

Preface

Consumer price inflation is one of a small number of leading economic indicators that have become essential in the management of economies over the course of the past hundred years. The monthly statistical bulletin from the Office for National Statistics, which gives the latest information on consumer price inflation for the UK, is arguably the most important of all Official Statistics.¹ As well as their influence at the national level, the various measures of consumer price inflation affect the lives of citizens of the UK on a personal level through their use in adjusting many benefits, prices and tax thresholds in accordance with Government policy and contractual agreements. The total amount of money affected by the values of these inflation measures is enormous, which is why seemingly small changes in the rates of inflation have such significance and are reported widely in the media.

The construction of the official measures of inflation is a significant undertaking by the Office for National Statistics in the UK, requiring a substantial data collection operation every month and the application of statistical methods which have been developed over a long period

¹ For an example of the statistical bulletin published by the ONS, see ONS (2017).

of time, in response to theoretical and practical considerations. Where did the knowledge and expertise to do this come from and when was it developed? The earliest known discussions of how to summarise the price change of a collection of goods and services in a single figure arose in the eighteenth century. Classical economists started to consider what would be required to implement a systematic approach to measuring overall price change in the mid-nineteenth century. In the UK, the government started producing a regular measure at the start of the First World War, though it wasn't until the early 1950s that the extent of data collection and the methodology applied became what we would recognise as "modern practice" in estimating inflation. In the six decades since, inflation measures have been subject to a series of changes aimed at continual refinement and improvement; developments have taken the measures closer to those imagined by the economists and statisticians who have grappled with the subject of price measurement. This book tells the story of the development of UK inflation measures and provides a guide to what goes into producing the monthly estimates.

Producing a "complete" history of the development of consumer price inflation measures would be a mammoth task, especially as the subject sits at the intersection of economics, statistics, politics and sociology. Such a history would require the inclusion of both political and technical considerations (and their interactions) and would look across the whole world, as the development of UK measures was influenced by international activities. For practical reasons, this book takes a subset of this potentially panoramic scope within the domain of Index Numbers and Price Statistics as its subject. We have chosen to write the story of only the economic and statistical development of the measures and have consciously shied away from writing a political history.² Our focus is on development in the UK; of course, developments elsewhere have had a major impact on UK practice (and thinking), and we have described the most important of them where they are required in order to tell the story. The development of best practice methodology in recent decades has been an international, collaborative effort and its implementation in the UK is in line with international best practice.

² Thomas Stapleford (2009) provides a political history for the USA.

The target audience is an important consideration for any book. A history of consumer price statistics could be written for only the specialists who work in the field or in closely related fields, though what those specialists would have us include might be an interesting study in itself. Our aim, however, is to make the story of UK inflation measurement accessible to a wider audience and to promote a better understanding of what these statistics are, where they have come from and where they might go in the future. To achieve our goals, we have included material that explains the basic concepts involved in measuring inflation, which readers who are more familiar with Index Numbers will recognise. The details of calculations aren't specified here; our previous book (Ralph et al. 2015) describes the basic mathematical practice; readers requiring a little more guidance on their introduction to Index Numbers may be well served by starting with that volume or having it available alongside this one.

There is a considerable body of literature associated with measuring consumer price inflation. The details of the developments are contained in a large number of technical research papers, manuals and committee papers which record the changes in methodology over time. The nature of the changes in methods has been controversial and subject to much vigorous debate; in many cases, the debates are still going on in professional circles. With such a rich source of material to draw on, we have had to be selective over which aspects to include in this book—our aim has been to highlight the most important and influential elements. For those readers who would like to know more, we have included many references. Readers may feel we have neglected important sources and favoured others; however, in selecting material, we are not making any judgements regarding the validity of particular arguments, but instead seeking to represent the views which we believe have been most influential in the development of the UK measures. An example of a topic which is largely omitted is the family of Divisia indices³; while they are important in the development of Index Number theory, especially chain-linking, they have featured less in the practical construction of price measures in the UK.

³ See Hulten (2008) for more information on these indices.

