.73	i 4	0	့ ဖ		. —	- œ	. œ		
	313	Š	, ,	L	17.0	,		11.0	11.7		14.3	17.2	19.2	20.4	21.8	25.7
ii operations tecnincians	313	7	15.92	ο.α	4 6.	<u>.</u> 4.	9.45 4	1 4 4	12 g	9 2						03 03 03 03
IT user support technicians	0	143	15.06	4.1	9	-0.4	9.91	2	-			9		0		
Health and social care associate					14.2			10.6	11.1	11.5						19.5
professionals	32	386	13.13	2.0	7 15.9	3.8	9.47	7 5	11 7		8 4 4 8 .					4 60
Health associate professionals	321	91	15.37	5.3		4.1	9.50		် ဖ	9		ာ့ က	ာ တ			
	321	00	19.07	α	19.7	7 0	15.5	17.0	17.5	18.3	19.4	20.7	21.3	21.5	22.2	>
	321	67	19:91	0 4.	ر د د د	6.7	>	0	0			12.7			i	<
Dispensing opticians	9	×	12.57	-1.0	5. 72	-9.3	×	×	×	×	; / -	8		×	×	×
on of the order	321	Č	7	Ċ	12.7	c	92 0	7	10.0	10.2			13.0	13.6	15.4	;
	321	74	74.		1. 5.5.	6.3	10.70	11.7	12.1					18.1 18.1	0 6	×
Medical and dental technicians	. ω !	22	14.96	5.1	2	5.7	9	က	I	0		. ~	က	-		×
Health associate professionals	321				13.1					10.3	4.11		14.2			
	တ	11	12.20	1.2	9	-3.5	×	9.27	9.92	6	7		က	×	×	×
Welfare and housing associate					13.6			10.4	10.9				14.6	15.1		17.5
professionals	323	295	12.80	2.0		3.6	9.42	7	7	N			- :	- 1	ω :	-
	323	0	10.76	7	13.6	0	7	10.3	10.8				4.4 4.4	15.0	5.6 n	17.3
Touth and community workers	323	40	0/.71	<u>.</u>	13.1	o <u>:</u>	9.0	_	10.3		1 0 4		14.0	4.5 5.5	200	-
Child and early years officers	က	38	12.39	2.4	2	2.7	9.23	9.92	9						-	×
· ·	323			1	15.0	1	11.0	12.3	13.0				16.7	16.9	17.5	
Housing officers	4 6	41	14.91	5.8	უ (9.6	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	4 4	י ני		ີ ວີດ ເ		n 7	າ ນ	-	×
Counsellors	5 KS	16	14.49	0.4		46	- - 4.	- «	ი -	/ œ		ე 4. დ). -	×	×
Welfare and housing associate	323) : :		13.1			10.0	10.6				13.6			16.3
professionals n.e.c.	၅	117	12.28	3.4		4.7	9.07	∞	-	၈	2	0	9	∞	4	
					18.0		12.5	14.0	14.4	15.0	16.6	19.1	19.9	20.3	20.9	22.6
Protective service occupations	33	312	18.68	9.0	-	-0.2	9	Ŋ	7			4	7	7	7	
•			,	,	18.0		12.5	14.0	14.4 I	15.0	. 9.91	19.1				22.6
Protective service occupations	331	312	18.68	9.0	-	-0.2	9	Ø	/	တ	ည	4	7	N	N	9
NCOs and other ranks	- 55 - 1															
Police officers (sergeant and	331	193	19.36	6 0-	18.9	α	12.9	15.3	16.6	18.3 8.3	18.8	8.6	20.4	20.9	4.12	22.7
	1	2	2	9)) ;	-	1	>)	>)	-	1))

				-		_										
Fire service officers (watch	331				16.5		13.4	14.0	14.2	14.3	14.9	. 8.91	17.5	18.4	19.8	
manager and below)	က	52	15.98	0.4	0	6.	2	တ	4	9	7	4	တ	∞	7	×
Prison service officers (below	331				14.3		10.8	11.5	12.0	12.2	13.4	. 2.5	15.7	15.7	6.2	
principal officer)	4	29	14.85	7.3	7	1.9	4	7	7	2	9	4	7	က	6	×
Police community support	331				13.8			12.8	12.9	13.1	13.3		14.5	14.6		
officers	2	12	14.07	-0.3	7	-5.3	×	Ø	7	2	7	ω	-	∞	×	×
Protective service associate	331				19.0		13.3	14.2	14.7		16.0		19.1	9.8	20.6	
professionals n.e.c.	တ	26	16.90	5.9	0	6.7	9	က	9	တ	-	6	∞	7	-	×
Culture, media and sports					17.1			10.1	10.9	11.3	12.6	. 0.51	16.7	17.8		23.9
occupations	34	265	13.68	0.2	7	-17.5	9.16	7	-	∞	6	0	က	0	6	9
Artistic, literary and media					18.7		10.2	11.9	12.6			17.4			21.3	
occupations	341	71	15.82	1.2	4	0.9	4	တ	6	က	8	7	-	9	9	×
	341				15.3			10.0	11.1		12.2	0.9				
Artists	-	7	14.07	-5.1	7	9.0	×	ဝ	-	ဝ	0	9		×	×	×
	341				18.4		11.9	13.2	13.6	13.7	14.6		18.5	19.3		
Authors, writers and translators	0	15	15.53	1.8	0	5.2	9	2	9	တ	4	7	0	2	×	×
Actors, entertainers and	341										11.5					
presenters	က	×	×		×		×	×	×	×	9	×	×	×	×	×
	341				19.3											
Dancers and choreographers	4	×	×		တ	-1.9	×	×	×	×	×	×	×	×	×	×
-	341				20.5					16.4	17.8	20.7				
Musicians	2	×	19.78	3.4	7	4.4	×	×	×	-	က	က	×	×	×	×
Arts officers, producers and	341				23.3		12.8	14.5	15.0	15.7	17.1		21.6			
directors	9	19	18.15	2.9	4	16.3	က	7	7		7	တ	-	×	×	×
Photographers, audio-visual and	341				14.7			10.9	11.1	11.7				16.3		
broadcasting equipment operators	7	18	13.54	5.9	6	4.1-	9.75	-	9	4	0	2	0	0	×	×
					15.3		10.2	11.2	11.9	12.4	13.2		16.4	17.1	7.8	
Design occupations	342	88	14.04	3.5	2	3.0	N	7	က	9	ω	4	0	တ	7	×
	342				14.6		10.0	10.9	11.6		12.9	. 5.4	15.8		17.1	
Graphic designers	_	52	13.46	2.1	∞	3.8	0	တ	4	/	က	-	N	0	∞	×
Product, clothing and related	342				16.3		10.8	11.6	12.2	12.9	13.7	. 2.2	17.3	17.9	19.1	
designers	7	37	14.85	2.5	_	1.9	_	က	6	0	9	9	-	-	တ	×
					18.0						10.5		14.5	15.5	7.7	
Sports and fitness occupations	344	105	11.67	-2.8	7		8.22	9.11	9.52	9.90	2	<u></u>	<u></u>	7	2	×
	344									10.3						
Sports players	_	13	×		×		×	9.00	99.6	က	×	×	×	×	×	×
Sports coaches, instructors and	344	C	0	c c	13.5	7		9		10.1	1.1	13.3	14.3 L	15.0	16.0	;
Olliciais	7 7 7	00	00.7	ა.ბ	c	J. /-	0.27	9.40	9.33	၁	`	- +			ر د د	×
Fitness instrictors	440 0	33	10.25	<u>ر</u> بر	٥. ٥.	ď	201	271	00 0	000	9 74	-	7.7	4. 4. 4	0.0	>
))	- - - - -	<u>-</u>)	- ;		- :	5	7	t ::			F		<

