Fiscal Sustainability in Theory and Practice
Fiscal Sustainability in Theory and Practice

A Handbook

Edited by

Craig Burnside

THE WORLD BANK
Washington, D.C.
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As the title suggests, this book is intended as an introduction to the theory of fiscal sustainability and the practice of fiscal sustainability assessment. The preface describes the origins of the book, its motivation, purpose, and intended audience. Chapter 1 begins with an overview of the models and case studies presented and explains why topics such as contingent liabilities, external debt position, and fiscal federalism are not covered in detail.

This work evolved over time, as the need for a resource on fiscal sustainability analysis became apparent to the membership of the World Bank’s Quality of Fiscal Adjustment Thematic Group (QFA TG). Fiscal sustainability has become a prominent issue in developing countries, and fiscal sustainability assessments have become an increasingly required component of macroeconomic analysis at the World Bank. Unfortunately, there was no single, basic source of information on this topic. Country economists new to this type of analysis could rely on sample work by other economists at the Bank or delve into scattered journal articles for the theoretical background. Frequently, however, work on fiscal sustainability analysis would be undertaken by hired experts from the Bank’s Development Economics Research Group (DECRG), or Poverty Reduction and Economic Management, Economic Policy Group (PRMEP), or by outside academics.

I assumed leadership of the QFA TG in 2001, upon joining PRMEP. At that time, fiscal sustainability analysis was identified as a core area in which this group should provide leadership and support to economists working in
Preface

the regional departments of the World Bank. The membership of the QFA TG—which, despite its name, discusses a wide range of fiscal issues—agreed that the best way for the PRMEP group to provide this leadership and support was through training. To support that training, I embarked on a project to provide pedagogical resources on fiscal sustainability analysis. Those resources have come together in the form of this book.

For those who are unfamiliar with fiscal sustainability analysis, it is—at its core—the use of a simple set of tools to analyze a government’s budget and debt positions. In its simplest form, this type of analysis leads to conclusions about the appropriateness of fiscal policy, which are often characterized in terms of the balance between revenue and expenditure given a government’s debt level. As suggested above, many World Bank economists are familiar with fiscal sustainability analysis; the process has long been an important part of the Bank’s economic and sector work. But for those who are less familiar with the subject, there has been no single reference work that explains it. This book seeks to fill that gap.

As is standard with any reference text, I should describe the intended audience. First, consistent with its original purpose, the book will serve as an integral part of the training courses in fiscal sustainability regularly offered by PRMEP (now known as PRMED) at the World Bank. These courses are aimed at economists who are unfamiliar with fiscal sustainability analysis but need an understanding of it in their daily work. Second, the book will serve as a useful reference work for all economists. A number of handy and standard formulas are presented in the book. Furthermore, many of the worked out examples presented here can easily be replicated in other countries that collect sufficient data. Third, I hope that this book helps build a greater understanding of fiscal policy and the constraints faced by policymakers. In particular, since many of these constraints are dynamic, a better understanding of fiscal sustainability by economists in developing countries might lead to greater pressure for better fiscal policy in these countries.

Finally, I should point out that this book is not aimed at a research audience already familiar with the theoretical concepts described here: Most of the theoretical discussion in this book is neither new nor particularly advanced. Rather, the book collects and presents preexisting work from many sources in a single volume, and makes it accessible to economists with either an advanced undergraduate or basic graduate-level of training.

Please note that the opinions the authors express in this book are their own, and are not necessarily shared by the organizations with which they are, or have been, affiliated.
In addition to the authors, many others who contributed to this book deserve special thanks. These include those who handled the necessary administrative details at various stages; the help of Duane Chilton, Debbie Fischer-Sturgess, Vivian Hon, Marketa Jonasova, and Sarah Lipscomb was invaluable. Upon my departure from PRMEP, stewardship of the book was taken over by the extremely patient Thomas Laursen, Elena Ianchovichina, and Nina Budina. Leadership support for the book was provided by Zia Qureshi, Yaw Ansu, and Vikram Nehru.

Thanks also to Stephen McGroarty and Janet Sasser in the Office of the Publisher at the World Bank, and to Kim Kelley, a consultant in that office. They smoothed the review and editorial processes, easing publication of an intricate book.

