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Author(s): Peter E. Kennedy

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# Eight Reasons Why Real versus Nominal Interest Rates Is the Most Important Concept in Macroeconomics Principles Courses

By PETER E. KENNEDY\*

The purpose of this paper is to argue that the distinction between real and nominal interest rates is the most important concept taught in Macroeconomics Principles courses. By “important” I mean “useful for interpreting and evaluating media reporting of the macroeconomy.” This presumes that a major goal of the Macroeconomics Principles course is to produce students capable of understanding macroeconomics encountered in the media. Alternative definitions, such as “useful for further study of economics” are possible, but in my opinion not as compelling, mainly because the vast majority of our Principles students do not take further courses in economics.

Judging by the contents of Principles textbooks, this paper attempts an impossible task: in terms of page counts, emphasis, and applications, the major texts pay remarkably little attention to the real versus nominal interest-rate distinction, implicitly suggesting that the majority of the profession does not feel that this concept is of much importance. A few textbook authors list the real versus nominal interest-rate distinction as a concept they hope students will take beyond the course but do little more than define the difference between real and nominal interest rates and explain how that difference arises. Remarkably, they fail to go beyond this and provide examples of how this concept can be used to explain a variety of real-world macroeconomic phenomena. It seems these texts are more interested in expositing technical results such as the formula for the multiplier.


This is a great shame; in my experience the multiplier, and other macroeconomic concepts on which the major texts focus, are not nearly so frequently the key to explaining media commentary on the macroeconomy as is the real versus nominal interest-rate concept. This sub-

jective view is based on over 20 years of reading newspapers with an eye to finding news clips for use in Kennedy and Gary Dorosh (1990) and in Kennedy (2000). Even today, with inflation low and steady, it is not hard to find news clips illustrating that expected inflation can play an important role in analyzing interest rates, either directly or through central-bank reaction functions, which are themselves based on this distinction.

I begin my case by offering six reasons why the real versus nominal interest-rate concept is worthy of special attention. One of these reasons is that it can help students explain a wider variety of real-world phenomena than can other macroeconomic concepts. The remainder of the paper presents eight examples (hence the paper title) of such phenomena, illustrated by news clips.

## I. Strengthening the Principles Course

Spending time on the real versus nominal interest rate concept can enhance a macroeconomics principles course for six reasons.

1. *Empirical Relevance.*—The course is greatly strengthened by showing that its contents have empirical relevance. Students can easily be convinced that the interest rate increases as (expected) inflation increases. A graph of interest rates against inflation, over an extended time period during which inflation moved up or down markedly, or across countries experiencing very different inflation rates, can illustrate this convincingly. In contrast, most other important macroeconomic concepts do not generate such clean illustrations of their empirical relevance. It is difficult to convince students that the multiplier is of a substantive magnitude, for example, because crowding-out arguments are pervasive, and empirical estimates are so small. 

\* Department of Economics, Simon Fraser University, Burnaby, BC, Canada V5A 1S6 (e-mail: Kennedy@sfu.ca).

2. *Personal Impact.*—A course is greatly strengthened by making its contents relevant to individual students. Since changes in inflation expectations can cause major changes in interest rates, students can see how forecasting changes in expected inflation can be exploited for personal gain. Although students themselves may not be contemplating renewing a mortgage, their parents may be facing this problem, and although they may not themselves own bonds, they can easily picture themselves in the future as a corporate executive contemplating issuing bonds or as an investment advisor looking to reap capital gains or avoid capital losses in the bond market. Such decisions focus on money-making, something with which many students, especially business students, can identify.

3. *Analyzing Interest Rates.*—A course is greatly strengthened if it can explain important real-world phenomena. It is not possible to explain the behavior of observed interest rates in an inflationary environment without being sensitive to the real versus nominal interest-rate difference. We often observe interest rates moving in ways that contradict textbook theory based on constant expected inflation, for example. The failure of our textbooks to deal with this important element of reality gives rise to a peculiar phenomenon: economics tests that avoid asking questions about interest rates. The third edition of the *Test of Understanding of College Economics (TUCE)*, for example, has no macroeconomics questions asking about what might happen to interest rates. Those tests that do attempt to ask such questions court embarrassment. In a recent version of the Advanced Placement (AP) test in macroeconomics, for example, there was a question asking what would happen to the U.S. interest rate if the British interest rate were to rise. The multiple-choice options did not realize that the answer depends on the real versus nominal nature of the rise in the British rate. Upon my asking about this and other questions related to interest rates, the examiners acknowledged that these questions were not well-matched to the real world but defended them on the grounds that this is what the textbooks teach!