Business and public service ssociate professionals 35	2,232	17.10	6:		10.4	12	3 13.0	5.		19.0		- . 0 .	25.3 32.
	17	36.60	-5.7	38.3 0 7	2.3	0 8	, 23.1 6	25.9 6	33.6	42.5 3.3	48.3 1	53.3 6	26.5 9
	×	×		4. ←	5.5	×			×	9. 0. &		×	×
	∞	37.43	-6.0	4 o	4.1-	× 25.	2 29.7 6 0	33.6	34.7	43.1 8	48.7 8	×	×
	×	×		22.1 4	6.5	×	× ×		×	×	×	×	×
	64	15.01	3.6	18.5 9	10.2 5.5 5	Ξ	12.	12.	13.9 3	16.2 6	17.8 2	18.7	19.9
	64	15.01	9	18.5		5 11.5	12	12.7	13.9	16.2	17.8	18.7	19.9
	, C	. (? ;		1.0	0 12.5	5 13.3	4.	15.5	19.1	21.6	23.0	24.9 31
	280	05.71	- i		11.0	12.	12	13.2	4 4 4 8 6	16.7	18.4		21.3
	48	15.30	9. 9.	38.9	2.0	12	4		9	2	4	စ	ာ
	13	×		က	-11.5		2	8	×				×
	24	18.63	.3 .3		12.	4.	2 14.7 1 0	15.1	16.8 3	20.1	21.9	22.7	×
	!				=	13.	5 14.6	15.	17.4	20.8	23.4		26.5 32.
	13/	18.99	 		-4.1	6	20	2	93 0	0 2	30 8	30 30 30 30	က
	16	26.10	7.9		3.5	5	8 22		8		9	-	×
	×	14.38	11.9	15.6 3	11.0	×	× ×	×	×	×	×	×	×
	Č	700	(Ξ	14	15.	16.	19.0	23.9	26.0		28.6
	32	42.04	N.	5000	 	<u>د</u>	7 14.5	15	16.8	20.3	23.0		26.5
	117	18.36	-3.0	0	-7.8	•			. ω	5	0	6	
				16.6	10.	.3 11.	.3 11.9	12.3	13.6	16.1	17.8	19.1	20.4 23
	190	14.84	4. E.	4 п	2.4	4	7		- 0	0 4	о С		1 000
	1,125	18.25	2.0	ر. 6	0.9	<u>,</u> 7	7 - 7 7 - 7 8 - 3	. 4	5.0	60.3 2	2.07 33	5.0.4 5.0	, 0.0 2
	09	15.44	-0.5	16.8 4	10.	8 12.	4 12.9 8		14.5 4	16.6 0	18.3 9		20.3
	252	15 30		17.9	α	10.	11.0	11.8	13.5	17.2	19.4		22.8 28.8
]	- - - - -	-	15.8	i 	10.	9 11.6	12.1	13.1	15.3	16.8	17.6	18.6 21
	153	14.31	9.0		-1.9 9.9	98	6		4	က	N	0	9

		×	41.9	α	×		×		×	23.4		23.2	23.0	8	22.2)	×		×	>	19.9		20.6		18.4	0	18.2	-	17.7	4	×	19.4
4	<u></u>	က	33.4		15.6		×		×	19.6	1 0 7	19.7	ا 191		19.5	>	×			23.6	15.6	4	16.1		15.9	က	15.8	၁	16.1	ည	×	15.9
0 7 7	_ 4. ა. ი	∞	30.7	α	14.8 0		×		×	18.8	0 7	19.1	18.0	4	18.3	17.3	9	19.3		22.3 5	14.5		6.4 6.9		15.1	4	14.8	2	15.4	တ	×	15.0
101	ر ارد ا	-	28.6	N	13.7		×		×	18.0	Ω 7	18.6	17.1	4	17.6	16.5	_	18.4		21.0	13.7	က	14.0 4		14.3	∞	14.0		14.6	9	16.3 8	14.2
	7.7		25.2		12.8 6	12.1	-	12.1	-	16.6		17.8	15.6	ω	16.0	15.3	5	16.9		18.7	12.4		12.6		13.4	က	13.0	ກ	13.9	တ	14.2 1	12.9
	ດ <u>C</u>		20.2		10.8	10.6		10.6	က	14.4		15.8	13.1	9	13.7	12.2	7	14.6		16.3	10.6	4	10.9		11.6	7	11.5	_	11.9	ည	12.3 6	11.2
C	0.0		18.2	N	9.84	10.3	5	10.3	2	13.2	1 – 1	15.7	12.0	5	12.8	11.3	6	13.9	∞	15.1	-	9.99	10.1		10.9	9	10.7	ဢ		တ	11.2 4	10.4
	L	9.65	17.1	N	9.50		9.83		9.83	12.5		15.1	11 9 4	5	12.0	10.7	5	13.5	က	14.8 ه)	9.63	9 91		10.7	7	10.7	_	10.9	9	10.8	10.0
	7		15.9	_	9.25		×		×	<u>+</u>		14.4 4.0	10.9	9	11.6	10.3	က	13.2	-	14.2 2.0	•	9.29	9.54		10.5	4	10.5	9	10.4	တ	10.4	
_	1	8.76	13.2	_	8.50		×		×	10.3	9 .	12.4	_	9.70	10.1	-	9.81	11.9	_	12.7)	8.55	8 75			9.93	,	9.94	(9.91	8.76	
		-2.1	7		-7.1		9.0		9.0	-	0.1	7	-1.	0.7	0	j	4.0		6.9	2	- 5	3.5	6			2.2		1.2		3.5	5.7	
	_კ.ე		25.7		13.4	15.1	က	12.1	က	16.6		9'/1	15.7		15.9	14.9	8	18.6		18.9 8	13.3		13.6		13.6	7	13.4	4	13.8	വ	15.6 8	13.8
_	Ó	2.9 9.3	7	4. –	9.0		0.8		0.8	(2.2	7	7.7-	0.3	с 7		-2.8		3.1	α C	9	3.5	0.00			2.0		0.3	I	2.7	0.5	
	L 	11.75	7	22.45	12.00		11.40		11.40	[[15.6/	77	10.77	14.41	14 99	e e e e e e e e e e e e e e e e e e e	13.48		15.84	17.49) - - -	11.47	11 74			12.59		12.34	(12.78	13.21	
	C	53	C	289	41		9		9		440	S	06	153	105	24	15		23	33	3	3,026	2 426	Î		187		112	(99	10	
720	405	4	354	ဂ	354 6		355	355	0	i I	356	356	356	0	356	356	4	356	2	356		4	41	,		411	411	N	411	က	4 11 4	
		Estate agents and auctioneers	Sales accounts and business	development managers	Conference and exhibition managers and organisers	Conservation and environmental	associate professionals	Conservation and environmental	associate professionals	Public services and other	associate professionals	Public services associate	professionals Human resources and industrial	relations officers	Vocational and industrial trainers	Careers advisers and vocational	guidance specialists	Inspectors of standards and	regulations	Hoolth and cafaty officare	Administrative and secretarial	occupations	Administrative occupations	Administrative occupations:	Government and related	organisations	National government	administrative occupations	Local government administrative	occupations	Officers of non-governmental organisations	Administrative occupations:

4	412				12.5			10.3	10.5		11.3	12.5	_	13	2
	_	26	12.01	1.5	တ	1.3	9.68		9		က	9	0	9	က
412					14.4			10.0	10.3		11.7	13.7	_	17	.6 21
N C		291	12.52	2.0	4 4	3.9	9.00	0	ო	/ 0	1 22	- (ر د م	ი :	01 -
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412		2	40.1	2.	16.9	t o	10.3	11.5	11.9 - 0.1		12.9	14.6	_	16.	+ ++
4		23	13.68	0.4		4.4	7	6	-		2	6	8	5	2
17					12.5						10.5	11.8	_	3.6 14.	1 17
6		125	11.14	2.1	0	1.7	8.40	9.18	9.50		0	က	8	0	7
					12.3					10.0	10.5		_	13	9 16
413		326	11.19	4.6	Ω	4.2	8.82	9.43	9.73		7	∞			0
413		l C			12.3			(i I		10.6	1.9	12.8 1	3.3 14.	0.0
-		135	11.22	4.5		3.6	8.92	9.58	9.76	က	4	2	0	ω	10
413					13.0				10.1	10.4	11.0	12.5	_	3.6 14.	0
N		36	11.64	2.4	4	0.9	9.27	9.86	Ø	7	0	9	4	_	OI.
413					11.8						10.1		12.3 13	2.8 13.	7 16.
က		29	10.72	4.7	7	4.0	8.45	8.95	9.24	က		0	0	က	
413					12.7				10.2	10.5			13.7 14.	4 14	9 17.
4		09	11.88	3.5	4	5.6	8.85	9.71	Ø			6	ω	9	10
413					11.2						10.1		11.3 11	.7	0
2		23	10.43	7.5	-	2.7	9.17	89.6	9.85	9.92	ဝ				_
413					12.1								12.2 12	.6 12	<u>ල</u>
ω		23	10.94	2.7	_	9.1	8.77	9.23	9.66	9.76			9	0	
					13.3								_	12	7 22.
415		1,110	11.12	4.5	Ø	3.6	8.50	9.14	9.50	9.79					
15					11.7								_	73	.4 15.
-		74	10.77	0.7	က	0.0	8.52	9.20	9.44	69.6		ω	-		
415					13.4								13.5 14.	5 16	23.
6		1,036	11.15	4.9	9	3.9	8.50	9.14	9.50	0		0	∞		ΟI
					16.8			11.3	11.9			16.4	18.2 19	.2 20	7 25.
416		231	14.92	2.1	Ø	3.4	9.83	2	Ŋ	N		က			4
416					17.4		10.0	11.5	12.1			17.1	19.1 20	.0 21	7 26.
-		193	15.54	3.8	ო	4.1	0	6	4	∞		7	-		ω
416					13.7			10.3	10.8	11.2	11.9	13.6	_	5.2 15.	.7
N		37	12.72	3.8		0.1	9.39	4	∞		4	-	6	_	0
					11.9							11.0	_	2.9 13.	8 16
42		601	10.27	2.7	တ	3.3	8.25	8.71	8.97	9.17	69.6	თ	က		
421		601	10.27	2.7	0.0 0.0	er.	8 25	8 71	8 97	9 17	69 6	0.11	12.2	2.9 13.	8 16
i		- -))	į	i)		i	-		:	2))		,

	×	× >	×		12.7 5	×	9.6 4.8	14.1	14.1	×	×	×	×	×	21.4 3	×	×	×	×	×
13.7	4 4.1	12.3 5	×	4.0	 4	8. 8 1	16.7 7	12.4 5	12.4 5	×	×	12.4	11.9 4	×	18.4	15.7 3	×	×	×	×
13.0	13.6	12.0	×	16.3	10.6 8	4.11	15.8 9	11.9	11.9 8	×	×	12.0 0	11.3 6	13.2	17.5	15.0 0	×	×	×	×
12.3	12.7	1.5 6	14.0	15.2	10.2 2	11.1	15.0 8	11.5	11.5	×	×	11.6 3	10.9 7	12.9	16.7	14.3 6	×	×	13.6	×
12.0	11. 4 0: 1	10.8 9	12.5	13.6 4	9.70	10.5	13.7 6	10.7 9	10.7 9	11.6	9.70	10.9 9	10.3 1	11.6	15.4 8	13.3 8	×	×	13.1	15.3
10.8	10.6	0 03	10.4 5.0	11.0	8.97		11.4 3	9.71	9.71	10.4	8.63	9.89	9.56	10.0	13.2	11.9	×		12.0 3	13.2
	7 10.2		10.0	10.0	8.63		10.3	9.22	9.22	9.24	×	9.30	9.19	9.65	12.1 4	11.2	×	×	11.0	12.6
10.2	(9.93 A		9.79	8.49	9.16	9.93	9.00	9.00	9.20	×	9.00	9.00		11.5	11.0	×		10.8	×
		9.66		9.33	8.36	8.99	9.37	8.83	8.83	×	×	8.97	8.76	8.98	11.0	10.6	×		10.5	×
	9.5	9.17	σ σ	8.50	8.21	8.50	8.44	8.35	8.35	×	×	8.29	8.36	×	9.28	9.83	×	×	×	×
(3.3	4.8	4.6	2.9	2.8	2.8	0.6	5.0	2.6	1.5	4.7	2.5	8.	48.3	8.0	-0.1	4.11
11.8	12.5	0.1 0.0	4.1 5.1	4. t	10.0 6		13.6 9	10.8 9	10.8 9	12.0 4	10.1	10.9 6	10.4 8	11.8	15.1 3	13.6	13.0	11.9 4	13.3 5	15.2 8
	<u> </u>	8. %		2.5	3.7	2.7	3.3				2.5	3.1	5.3	0.1	2.7	75			4	<u></u>
					•	(d	က်	4.4	4.4	10.1	(d				0	0		8.7	φ	က်
í	00 [27 18	g 60	30						_							×	œ	Q.	
		11.27		3 12.30	9.28	10.16	12.50	10.15	10.15	11.34	8.86	10.31	9.94	10.56	14.37	12.56		11.06	12.49 -0	13.54
		26 11.27		213 12.30						_							× ×	œ	Q.	
	44 0		5 12	213	9.28	10.16	12.50	10.15	10.15	6 11.34	8.86	40 10.31	9.94	10.56	14.37	70 12.56	×	x 11.06 8	12.49 -0	13.54

×	×	22.6 3	×	×	23.2	×	×	18.4	17.7	Σ	×	×	;	×	×	×	21.5	21.1	J	×	×	×
15.0	×	19.0 9	16.1	×	19.9 3	×	×	16.0 5	15.8		14.9 6.4	×	;	×	×	×	18.9	18.6	18.5	2	×	×
14.5 6	×	18.0 2	15.3	×	18.6 7	×	×	15.3 1	15.0	-	<u>4</u> 2i Շ	×	;	×	×	×	18.1	17.6	18.0	2	×	18.9
13.9	×	17.1	4.8 8.8	15.4	17.6 8	14.3	16.1	14.7 2	14.5	<u>ب</u>	13.8 0	13.4	;	×	×	×	17.4	17.1	17.8	-	17.8 8	18.2
13.1 6	19.2	15.6 4	13.9	14.4 6	16.2 1	13.8	15.1	13.7 3	13.5		12.9 8	13.0	20.1	14.6	တ	×	16.5	16.1	17.1	∞	16.2	17.2
11.7	15.1	13.1 2	12.4	13.5	13.4	11.9	13.6	11.7	11.6		11.5 0	11.6 4	17.8	12.9	2	×	14.5 5	4. 4.	15.6		12.7	1.4 1.1
11.1	×	12.0 3	11.5	13.0	12.1 2	10.6	12.9 4	10.7	10.5	4 1	10.5 0	11.2 6	16.2	12.3	-	×	13.5	13.4	14.0	ω	11.2 8	12.0
10.8	×	11.5 0	11.0	12.6	11.5 2.2	10.4	12.3	10.2 5	10.0	O (10.2 5	10.9	15.7	11.9	9	×	12.8	12.5	13.0	0	11.0	11.5
10.4 9	×	10.8 5	10.5	12.0	10.9 3	9.73	×	09.6		9.29	10.0 0	10.2	;	×	×	×	12.1	12.0	12.8	4	×	10.8
9.78	×	9.34	9.29		9.34	×	×	8.21	6	8.21	8.98	×	;	×	×	×	10.1	- 0 C	11.0	-	×	8.69
2.8	-2.4	2.2	4.0	-6.0	2.5	1.5	2.4	<u>ر</u> ت		- Ni	3.0	2.1	Ċ	ō.	14.5	-16.1	7	; q	į.	2.4	2.8	5.9
13.0 8	18.	15.4 3	13.	4.	15.	13.4	4.	13.3	12.			12.8	20.	15.		19.3	15.8	15.	16.		4.	16.
2.0	<u>τ</u>	4.	7.	2.	1.9	-3.2	-7.9	2.0	7		4.5	0.2	c	Ö.	8.1		7	; c		13.1	9.9	5.7
32	7.16	31	05	17	12	56	14.23	75		20	46	39	7	გ ქ	80	×	ά.	р <u>и</u>	3	64	15.52	56
12.32		14.31				12.26				12.50	12.46	12.39		9.34	6 13.80		15.76			16.64		15.26
49	×	393	53	σ	316	10	9	183	7	136	23	0			v	×	300	7	<u>+</u>	20	D	16
521 5	521 6	522	522	522	522 3	522 4	522 5	523	523	- 0	523 2	523 4	523	523	9	523 7	707	524 1	524	7	524 4	524 5
_,		_,												-7								
		and	s and	sand	on and	akers a	frigerati		echanic	•	and	SU	nd relat	and		uilders	0000	ון מלכט היים היים היים היים ליים ליים היים היים	מו	ngineer	gineers	
		fitting	g setter	ol fitters	roducti	ment m	and re		ans, m		ilders a	chnicia	ance a	uilders		stock b	oi co			tions e	udio er	
trades	SI	chining,	achining tors	kers, to	orking p	וnstru ר	itioning	ades	echnici	ans	oody bu	oaint te	nainten	d ship b		rolling S	ק סיק סיק		מוז סומ	munice	o and a	eers
Welding trades	Pipe fitters	Metal machining, fitting and instrument making trades	Metal machining setters and setter-operators	Tool makers, tool fitters and markers-out	Metal working production and maintenance fitters	Precision instrument makers and airers	Air-conditioning and refrigeration engineers	Vehicle trades	Vehicle technicians, mechanics	and electricians	Vehicle body builders and airers	Vehicle paint technicians	Aircraft maintenance and related	es Boat and ship builders and	rers	Rail and rolling stock builders and repairers	Sobert sinestroole bas lesitates			Telecommunications engineers	TV, video and audio engineers	IT engineers
S	₾.	Me	Sette	T	_ main:	Precis repairers	A	> >	>_	and	Vehic repairers	>	A (0.3)	irades Bo	repairers	and r	Ц	<u> </u>	_	_	F	

