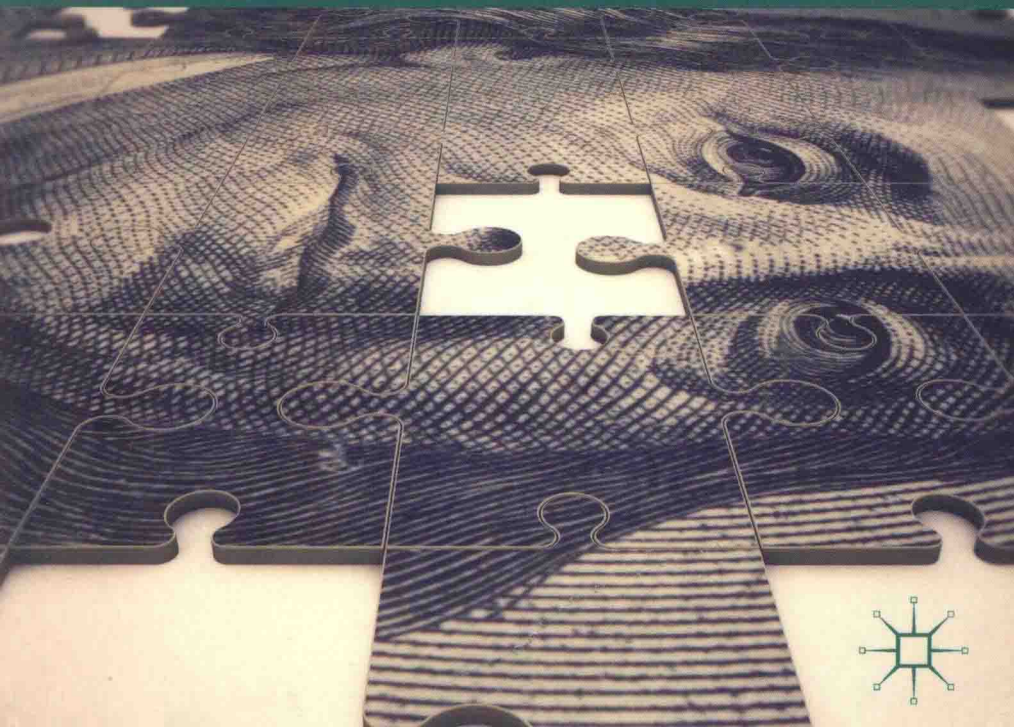
L. RANDALL WRAY

MODERN MONEY THEORY

A Primer on Macroeconomics for Sovereign Monetary Systems



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A Primer on Macroeconomics for Sovereign Monetary Systems

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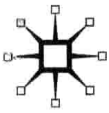

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Preface

In recent years an approach to macroeconomics has been developed that is called "modern money theory" (MMT). The components of the theory are not new, but the integration toward a coherent analysis is. My first attempt at a synthesis was in my 1998 book, *Understanding Modern Money*. That book traced the history of money as well as the history of thought undergirding the approach. It also presented the theory and examined both fiscal and monetary policy from the "modern money" point of view. Since that time, great strides have been made in applications of the theory to developing an understanding of the operational details involved. To put it simply, we have uncovered how money "works" in the modern economy. The findings have been reported in a large number of academic publications. In addition, the growth of the "blogosphere" has spread the ideas around the world. "Modern money theory" is now widely recognized as a coherent alternative to conventional views. However, academic articles and short blogs do not provide the proper venue for a comprehensive introduction to the approach.

This Primer seeks to fill the gap between formal presentations in the academic journals and the informal blogs. It will begin with the basics to build to a reasonably sophisticated understanding.

In addition, it will explicitly address another gap: the case of developing nations. The MMT approach has often been criticized for focusing too much on the case of the US, with many critics asserting that it has little or no application to the rest of the world's nations that do not issue the international reserve currency. To be sure, that criticism is overdone because modern money theorists have applied the approach to a number of other countries, including Australia, Canada, Mexico, Brazil, and China. Still, much of the literature explicitly addresses the case of developed nations that operate with floating exchange rates. Some supporters have even argued that MMT cannot be applied to fixed exchange rate regimes. And there has been very little application of MMT to developing nations (many of which do adopt exchange rate pegs).

So this Primer also fills that gap – it explicitly addresses alternative exchange rate regimes as well as the situation in developing nations. In that sense it is a generalization of modern money theory.