When writing any book, it is helpful to have hands-on experience. The authors of this volume all worked for the Office for National Statistics in the field of Index Numbers and Price Statistics and have contributed to the research and discussions behind the changes in the methodology of consumer price indices over a number of years. While we have direct experience of the developments over the past decade or so, we also have colleagues whose experience extends back far longer to cover the past thirty years. Access to this personal experience has been very useful to supplement the documentary record, and such contributions from colleagues, past and present, are gratefully acknowledged.

Organisation of the Book

This book comprises fifteen chapters. The first two chapters provide an overview of inflation as a concept and its influence in the UK. The remaining chapters are broadly split into two types—those which relate to a history of inflation measurement for a period of time and those that explain how the measures are produced in the UK. We have mixed these types to create what we think is the best exposition of the overall material—practical considerations of current practice help to inform the development of the historical material.

Chapters 1 and 2 provide an introduction to inflation and its uses. Chapter 1 takes an informal approach to introducing inflation and presents examples taken from media coverage to demonstrate the influence that measures of inflation have exerted on the general public in the recent past. In contrast, Chap. 2 gives a more technical definition of inflation and then provides examples of situations where Governments have lost control of inflation, known as hyperinflation. This chapter also looks at the experiences of inflation and the perception of inflation as felt by individuals and groups of citizens. It considers how well personal experience relates to the official measures of inflation. It also considers where price change is experienced differently for different income groups and what this might mean for inflation measurement.

The origins of a systematic approach to measuring inflation are the subject of Chap. 3; it covers the period up to the year 1879. Chapter 4 introduces the concept of a price index and price index numbers; it explains how inflation is derived from a price index. The history of inflation measurement continues in Chap. 5 which covers the period from 1880 until just after the end of the Second World War. Chapter 6 takes up the story where Chap. 5 leaves off and follows the development of the index until 1989. The subsequent three chapters are concerned with elements of how inflation is measured. Chapter 7 looks at the representative basket of goods, its important role and how the basket has changed over time. How prices are collected is the subject of Chap. 8, and how the relative expenditure of households on goods in the basket is measured is described in Chap. 9.

Chapter 10 returns to the historical development and describes a period of rapid change in the way inflation was measured in the UK—it covers the period 1990–2011. This period includes the introduction of the Consumer Prices Index and the switch from the Retail Prices Index to the Consumer Prices Index as the UK's inflation target. Chapter 11 describes an important and highly controversial aspect of the construction of inflation statistics—how price change is measured at the lowest level of a price index where weighting information is not available for most goods and services.

Chapter 12 looks at the arguments over the target for measuring price change—should we aim to measure a cost of goods index or a cost of living index? Chapter 13 brings the story of the historical development of inflation measurement up to date by covering the period from 2012 to the end of 2016. This was a very busy period with a number of major developments, including the change in the status of the long-running Retail Prices Index, two UK Statistical Authority assessment reviews, a major external review and a large-scale quality assessment of the source of weighting information. The period also saw a clear recommendation for changing the headline inflation measure and strong calls for the retirement of the long-running Retail Prices Index.

Chapter 14 provides a brief view of other inflation measures available for the UK, including the Producer Price Index, the Services Producer Price Index, Purchasing Power Parity and the Implied Price Deflator.

The final chapter, Chap. 15, considers the future of inflation measurement; by its very nature, this is somewhat speculative, but makes it clear that this book is attempting to tell readers a story which is far from complete.

Suggested Routes Through the Book

The composition and sequence of chapters have been considered carefully and designed to provide an effective exposition of the subject by combining chapters on the history of inflation measurement with supporting chapters on how the measurement is carried out in current practice. The main purpose of this structure is to provide an effective journey for readers who proceed through all the chapters in the order in which they are presented. However, this isn't the only route.

For those readers who have a basic understanding of how inflation is measured already, a number of the chapters on aspects of construction can be omitted leaving the history chapters and chapters on more specialist aspects of the methodology: 1, 2, 3, 5, 6, 10, 12, 13, 14 and 15.

The two introductory chapters and the history chapters only may be a more acceptable route for those who are less interested in the details of how inflation measures are actually constructed: 1, 2, 3, 5, 6, 13 and 15.

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Inflation

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