Electrical and electronic trades	524	127	15.53	80	16.1	8	11.0	12.6	13.1	13.8	4.6	16.6	. 7.71	18.4	9.2	21.7
Skilled metal, electrical and	אכע	73	16.20	<u>с</u>	17.4	C-	1. 4	13.3	13.9	14.8	15.5	17.4	18.2		9.7	>
Skilled metal, electrical and	525	5 4			17.4	- T	<u>+</u> - 4.	13.3	13.9	8.41		4.71	18.2		19.7	< :
electronic trades supervisors Skilled construction and building	>	£4	16.30	c:0	13.8	- -	-	10.3		11.5			15.0	5.6 1	6.2	ω.
)	23	304	13.29	2.8		2.1	9.00	7	10	0 0		ი c	က ၀	0 0	ب د ت	7 7
Construction and building trades	531	225	13.15	4.5	13.4 7	2.7	8.82	- c	.0.7 6	۲. 9	7. S)	ان م نو	4. ი დ	ဂ်		
Steel erectors	531	×	12.28	0.7	14.0	6.9	×	×	×	×	12.0	12.5	×	×	×	×
Bricklayers and masons	531	16	13.36		13.3 2		82 6	11.0	11. 4. ת	12.1 9	12.6			14.9	5.3 9	: ×
Boofers, roof tilers and slaters	531	5 4	11.86	5. 0	12.6 6			66	10.1	10.5	11.5	12.6	13.9	4 2 0) ×	× ×
Plumbers and heating and	531	, L	2		15.0			-	12.2	12.9	14.0		16.4		17.3	; ;
venulaung engineers Camenters and ioiners	531	95 79	13 14	ν c.	13.1	- 6	9 5 5 6 8 8 8 8 8	10.3	4 0.0	11.5 6.	12.4 0 4 0	13.7	- 6 α	14.8 1	5.2 2	× 4.0
Glaziers, window fabricators and	531		- (c	1 (10.6	5 () () (1 (12.1	
rs Construction and building trades	534	19	10.08	3.7	ر ب ب	დ	8.21	8.50	8.86 10.6		9.70 11.6		Δ Δ		5 15 4	×
	- თ	33	12.30	2.0	0 0	3.8	8.77	- - (0 00	000	4 (100	i d	် က ၊		×
Building finishing trades	532	40	11.76	-2.0	12.3 0	-0.7	8.76	10.0	10.3 4	10.8 3	. 7		13.0 6	13.5 4	4.0 6	×
Distarars	532	7	13 30	7	13.6	7	>	>	11.0	11.5	12.4 ,		14.9	>	>	>
() 	532	, ,	0 0	- c	12.3	; ·	< :	10.2	10.3	10.8	- 1 - 1		12.5	< :	< ;	< :
riodieis alid wall lifers	532		00:1	0.5	11.8	<u>.</u>	~		10.0	10.4	, L			, 12.9	13.5	×
Painters and decorators	က	22	11.67	-2.5	6	-2.4	8.54		0	_	2	ო		6	2	×
Construction and building trades	C	ć	L 7		17.4	ć	11.9	13.7	14.1	14.7	15.2		18.2	19.2	19.9	;
ervisors Construction and building trades	233	ec.	0.10	о. У.	9 17 4	7.4	11.9	13.7	4 +	0 47				ა ი	o	×
	0	39	16.15	0.2	ი	2.4		-	4	0		iα	5	i က	, ω	×
Textiles, printing and other skilled ades	75	511	9.88	5.0	10.9	4.3	8.21	8.48	8.64	8.90	9.31	5.01	1.10	11.6	2.2 9	4.
Textiles and garments trades	541	22	10.43	3.5	12.1 2	2.8	8.21	8.50	8.82	9.05	66.6	4.11 9	. 0	.3.1 9	×	×
Weavers and knitters	142	×	10.54	-5.6	11.8 	4.8	×	×	×	×	×	×	×	×	×	×
						•										

	541				12.7					10.0	10.9	12.3				
Upholsterers	0	∞	11.69	12.4		-0.3	×	9.25	69.6	0	-	9	×	×	×	×
Footwear and leather working	541	C	1	7	11.5	Ĺ	;	;		7	Ç	10.6	;	;	;	;
Irades	ى 541	0	7.0	– o	12 4	9.C	×	×	δ. 	- -	9.00	ກ	×	×	×	×
Tailors and dressmakers	. 4	×	×		4	15.2	×	×	×	×	×	×	×	×	×	×
Textiles, garments and related trades n.e.c.	541 9	×	9.56		11.6 5	-5.2	×	×	×	×	×	×	×	×	×	×
Printing trades	542	32	11.65	<u>ر.</u>	12.7 2	6.7	8.63	9.57	10.0 2	10.2 2	10.8 5	12.4 0	13.5 8	14.3 5	14.9	×
	542				14.9	. ()	
Pre-press technicians	1 7	×	×		о С П	17.8	×	× ¢	× c	× ¢	× ۲	× 14	× (4	т × п	×	×
Printers	9 4 0	17	12.27	-3.5	<u>ა</u> ი ო	5.5	8.44			<u>-</u> Α ω	<u>ა</u> ნ		1 .	 5. 4	×	×
Print finishing and binding workers	542	13	10.77	<u>1</u> 8:	11.2		×	9.00	9.58	96.6	10.2 8	11.0	12.0	12.4	×	×
Food preparation and hospitality trades	543	423	99	4	10.5	4	8 21	33	5.51	8 75	9.18	10.0	10.7	1. 1.0	11.7	13.5
	543	j	0 0) (11.0) c	j 0	1 (5 6) (i		11.0	7:0	12.0	;
bulchers	543	ე -	cn.01	0.0	10.0	ο. Σ.	Q.Σ.	δ.6/	δ.94 4	9.08	9.38	10.1	10.3	10.5	10.7	×
Bakers and flour confectioners	N	19	9.71	2.7	7	-1.1	8.21	8.51	99.8	8.80	9.19	0	4	7	-	×
Fishmongers and poultry dressers	543 3	×	9.03	0.3	9.83	-2.6	×	×	×	8.24	8.63	9.32	×	×	×	×
Chefs	543 4	251	9.69	4.9	10.7 1	5.3	8.21	8.33	8.50	8.72	9.18	10.2 1	11.0 0	11.5 4		14.0 5
Cooks	543 5	62	8.91	4.8	9.47	5.5	8.21	8.23	8.30	8.47	8.65	9.19		9.83		1.2
Catering and bar managers	543 6	55	10.12	2.9	11.0 3	0.5	8.58	9.04	9.38	9.51	9.91		11.0	1.5 5. –	12.2 7	×
Other skilled trades	544	35	11.25	9.3	12.3 6	6.7	8.37	9.00	9.49	9.85	10.5 0	12.1 1	13.0	13.7 6	4.5 0	×
Glass and ceramics makers, decorators and finishers	544	×	11.64	16.8	11.8	-13.9	×	×	×	×	11.3	11.9	×	×	×	×
Furniture makers and other craft woodworkers	544	Ξ	10.51	.1 .3	1.1. 1.4	1.0	×	8.94	9.09	9.47	10.0	10.8	11.9	12.3	×	×
Florists	544 3	×	8.52	7.5	9.36	12.1	×	×	×	×	000	8.94		×	×	×
Other skilled trades n.e.c.	544 9	16	12.94	4.3	13.9 9	3.9	9.00	10.2 8	10.5 0	10.9 4	11.7 9	13.9 7	15.2 9	15.7 7	×	×
Caring, leisure and other service occupations	9	2,523	9.81	5.6	10.6	5.1	8.21	8.50	8.70	8.91	9.32	10.4	1. 8 1.1	11.6 8	12.2	14. 1.0