Unlike my 1998 book, this Primer will not revisit the history of money or the history of thought. The exposition will remain largely theoretical. I will provide a few examples, a little bit of data, and some discussion of actual real world operations. But for the most part the discussion will remain at the theoretical level. The theory, however, is not difficult. It builds from simple macro identities to basic macroeconomics. It is designed to be accessible to those with little background in economics. Further, the Primer mostly avoids criticism of the conventional approach to economics; there are many critiques already, so this Primer aims instead to make a positive contribution. That helps to keep the exposition relatively short. Where appropriate, there will be boxes that provide slightly more technical discussions and case studies. In addition, boxes will provide answers to frequently asked questions. The material in boxes can be skipped by readers in a hurry. Alternatively, the reader can return to the boxes after completing each chapter.

In this Primer we will examine the macroeconomic theory that is the basis for analyzing the economy as it actually exists. We begin with simple macro accounting, starting from the recognition that at the aggregate level spending equals income. We then move to a sectoral balance approach showing that the deficits of one sector must be offset by surpluses of another. We conclude by arguing that it is necessary to ensure stock-flow consistency: deficits accumulate to financial debt; surpluses accumulate to financial assets. We emphasize that all of these results apply to all nations today as they follow from macroeconomic identities.

We next move to a discussion of currency regimes – ranging from fixed exchange rate systems (currency board arrangements and pegs), to managed float regimes, and finally to floating exchange rates. We can think of the possibilities as a continuum, with many developed nations toward the floating rate end of the spectrum and many developing nations toward the fixed exchange rate end.

We will examine how a government that issues its own currency spends. We first provide a general analysis that applies to all currency regimes; we then discuss the limitations placed on domestic policy as we move along the exchange rate regime continuum. It will be

argued that the floating exchange rate regime provides more domestic policy space. The argument is related to the famous open economy "trilemma" – a country can choose only two of three policies: maintain an exchange rate peg, maintain an interest rate peg, and allow capital mobility. Here, however, it will be argued that a country that chooses an exchange rate target may not be able to pursue domestic policy devoted to achieving full employment with robust economic growth.

Later – much later – we will show how the "functional finance" approach of Abba Lerner follows directly from MMT. This leads to a discussion of monetary and fiscal policy – not only what policy *can* do but also what policy *should* do. Again, the discussion will be general because the most important goal of this Primer is to set out theory that can serve as the basis of policy formation. This Primer's purpose is not to push any particular policy agenda. It can be used by advocates of "big government" as well as by those who favor "small government." My own biases are well-known, but MMT itself is neutral.

As mentioned above, one major purpose of this Primer is to apply the principles developed by recent research into sectoral balances and the modern money approach to the study of developing nations. The Levy Economics Institute has been at the forefront of such research, following the work of Wynne Godley and Hyman Minsky, but most of that work has focused on the situation of developed nations. Jan Kregel, in his work at UNCTAD, has used this approach in analysis of the economies of developing nations. Others at Levy have used the approach to push for implementation of job creation programs in developed and developing nations. This Primer will extend these analyses, explicitly recognizing the different policy choices available to nations with alternative exchange rate regimes.

Finally, we will explore the nature of money. We will see that logically money cannot be a commodity; rather, it must be an IOU. Even a country that operates with a gold standard is really operating with monetary IOUs, albeit with some of those IOUs convertible on demand to a precious metal. We will show why monetary economies typically operate below capacity, with unemployed resources including labor. We will also examine the nature of creditworthiness; that is, the reason why some monetary liabilities are more acceptable than others. As my professor, the late and great Hyman

Minsky, used to say, "anyone can create money; the problem lies in getting it accepted." Understanding what money is provides the first step to an analysis of what went wrong in the events leading up to the global financial crisis of 2007. It also helps us to understand the problems faced in Euroland, especially from 2010.

This monograph actually began as an effort to provide a basic Primer on macroeconomics that can be used by home country analysts in developing nations, as an alternative to the macroeconomic textbooks that suffer from a variety of flaws. The purpose was not to critique orthodox theory but rather to make a positive contribution that maintains stock-flow consistency while also recognizing differences among alternative exchange rate regimes. Jesus Felipe at the Asian Development Bank urged me to put together a version that could be more widely circulated. At the same time, many bloggers have asked those who have written on MMT to provide a concise explication of the approach. Many professors have also asked for a textbook to use in the classroom.