I also wish to thank three anonymous reviewers for their invaluable comments. Finally, I would like to thank the many students who have taken the fiscal sustainability courses offered by me at the World Bank since 2002. Their comments and suggestions have strengthened the final product considerably.
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Acronyms

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<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>ADF</td>
<td>Augmented Dickey Fuller (unit root test)</td>
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<tr>
<td>ARIMA</td>
<td>AutoRegressive Integrated Moving Average (time-series analysis model)</td>
</tr>
<tr>
<td>BEA</td>
<td>Bureau of Economic Analysis, U.S. Department of Commerce</td>
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<td>BIS</td>
<td>Bank for International Settlements</td>
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<tr>
<td>BK</td>
<td>Baxter-King filter</td>
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<td>BN</td>
<td>Beveridge-Nelson decomposition</td>
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<tr>
<td>CAB</td>
<td>current account balance</td>
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<td>CEPR</td>
<td>Centre for Economic Policy Research (London)</td>
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<td>CODELCO</td>
<td>Corporacion Nacional del Cobre (Chile)</td>
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<td>CPI</td>
<td>consumer price index</td>
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<td>CSF</td>
<td>Copper Stabilization Fund (Chile)</td>
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<td>DSA</td>
<td>debt sustainability analysis</td>
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<td>ECB</td>
<td>European Central Bank</td>
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<td>EPI</td>
<td>export price index</td>
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<td>EU</td>
<td>European Union</td>
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<td>FDI</td>
<td>foreign direct investment</td>
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<td>FRED</td>
<td>Federal Reserve Economic Data (Federal Reserve of St. Louis database)</td>
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<td>FX</td>
<td>foreign exchange</td>
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<td>Acronym</td>
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<td>FXR</td>
<td>foreign exchange reserves</td>
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<td>GDI</td>
<td>gross domestic income</td>
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<td>GDP</td>
<td>gross domestic product</td>
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<td>GNI</td>
<td>gross national income</td>
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<td>GNP</td>
<td>gross national product</td>
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<td>G7</td>
<td>Group of Seven countries (Canada, France, Germany, Italy, Japan, United Kingdom, and United States)</td>
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<tr>
<td>HIPC</td>
<td>heavily indebted poor countries</td>
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<td>HP</td>
<td>Hodrick and Prescott filter</td>
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<td>ICOR</td>
<td>incremental capital output ratio</td>
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<td>IDB</td>
<td>Inter-American Development Bank</td>
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<td>IFS</td>
<td>International Financial Statistics</td>
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<td>IIE</td>
<td>Institute for International Economics</td>
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<td>IIP</td>
<td>International Investment Position statistics (IMF)</td>
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<td>IMF</td>
<td>International Monetary Fund</td>
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<td>INEGI</td>
<td>Instituto Nacional de Estadística Geografía e Informática (Mexico)</td>
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<td>IPI</td>
<td>import price index</td>
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<td>LAC</td>
<td>Latin America and the Caribbean region (World Bank)</td>
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<td>LCU</td>
<td>local currency unit</td>
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<td>NBER</td>
<td>National Bureau of Economic Research</td>
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<td>NFA</td>
<td>net foreign asset position</td>
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<td>OECD</td>
<td>Organisation for Economic Co-operation and Development</td>
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<td>OLS</td>
<td>ordinary least squares</td>
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<td>PEMEX</td>
<td>Petroleos Mexicanos (state oil company, Mexico)</td>
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<td>PP</td>
<td>Phillips-Perron (test)</td>
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<td>PPP</td>
<td>purchasing power parity</td>
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<td>PRMEP</td>
<td>Poverty Reduction and Economic Management, Economic Policy Group</td>
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<td>PSE</td>
<td>public sector enterprise</td>
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<td>PV</td>
<td>present value</td>
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<td>QFA TG</td>
<td>Quality of Fiscal Adjustment Thematic Group (World Bank)</td>
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<td>TL</td>
<td>Turkish lira</td>
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<td>UNCTAD</td>
<td>United Nations Commission on Trade and Development</td>
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<td>VAR</td>
<td>vector autoregressive model</td>
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<td>VAT</td>
<td>value-added tax</td>
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