				_										!	(
Caring personal service occupations	61	2,101	9.85	5.7	ეე. ე	5.1	8.21	8.52	8.74	8.95	9.36	4.0L 8	0	` \. 0	2. Z 2. Z	14.0 5
Childcare and related personal	610	753	09	u u	10.2	r.	6	77	0	0	000	10.1		11.2		13.1
	612	2 0	n 0		Ц	о с		j 6	5 6	0 0	0 0			10.6		12.9
Childminders and related	- 6	60	0.00	4 0.	9.39	2.0	0/./	0.7	0.61	0.27					10 T	0
occupations	2 2 5	25	10.00	1.1	-	4.3	8.21	8.50	8.64	8.95	9.40	9	<u>.</u> ∞) 		×
Playworkers	1 0 C	40	9.03	9.9	9.42	2.9	7.86	8.21	8.29	8.41	8.71		9.70		, დ c	×
Teaching assistants	7 2 2	333	9.94	6.3	0. 0. — 0.	5.6	8.41	8.77	8.98	9.21	9.57		– ო c	_ <u>†</u> ပ်လင		ა ი ი ი
Educational support assistants	9	166	96.6	8.0	ς ω -	6.5	8.38	8.81	9.05	9.26	9.58		 9		ن <i>د</i> م	o က
Animal care and control services	613	42	9.74	8.1	10.2 4	6.0-	6.70	8.21	8.25	8.50			11.1		12.2 9	×
Veterinary nurses	613	12	11 00	7.	10.8	2	7 98	8 40	8 85		10.2	1. 4. r.	1.8		13.1	: ×
Pest control officers	613	i ×	12.30	. 6	12.2 8	-15.5	×	×		×		12.5	×	×	- ×	× ×
Animal care services	613	20	σσ α	4	9 79		۸ ۲	7 79	00 8	α 20					10.7	>
Caring personal services	, 4	1 306	n &	; r	10.7		. c	2 0	2. 0		5 6	10.6	- 1.5	12.0		4.5
Nursing auxiliaries and	614) -)	9	11.3	- ;		8	5				12.3		13.5	15.2
assistants	- ;	397	10.93	7.7	9 1	7.0	8.50	9.03	9.33	9.62	N I			4 (0 !	9
Ambulance staff (excluding paramedics)	614	24	12.06	8.0	12.7	8.1	8.99	9.84	10.4 5	10.7 8	3.0			6.4 6.0	14.7 2	×
Dental nurses	614	42	10.14	4.	10.3 5	6.	8.19	8.83	9.00	9.07	9.56	10.7	1.3 8	11.8 2.0	12.2 4	×
Houseparents and residential	614				12.8				10.3	10.7				13.7		
wardens	4	14	12.20	8.3	∞	1.8	8.90	9.73	N	7	4		2		×	
Care workers and home carers	614	723	9 49	4	10.3 4	4.5	2	8 40	8.54	8.74	03	10.0	10.8 . v	11.2 2.7	_ ∞. ∞	13.9 1
One of the state o	614	. 6	2 7 0		10.4			2 0	0				10.7	1.2	11.7	13.2
כמוס יסוחס יסוחס	614	5	t 	j	10.1	7.7	5	†	9	30.6				10.5	-	ר
Care escorts	7	10	9.40	9.6	2	10.6	8.22	8.79	8.88	9.00	9.12	9.65	0	2	×	×
Undertakers, mortuary and crematorium assistants	614	15	11.33	4.	12.3 3	6.6	8.28	9.24	9.65	9.79	10.4 4	E. 8. 4	12.6	13.1	13.5 9	×
Leisure, travel and related personal	5	,	1	Ţ	11.0		c c		0	7		10.1	10.9	11.5	12.2	14.8
service occupations	70	422	9.57	o O	၇	2.6	<u>α</u> α	8.27	8.50	8.7	9.09	٥	٥	-	ת	

3.5 8.30 8.79 8.99 9.20 9.80 11.2 13.4 14.2 15.1 16.6 6.7 8 6 5 0 8 8.32 9.04 9.24 9.53 9.86 7.3 7.70 8.19 x 8.21 8.25
8.32 8.32 7.70
- 6 0 7.4 8 6
6.3 9.28
8 22
•

10.0	×	15.1)	×	×		×	;	×	×	×	15.0	6	15.0	16.8	7	14.8	0	>	<	×		×		×	14.6	_	22.7	20 7	
9.44	×	12.6	1	×	12.0		×	;	× ×	<u>-</u>	13.1	13.2	∞	13.2	13.8	က	12.8		1 ئن	0	×	16.7	2			12.7	က	19.6 3	9	<u>ာ</u> ဝ လ
9.28	13.5	12.1	-	×	± ω. α		×	;	× +	- 2	12.3	12.6	4	12.6	12.9	2	12.1	0	<u>τ</u> εί α	11.7	6	15.9	7		×	12.1	0	18.4 4. 4	τ α τ	<u>0</u> 4 4
9.21	12.3	11. 4.0	>	×	10.9		×	>	× ×	ე თ -	11.9	11.9	4	11.9	12.3	8	11.5	0	10.9	11.0	0	15.4	7	12.2	∞	11.5	က	17.3	17.0	;
9.19	11.3	10.5	٢	×	10.5	10.0	0	;	× 0		10.9 4	10.9	9	10.9	120	9	10.8	>	0 07	10.0	7	14.4	N	10.7	_	10.7	/	15.5	т Т	. 4
8.62	10.0	٥ ٦		×	9,48		8.74	;	×	9.00	9.59		9.65	0	9.00	9.63	0	9.00	9 05	5	8.91	12.7	N		9.44	(9.34	12.4	70	1 <u>7.</u> 4 /
8.45	9.49	α		×	8.97		8.39	;	×	8.47	9	<u>-</u>	9.14	5	- 4	9.05	0	0.00	α 71	- - -	8.53	11.8	0	l (9.05	(8.82	0. T	7	ე რ -
8.37	9.24	8	20.0	×	8.68		8.26	;	×	8.31	8.95		8.99	0	0.33	8.77	0	0.03	8 54	5	8.30	11.3	က	(9.00	(8.69	10.4	, ,	5 4. ω
8.30	60.6	8 42		×	8.59		×	;	×	8.21	8.65		8.83	0	0.0	8.60	07	0.40	27	9	8.23	10.7	ω		8.58		8.48	8		9.89
8.21	8.48	α 2.		×	8.22		×	;	×	×	8.23	9	8.57	0 57	0.07	8.21	0	0.7	α 21		8.21		9.84		×		8.21	σ		8.93
3.8	-14.7	0	i O	19.2	3.6	;	- -			-1.7	1.0	<u>:</u>	6.7	0	0.	4.1	Ċ	ij	0	j	7.6		3.9	ı	-5.4		2.1	ر. د	9	-0.3
9.10	2.7	4	- (9.0 0	ਨੌਂ 4		4	;	× (c	i / ~	တ င	ı v	_	11.5	- 0	6	11.3	V	10.4 «	10.6	4	4.8	9	ω, ı	2	ω, ₍	တ	4	- <	. –
5.1				α	.3 -0	10-	3.9		Ţ	3.3	11	; 	57	11		0.8	1		- 10		3.2	_	2.2	=	6.1		9.0	1.5	- π	1.0
Ω.	4	C	1	15	4		ငှ			က	C)	က်	c	o	0	c	>	ς,	•	က		N	(တု	•	0	•	-	-
8.89	10.72	90 0	9	10.05	6.97		9.05	;	×	9.55	10.07		10.12	C C	10.12	10.42	Ċ	9.33	9 44	5	9.25		13.56		9.98	•	9.98	13 93	2	13.93
54	15	67	5	×	4		4	;	×	21	26	2	75	76	c /	260	720	4/0	43	P	8		15	ı	/	-	397	00	3	06
711	711	712	1 .	77	712	712	က	712	712	ر ا	712)	713	713	>	72	7	17/	721	721	က	721	4	721	ဂ	721	တ	722	727	0
Pharmacy and other dispensing assistants	Vehicle and parts salespersons and advisers	Sales related occupations		Collector salespersons and credit agents	Debt, rent and other cash collectors	Roundspersons and van	salespersons	Market and street traders and	assistants Merchandisers and window	dressers	Sales related occupations n.e.c.		Sales supervisors		odies supervisors	Customer service occupations		ousionier service occupations	Call and contact centre	2	Telephonists		Communication operators		Market research interviewers	Customer service occupations		Customer service managers and	the state of the s	Supervisors