This Primer is designed to fulfill at least some of those requests, although a textbook for classroom use will have to wait. To keep the project manageable, I will not go deeply into operational details. That would require close analysis of specific procedures adopted in each country. This has already been done in academic papers for a few nations (as mentioned above, for the United States, Australia, Canada, and Brazil, with some treatment of the cases of Mexico and China). As I am aiming for a nonspecialist audience, I am leaving those details out of the main text, although there will be some treatment of them in boxes. What I do provide is a basic introduction to MMT that does not require a great deal of previous study of economics. I will stay free from unnecessary math or jargon. I build from what we might call "first principles" to a theory of the way money really "works." And while it was tempting to address a wide range of policy issues and current events – especially given the global financial mess today – I will try to stay close to this mission.

To test the Primer on a large cross section of potential readers, I began to post sections of it at the New Economic Perspectives blog site run by my colleague Stephanie Kelton. These appeared on a separate page, the Modern Money Primer, each Monday. Comments were collected through Wednesday night, with my response to the comments then published. That allowed me to adjust the text that

appears here. In some cases, my responses were incorporated within this Primer; other responses became the basis for some of the boxes. I thank all of the participants for their help; their critical analyses helped to sharpen the exposition.

I thank the MMT group that I have worked with over the past 20 years as we developed the approach together: Warren Mosler, Bill Mitchell, Jan Kregel, Stephanie Kelton, Pavlina Tcherneva, Mat Forstater, Ed Nell, Scott Fullwiler, and Eric Tymoigne, as well as many current and former students among whom I want to recognize Joelle LeClaire, Heather Starzinsky, Daniel Conceicao, Felipe Rezende, Flavia Dantas, Yan Liang, Fadhel Kaboub, Zdravka Todorova, Andy Felkerson, Nicola Matthews, Shakuntala Das, Corinne Pastoret, Mike Murray, Alla Semenova, and Yeva Nersisyan. I want to thank Warren Mosler for his many years of support of our program at the University of Missouri-Kansas City, along with Maurice Samuels, Cliff Viner, and Scott Ramsey.

I also thank the Asian Development Bank – and especially Jesus Felipe – for funding of the initial project, and participants of two ADB workshops held in Kazakhstan for comments that helped to sharpen the focus on developing countries. Others – some of whom were initially critical of certain aspects of the approach (a few probably still are!) – have also contributed to development of the theory: Charles Goodhart, Marc Lavoie, Mario Seccareccia, Michael Hudson, Rob Parenteau, Marshall Auerback, Geoff Ingham, Geoffrey Gardiner, Martin Watts, James Juniper, and Jamie Galbraith. Other international colleagues, including Peter Kreisler, Arturo Huerta, Claudio Sardoni, Bernard Vallegeas, Andrea Terzi, Philip Arestis and John McCombie, and Xinhua Liu let me try out the ideas before audiences abroad. Special thanks to Eric Tymoigne for reading the manuscript and helping with formatting.

Many bloggers have helped to spread the word, including Edward Harrison, Lambert Strether, Dennis Kelleher, Rebecca Wilder, Yves Smith, Joe Firestone, Mike Norman, Cullen Roche, Paolo Barnard, Roger Erickson, and Tom Hickey. I also thank the folks at New Economic Perspectives from Kansas City (and especially Stephanie Kelton, Felipe Rezende, Mitch Green, Bill Black, and Erik Dean), Lynn Parramore (formerly at New Deal 2.0, now at Alternet), Selise and Joe Firestone at FDL, Huffington Post, Nouriel Roubini and Joshua Glazer at Economonitor (which sponsors my Great Leap Forward blog), and

Benzinga – all of whom posted my blogs (and above all, wearing two hats, Bill Mitchell at billyblog! – the "grandfather" of modern money blogs). All those at CFEPs in the United States and Coffee in Australia and Europe, as well as the Levy Economics Institute in New York, have helped to promote the ideas over the past decade. Thanks especially to Dimitri Papadimitriou and Jan Kregel, and also the late Hyman Minsky and Wynne Godley for their support and for making the Levy Institute a welcoming and stimulating environment. A big *thanks* to all.

Enough with the preliminaries. We get started with the theory in Chapter 1.

Box: Definitions

Throughout this Primer we will adopt the following definitions and conventions:

The word "money" will refer to a general, representative unit of account. We will not use the word to apply to any specific "thing" – that is a coin or central bank note.

Money "things" will be identified specifically: a coin, a bank note, a demand deposit. Some of these can be touched (paper notes); others are electronic entries on balance sheets (demand deposits, bank reserves). So "money things" is simply shorthand for "money denominated IOUs."