Process, plant and machine operatives	∞	1,499	11.02	3.4	12.3 0	3.4	8.28	8.89	9.20	9.55	10.2	6.11	12.9 5	13.6 3	4 4.4	16.8 6
Process, plant and machine	0	705	00	c ·	12.0	7	0				10.0		12.8	13.6	4.4	16.8
	- 0	607	70.01		11.3	-		0.7		0		10.9	11.8	12.5	13.0	15.7
Process operatives	811	218	10.02	2.7	ი u	3.1	8.21	8.45	9.66	8.85	9.37	0 7	ω c	— L		9 0
roou, annk and tobacco process ratives	, - -	146	9.54	3.9	 - -	3.8	8.21	8.31	8.47	9.66	9.03	- 2 - 2	o 0 -	_ ပ် က	- س	0.0 0.0
Glass and ceramics process ratives	811	×	10.00	-0.5	11.6	6.0	×	×	×	8.64	9.28	10.5	×	×	×	×
Textile process operatives	811	10	10.38	4 4.	11.7	3.8	×			9.27	9.60	4.11 8	12.7 5	×	×	×
Chemical and related process ratives	811	22	13,41	0.6	15.3	4	8.62	10.3	10.6	4.11 5.	12.5		16.7	18.3	19.1	×
Rubber process operatives	811	×	11.07	8.6-	11.6	 8.	×		×		. 05.6	11.8 2.2	×	· ×	· ×	×
Plastics process operatives	811	12	10.62	5.2	11.7 5	5.4	8.44		9.11	9.16	9.82		12.2 0	12.6	×	×
Metal making and treating process operatives	811	თ	12.41	φ (2)	12.9	0.1	×						14.3 8	15.0	×	×
Electroplaters	811	2	10.24	-0.5	1. 4. ε	. .	×	×	9.36			10.7	11.4	×	: ×	×
itives n.e.c.	811	·	10.84	12.0	12.0	11.0	×		9.23	42	10.3		12.3	×	×	×
Plant and machine operatives	812	88	11.24	2.6	12.4 6	3.6	8.41			.73	10.3		13.6 1	14.3 1	15.3 5	17.4
Paper and wood machine ratives	812	16	10.27	3.9	11.1	1.6	8.21					10.8	11.8	12.2	13.0	×
Coal mine operatives	812	×	×		×			×		×	×	×	×	×	×	×
Quarry workers and related	812	>		7 3	14.2	7 0	>	>				12.3	>	>	>	>
Fineracy plant operatives	812	د دد	16.66	, <u>t</u>	17.4	. 48.	< ×	11.6	12.4	12.8			20.2	< ×	< ×	< ×
Metal working machine ratives	812	0 6	10.59	2.2	11.7	3.7	8.22	9.01					12.7 5	13.3	14.0	×
Water and sewerage plant ratives	812	Ξ	14.16	5.8	14.0 8	1.2		10.2					16.0	16.3	×	×
Printing machine assistants	812	18	10.29	-1.3	11.6	1.9	8.35	8.89	9.00	9.18	9.78		12.2 8	13.2	14.4 2	×

10.3 11.8 12.7 12.9 14.1 23 9.75 6 7 1 2 2 x	11.6 12.7 13.6 14.5 16. 9.24 9.99 0 6 4 6	10.1 11.1 12.3 12.6 13.2 9.15 6 1 3 7 8	11.2 12.3 14.9 16.2 16.6 17.2	6 0 5 5 1 7	10.3 11.1 13.4 15.1 15.5 16.5 19.1 3.4 6 9 7 3 8 0 9	10.9 12.1	10.	8.25 8.53 9.00 9.51 9.80 4	10.9 11.9 12.4 13.0 15.0 15.0 15.0 15.0 15.0 15.0 15.0 15	10.0 11.0 13.0 14.0 14.5 15	13.3 14.0 16.6 17.9 19.2 19.9	3 0 3 9 7 108 118 135 143 149 15	3 7 8 1 0	.3 11.6 12.7 14.7 15.8 4 5 1 9 5 x x	10.5 12.1 13.0 13.6 14.2 16.1 50 9.84 0 5 5 0 0 3	10.4 12.0 12.9 13.6 14.4 16.	9.// 3 6 9 4 4 10.1 11.7 12.5 12.9 13.6 15.	9.57 9 0 0 9 5 108 114 125 132 138 143 15	4 2 9 8 7 8	10.2 11.0 11.6 12.2 14. 8.77 9.13 2 6 7 5	10.1 10.5 11.2 12.4 13.4 13.9 14.7 16.2 9 1 2 8 9 3 3 7	
8.70 9.23					9 42 9 84				70	3 6			9.27	1.1	о			8.93 9.20		.35 8.4		
.28	.22			9.01	8 76 9	;	7 91		χ 21	. v		9.75	8.78	×				8.28	9.50	8.21	6	
-0.3				-14.6	ر م) -) <u> </u>	4 4			2.0	7.4	6.3	4.5			8. 8. 8.	3.1	3.7	4.7	
4.9		Ξ.	4	-13.3	13.4	Ξ.	10.	9.7	11.1	12.	16.3	<u>, , , , , , , , , , , , , , , , , , , </u>	0.9	14.6	12	12	=	3.6 7		10.8	12.4	1
11.28										, ц	n	-1.8	0	15		•		ന	3.1	4.7	5.1	
-	10.77	10.91		13.90	12.23		9 6 6		10.32			15.52	12.76	14.09				10.93 3	12.02	9.72 4.7		
13 11				32 13.90	58 12.23			8.84		10.07	12:07			_			1.23				11.88	
	255	<u>+</u>		32		} r	0	20 8.84	10 32	144	70.71	15.52	22 12.76	14.09	99 11.27		/94	10.93	213 12.02	9.72	11.88	

5.2 17.7 6		(რ c			ر. د. د	32.8	2	0.0 4 ×		×	× ×			.0 12	າ ວດ	0 0 14.0 3	o: -	· o o		ഥുത	0 1.5	1 15. 0	
14.5 15. 3) ×	2.9 13	-	× ·	5.1 2	0.1 30		32.2 8			13.5 0	د . ه) >	10.4 11	n •	4.Γ 8.Ε	10.5 11	10.5 11	×	0.2 10.	2.5 13	2.5 13. 0)
14.0		_	1	× 1	14.5 4		(C)	31.7			13.1 7	19.9 21 6	13.9			10.9 11 8	10.2		×	_	-	7.1)
12.8		11.50	10.2	_ (9.0 0.0		∞	30.5		7	2 2					10.1 2	62 6		×			11.0	•
11.0	14.5 3			9.63	11.6 4			29.8 6		က	1.4 4.0	16.4	10.7	- (8.52	9.03	96					9.68	
10.2	13.2	م 77) (9.53	10.8 2	13.6	က	28.7	11.0	6	10.7 3	14.6	10.0) L	8.25	8.61	85.56	8.61	×	8 46	90.6	9.06	,
9.88	12.3	ه 1	2	× (10.3 4	12.9		27.4	10.5		10.1	14.1	0 67		8.21	8.47	8 47	8.50	×	8 34	8.80	8.80	
9.52	12.0	о 20	23.0	×	98	12.0	-	23.5		×	9.79	13.5	0 69	20.0	×	8.30	80	8.38	×	8 40 8	8.50	8.50	
8.85		α		×	8	10.0	0	15.3)	×	×	>	< >	1 1 1	۲./5	8.21	α 20	8.21		α.	8.21	8.21	
2.9	-1.7	: α : α		-2.2	7.] 5	5.6	4) :	-1.5	6.0	080) ! !	† (4.0	3.3	o.	. 8.	0		5.2		
12.8 6	15.4	1.5	10.5		13.5	21.5	7	28.8	14.0	∞ !	12.7 1	18.1 5	13.3	10.1	- L	10.5 4	83	9.82	12.3	9.57	11.1	11. 8	,
3.2	i 6	2	1 0	L. <i>\</i> -	4	2	-1.6	4.2	!	-16.4	8.7	29.4	. «) i	5.4	3.7	4	. 80 60	11,1	· 6	3.6	3.6	
11.76	15.24	10 97	9	9.90	12.70	o i	18.95	30.13		12.98	11.82	17.46	α σ σ σ σ σ σ σ σ σ σ σ σ σ σ σ σ σ σ σ		8.95 2.95	9.54	9.37	9.44	11.66	9.17	10.25	10.25	
82	i c	30	8	×	42	ļ	28	28		5	6	7	2 ^		2,926	353	7.5	398	×	. <u>σ</u>	74	. 74	
822	822	822	822	ۍ رو	228 8)	823	823	823	8	823 3	823	823) (ກ	91	911	911	911	911	912	912	
Mobile machine drivers and eratives		Fork-lift truck drivers		Agricultural machinery drivers	Mobile machine drivers and ratives n e.c.	Other drivers and transport		Train and tram drivers	Marine and waterways transport		Air transport operatives	Rail transport congratives	Other drivers and transport	:	Elementary occupations	Elementary trades and related ccupations	Elementary agricultural	Farm workers	Forestry workers	Fishing and other elementary	Elementary construction cupations	Elementary construction upations	

×	13.2	15.2	12.7 6	15.6	9	15.8	×	11.5 4	×	×	11.5 5	×	×	×	×	13.7	15.5	×	11.0	×
10.1	11 2. ε	12.7	10.9	14.4	Ø	14.5 4	10.2	10.1 6	×	×	10.1 0	9.09	11.3	9.14	×	t 4. 0	13.0	11.9	10.4 3	11.9
9.74	10.6	12.0	10.3	13.9	_	14.2 4	10.0	9.75	×	11.1	69.6	8.96	- -	9.01	×	10.9 7	12.0 9	11.5	10.1 0	4.11
9.35	10.2 9	11.5	6	13.2	∞	13.8	9.63	9.40	×	10.9	9.36	8.70	10.7 5	8.90	×	10.6	11.4	11.0	9.71	11.0
8.81	9.55	10.6	9.23	12.6	က	13.0	9.11	9.00	9.99	10.5 8	9.00	8.50	10.2 5	8.77	×	9.99	10.5	10.6	9.43	10.4 3
8.30	8.79	9.34	8.50	12.2	6	12.3	8.50	8.40	×	9.91	8.38	8.21	9.74	8.24	×	9.18	9.24	9.67	9.07	9.81
8.21	8.48	8 85	8.24	11.7	N	12.2 9	8.25	8.22	×	9.54	8.21	×	9.41	8.21	×	8.89	8.83	9.01	8.83	9.46
8.15	8.35	8.55	82	10.8	2	12.2	8.21	8.21	×	9.41	8.21	×	9.07	×	×	8.72	8.67	8.95	8.70	9.20
7.88	8.23	8.42	×		9.84	11.8	×	×	×	9.32	×	×	8.84	8.21	×	8.55	8.48	8.70	8.55	9.00
7.83	8.21	8.21	7.70		8.50	9.75	7.43	8.13	×	×	8.12	8.13	8.37	7.77	×	8.21			8.24	8.26
-1.5	3.5	4	5 4		5.8	4.4	7.8	5.7	-0.6	11.3	6.1	4.3	2.3	5.3	-3.2	3.4	2.7	3.3	10.3	-0.6
9.30	10.0	11.0	10.0	12.7	N	13.1	9.62	9.47	9.78	10.6 2	9.44	8.83	10.3	8.79	9.84	10.7 4	10.9	10.5	9.60	1.3
-1.5	3.9	5.6	5.5		4.7	3.7	6.7	6.3	2.9	4.7	6.3	4.3	3.4	8.2	-1.6	6.9	5.3	4.7	9.0	0.0
8.57	9.14	10.00	989)	12.30	12.45	8.78	8.71	9.27	10.09	8.68	8.27	9.94	8.52	9.25	9.47	9.87	10.15	9.24	10.00
24	91	108	2.573	Î	165	140	25	643	×	7	582		19	14	×	229	107	Ξ	97	15
913	913	913	0 00		921	921	921	923	923	923 2	923	923	923	923 6	923	924	924	924	924	924
Industrial cleaning process occupations	Packers, bottlers, canners and fillers	Elementary process plant	Elementary administration and service occupations	Elementary administration	occupations	Postal workers, mail sorters, messengers and couriers	Elementary administration occupations n.e.c.	Elementary cleaning occupations	Window cleaners	Street cleaners	Cleaners and domestics	Launderers, dry cleaners and pressers	Refuse and salvage occupations	Vehicle valeters and cleaners	Elementary cleaning occupations n.e.c.	Elementary security occupations	Security guards and related occupations	Parking and civil enforcement occupations	School midday and crossing patrol occupations	Elementary security occupations n.e.c.

Elementary sales occupations	925	41	8.99	3.8	9.26	3.5	8.41	×	8.42	8.42	8.79	9.16	9.47	9.63	9.76	10.3
Shelf fillers	925	37	8.87	2.3	9.23	3.2	8.41	×	8.42	8.42	8.70	9.12	9.45	9.61	9.72	×
Elementary sales occupations n.e.c.	925 9	4	9.14	6.4	9.51	5.8	×	8.81	8.89	8.92	90.6	9.48	9.77	×	×	×
Elementary storage occupations	926	535	9.78	2.8	10.8	3.2	8.21	8.45	8.63	8.81	9.21	10.3	0.0	9.0		4. 1. 2.0 0
Elementary storage occupations	926	535	9.78	2.8	10.8 5	3.2	8.21	8.45	8.63	8.81	9.21	10.3 8	ე. ნ	o. O	7. 2.2 0	<u>4</u> И О
Other elementary services occupations	927	096	8.29	5.6	8.74	5.5	6.15	7.50	7.75	8.03	8.21	8.51	8.89	9.08	9.37	10.4
Hospital porters	927	5	10.48	5.3	10.8 4	.3	×	9.38	9.57	9.69	10.0 0	10.7	11.2 5	×	×	×
Kitchen and catering assistants	927	546	8.35	4.9	8.83	5.5	6.27	7.54	7.87	8.18	8.21	8.61	9.00	9.18	9.48	10.5 5
Waiters and waitresses	927	207	8.21	4.9	8.46	5.1	00.9	6.50	7.01	7.69	8.00	8.29	8.60	8.93	9.20	10.4 8
Bar staff	927	162	8.22	5.0	8.57	6.5	6.89	7.70	7.88	8.21	8.21	8.46	8.63	8.77	9.00	9.84
Leisure and theme park attendants	927	27	8.52	4.1	8.78	9.9	6.63	7.75	7.86	8.12	8.21	8.87	9.20	9.50	9.81	×
Other elementary services occupations n.e.c.	927	13	8.55	3.0	9.36	1.8	7.82	×	×	8.24	8.48	9.04	9.50	9.80	×	×
Not Classified																
											•					

a Employees on adult rates whose pay for the survey pay-period was not affected by absence. Estimates for 2020 include employees who have been furloughed under the Coronavirus Job Retention Scheme (CJRS).

KEY - The colour coding indicates the quality of each estimate; jobs, median, mean and percentiles but not the annual percentage change. b Figures for Number of Jobs are for indicative purposes only and should not be considered an accurate estimate of employee job counts.

The quality of an estimate is measured by its coefficient of variation (CV), which is the ratio of the standard error of an estimate to the estimate.

Source: Annual Survey of Hours and Earnings, Office for National Statistics.