A specific national money of account will be designated with a capital letter: US Dollar, Japanese Yen, Chinese Yuan, UK Pound, EMU Euro.

The word currency is used to indicate coins, notes, and reserves issued by government (both by the treasury and the central bank). When designating a specific treasury or its bonds, the word will be capitalized: US Treasury; US Treasuries.

Bank reserves are private bank deposits at the central bank, denominated in the money of account. They are used for clearing among banks, to meet cash withdrawals, and for making payments for customers to the government.

Net financial assets are equal to total financial assets less total financial liabilities. This is not the same as net wealth (or net worth) because it ignores real assets.

An IOU (I owe you) is a financial debt, liability, or obligation to pay, denominated in a money of account. It is a financial asset of the holder. There can be physical evidence of the IOU (for example, written on paper, stamped on coin) or it can be recorded electronically (for example, on a bank balance sheet). Of course, an IOU is a liability of the issuer but it is an asset of the holder (who is also called the creditor).

Three Sectors Balance: We can divide the economy into three sectors: domestic government, domestic private (or nongovernment, including households, firms, and not-for-profits), and foreign. At the aggregate we know Spending = Income for the

economy as a whole. But any individual sector can spend more than (run a deficit), or less than (run a surplus), its income. From the macro identity, if one sector runs a surplus, at least one other runs a deficit. Let E = spending and Y = income, then we can write: Government Y – E + Private Y – E + Foreign Y – E = 0. Or: Government balance + Private balance + Foreign balance = 0. In terms of Gross Domestic Product (GDP), which is the sum of consumption (C), investment (I), government (G), and net exports (X – M, or exports minus imports), the three sectors balance identity is similar to: Government balance (T – G) + Private balance (S – I) + Foreign balance (M – X), where S = saving, T = taxes. Either way the balance is measured; it sums to zero in the aggregate.

L. Randall Wray is a professor of Economics at the University of Missouri-Kansas City, USA, as well as Research Director, the Center for Full Employment and Price Stability, and Senior Scholar at the Levy Economics Institute of Bard College, New York. A student of Hyman P. Minsky while at Washington University in St. Louis, Wray has focused on monetary theory and policy, macroeconomics, financial instability, and employment policy. He has published widely in journals and is the author of *Understanding Modern Money: The Key to Full Employment and Price Stability* (1998) and *Money and Credit in Capitalist Economies* (1990). He is the editor of *Credit and State Theories of Money* (2004) and the co-editor of *Contemporary Post Keynesian Analysis* (2005), *Money, Financial Instability and Stabilization Policy* (2006), and *Keynes for the Twenty-First Century: The Continuing Relevance of The General Theory* (2008). Wray is also the author of numerous scholarly articles in edited books and academic journals, including the *Journal of Economic Issues, Cambridge Journal of Economics, Review of Political Economy, Journal of Post Keynesian Economics, Economic and Labour Relations Review, Economie Appliquée,* and the *Eastern Economic Journal.* Wray received a B.A. from the University of the Pacific and an M.A. and Ph.D. from Washington University in St. Louis. He has served as a visiting professor at the University of Rome, the University of Paris, and UNAM (Mexico City). He was the Bernardin-Haskell Professor, UMKC, Fall 1996, and joined the UMKC faculty as Professor of Economics, August 1999.

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The Basics of Macroeconomic Accounting

In this chapter we are going to begin to build the necessary foundation to understand modern money. Please bear with us. It may not be obvious at first why this is important. But you cannot possibly understand the debate about the government's budget (and critique the deficit hysteria that has recently gripped many nations) without understanding basic macro accounting. So be patient and pay attention. No higher math or knowledge of intricate accounting rules will be required. This is simple, basic stuff. It is a branch of logic. But it is extremely simple logic.

1.1 The basics of accounting for stocks and flows

One's financial asset is another's financial liability

It is a fundamental principle of accounting that for every financial asset there is an equal and offsetting financial liability. The checking deposit (also called a demand deposit or a sight deposit) is a household's financial asset, offset by the bank's liability (or IOU). A government or corporate bond is a household asset, but represents a liability of the issuer (either the government or the corporation). The household has some liabilities, too, including student loans, a home mortgage, or a car loan. These are held as assets by the creditor, which could be a bank or any of a number of types of financial institutions such as pension funds, hedge funds, or insurance companies. A household's net financial wealth is equal to the sum of all its financial assets (equal to its financial wealth) less the sum of its