Port Health Authorities:

England Bi England Bi England Co	Boston & Ensdyke (PHA)
	SION & LOSGYNE (FILM)
	Brighton & Hove (PHA)
	Bristol (PHA)
	Cornwall Port Health Authority
	Crawley (PHA)
England	Dover (PHA)
England G	Grimsby & Immingham (PHA)
England H	Harwich (PHA)
England H	Hillingdon (PHA)
England H	Hull & Goole (PHA)
England	lpswich (PHA)
England Ki	King's Lynn (PHA)
England La	Lancaster (PHA)
England	Manchester (PHA)
England	Manchester (Ship Canal) (PHA)
England	Mersey (PHA)
England	Middlesborough (PHA)
England	North East Lincolnshire (PHA)
England	North West Leicestershire (PHA)
England Pl	Plymouth (PHA)
England Po	Port Health Authority (City of London)
England Po	Portsmouth (PHA)
England Ri	River Tees (PHA)
	Solihull (PHA)
England	Southampton (PHA)
England	Suffolk Coastal (PHA)
England Te	Tendring (PHA)
England Th	Thanet (PHA)
England	Trafford (PHA)
England T	Tyne (PHA)

England	Uttlesford (PHA)
IN	Belfast (PHA)
IN	Newry and Mourne (PHA)
Scotland	Angus (PHA)
Scotland	Perth and Kinross (PHA)
Scotland	Shetland Islands (PHA)
Wales	Cardiff City (PHA)
Wales	Milford (Pembrokeshire) (PHA)

GDP DEFLATORS AT MARKET PRICES, AND MONEY GDP

Outturn data are the latest National Accounts figures from ONS - last updated 30 June 2017.

Forecast data are consistent with OBR Spring Budget 2017 EFO data as at 8 March 2017

Money GDD (3), (4)
Cash £ million Cash £ million Cale
19,788 19,802
21,374 21,349
22,727 22,743
23,571 23,543
25,074 25,127
26,856 26,875
28,269 28,297
29,594 29,611
32,040 31,998
34,931 34,998
37,529 37,484
39,983 39,977
42,561 42,672
46,752 46,770
50,737 50,794
57,586 57,672
64,335 64,237
73,635 73,740
82,516 82,539
97,700
120,237 120,126
141,190 141,689
165,041 164,845
191,058
231,150 231,173
265,818 266,127
295,767 295,207
324,512 324,778

348,283	374,534	412,120	444,033	492,635	551,709	609,474	662,850	698,038	721,445	758,445	797,088	836,646	892,900	938,855	980,308	1,021,205	1,080,863	1,120,575	1,172,652	1,242,449	1,304,874	1,379,457	1,455,644	1,530,890	1,564,252	1,519,459	1,572,439	1,628,274	1,675,044	1,739,563	1,822,480	1,872,714	1,939,637	2,014,571
5.52	5.15	5.60	4.45	5.28	5.87	7.71	8.00	6.49	2.98	2.55	1.17	2.39	4.08	1.96	1.18	0.87	2.02	0.92	2.19	2.40	2.44	2.66	2.95	2.55	2.84	1.52	1.54	2.01	1.54	1.91	1.65	0.55	1.73	1.80
37.865	39.815	42.047	43.920	46.240	48.954	52.728	56.947	60.644	62.451	64.046	64.793	66.343	69.046	70.399	71.232	71.852	73.300	73.976	75.599	77.415	79.302	81.412	83.815	85.948	88.393	89.732	91.115	92.949	94.376	96.175	97.757	98.297	100.000	ı
1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017 (1), (2)
354,169	382,193	421,739	453,314	507,550	566,793	622,967	673,721	705,557	729,357	767,205	805,833	850,665	903,950	950,351	992,547	1,033,992	1,089,720	1,132,965	1,189,393	1,258,541	1,319,841	1,402,269	1,473,267	1,550,004	1,548,025	1,528,376	1,591,851	1,634,008	1,691,373	1,757,219	1,838,568	1,886,095	1,960,386	2,029,525
354,960	382,846	421,215	452,590	507,412	565,947	623,092	672,128	706,916	727,530	769,653	806,312	849,808	905,541	949,821	991,717	1,035,717	1,091,489	1,131,360	1,190,819	1,259,266	1,320,209	1,402,471	1,476,941	1,547,272	1,546,968	1,531,330	1,592,057	1,634,025	1,690,042	1,759,560	1,834,812	1,885,846	1,955,442	2,028,715
4.75	5.75	99.5	4.12	5.49	6.45	7.68	8.12	5.64	2.45	2.29	1.13	3.04	3.82	1.58	1.36	0.53	2.05	1.28	2.26	2.24	2.65	2.67	3.03	2.42	2.72	1.38	1.83	1.39	2.10	1.65	1.47	69:0	2.00	1.63
37.952	40.134	42.406	44.151	46.574	49.579	53.387	57.721	826.09	62.469	63.901	64.621	66.584	69.129	70.223	71.179	71.560	73.028	73.963	75.636	77.334	79.386	81.505	83.976	86.009	88.347	89.562	91.200	92.467	94.408	95.965	97.375	98.042	100.000	1
1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18 (7) (2)

2018-19(1),								
(2)	1.56	5 2,095,146	2,094,798	2018 (1), (2)	1	1.57	2,077,910	
2019-20(1),								
(2)	1.66	5 2,167,688	2,167,305	2019 (1), (2)	1	1.60	2,148,046	
2020-21 (1),								
(2)	1.88	8 2,250,808	2,250,818	2020 (1), (2)	1	1.85	2,229,225	
2021-22 (1),								
(2)	1.92	2,340,161	2,339,881	2021 (1), (2)	1	1.91	2,317,380	

Sources and footnotes:

Financial years 1955-56 to 2016-17 taken from ONS series L8GG in data tables: Table N.

Deflator:

nttps://www.ons.gov.uk/file?uri=/economy/grossdomesticproductgdp/datasets/ukguarterlynationalaccountsdatatables.xls

Calendar years 1955 to 2016 taken from ONS series MNF2 in data tables: Table O.

nttps://www.ons.gov.uk/file?uri=/economy/grossdomesticproductgdp/datasets/ukquarterlynationalaccountsdatatables.xls

For years 2017-18 to 2021-22 (2016 to 2021): taken from Office for Budgetary Responsibility (OBR) forecasts for GDP deflator increases as of the Spring Budget 2017, Economic and Fiscal Outlook (EFO) supplementary tables.

nttp://budgetresponsibility.org.uk/download/march-2017-economic-and-fiscal-outlook-supplementary-economy-tables/

For years 1955-56 to 2016-17 (1955 to 2016): ONS data for money GDP not seasonally adjusted series BKTL in data tables: Table N. Money

GDP:

nttps://www.ons.gov.uk/file?uri=/economy/grossdomesticproductgdp/datasets/ukquarterlynationalaccountsdatatables.xls

For years 1955-56 to 2016-17: ONS data for money GDP seasonally adjusted series YBHA in data tables: Table N.

nttps://www.ons.gov.uk/file?uri=/economy/grossdomesticproductgdp/datasets/ukquarterlynationalaccountsdatatables.xls

For years 2017-18 to 2021-22 (2017 to 2021): OBR forecasts for money GDP as of the Spring Budget 2017

nttp://budgetresponsibility.org.uk/download/march-2017-economic-and-fiscal-outlook-supplementary-economy-tables/

Footnotes:

- For years 2017-18 to 2021-22 (2017 to 2021), this presentation only shows percentage changes in line with OBR data as of the Spring Budget 2017. Ξ
- For years 2017-18 to 2021-22 (2017 to 2021), money GDP forecasts from the OBR as of the Spring Budget 2017. (5)
- Non-Seasonally adjusted money GDP (BKTL) from 1955-56 to 2016-17 (1955 to 2016) consistent with ONS Quarterly National Accounts release of 31 March 2017. (3)
- Seasonally adjusted money GDP (YBHA) from 1955-56 to 2016-17 consistent with ONS Quarterly National Accounts release of 31 March 2017. 4
- For further information and the 'User's Guide' to these series, please visit the following page on the GOV.UK website at: https://www.gov.uk/government/publications/gross-domestic-product-gdp-deflators-user-guide (2)
- For practical examples of how to use the GDP deflator series, please visit the following page on the GOV.UK website at: 9