4. *Microeconomic Relevance.*—A macroeconomics course is greatly strengthened if it

teaches concepts that students will find of value in microeconomics courses. In contrast to most other macroeconomic concepts, the real versus nominal interest-rate distinction has a prominent role to play in microeconomics. When undertaking a cost-benefit analysis, a discount rate must be chosen. Should the observed interest rate be used?

5. *Frequency of Appearance.*—A course is greatly strengthened if it lays emphasis on concepts that appear frequently in public discourse. The interest rate is reported and analyzed by the media on a daily basis, whereas most other major macroeconomic variables, such as GDP, unemployment, and inflation, are reported quarterly or monthly, resulting in less frequent media analysis.


6. *Range and Realism of Application.*—A course is greatly strengthened if its important concepts play a role in explaining a wide variety of course content, and strengthened even more if these applications are to real-world phenomena. Compared to competing macroeconomic concepts, the real versus nominal interest-rate concept is the key to explaining the widest variety of macroeconomic phenomena. Furthermore, these phenomena are prominent in the news media, in personal financial decision-making, and in policy analysis. It is this characteristic of the real versus nominal interest-rate distinction that gives rise to my claim that it is the most important macroeconomic principle. The following section offers eight examples of this.

## II. Eight Applications


The applications below are each illustrated by a news clip taken from Kennedy (2000) and are based on actual media reports.

1. *Definition and Theory of Real versus Nominal.*—Most textbooks confine their exposition of the real versus nominal interest-rate concept to a subset of the following: defining the real interest rate as the nominal interest rate less the expected rate of inflation; explaining how a rise in expected inflation would increase the nominal interest rate by an equivalent amount; discussing ways in which the real


interest rate might be measured; distinguishing between the *ex ante* and *ex post* real interest rate; and explaining that the real interest rate affects aggregate demand for goods and services whereas the nominal interest rate affects the aggregate demand for money. All this amounts to an exposition of the definition and theory of what is meant by this important distinction. An example is the following:

Moreover, contrary to the central bank's pronouncements, higher interest rates have not caused everyone to borrow less. Most people are borrowing as much as ever—or more—to buy goods now. 


2. *Forecasting the Interest Rate.*—Substantive changes in the nominal interest rate are usually due more to changes in expected inflation than to changes in the real interest rate. Consequently, those forecasting interest-rate changes need to pay considerable attention to what is happening to inflation expectations, something students miss if not well versed in the nominal versus real interest-rate distinction. An example is the following:

Corporate treasurers should not be frightened by the recent rise in interest rates on bonds. Rates of even 13 percent will look like bargains if inflation heats up over the next 18 months. Investors should continue to shun the market for long-term securities. 


3. *The Interest Rate as a Monetary-Policy Indicator.*—Equating high interest rates with tight monetary policy is a recipe for disaster in an inflationary environment. The high interest rate could be a high nominal rate but a low real rate, and so it could be a misleading guide to the true stance of monetary policy. Students can make grievous errors in judgment if they are not sensitive to this problem. Indeed, the “Taylor rule” is built on avoiding such errors. An example:

Although interest rates were for many years the main policy indicator used by most central banks, the experience with severe inflation beginning in the 1970's made it clear they were fickle guides for the task of ensuring that monetary policy was directed toward price stability. 


4. *The Influence of Expected Inflation on the Bond Market.*—Millions of dollars are made and lost on the bond market daily, providing students with an excellent reason to be interested in how nominal interest-rate changes, via changes in inflation expectations, can affect their personal finances. An example:

A smaller-than-expected decrease in the U.S. money supply dealt the North American capital market a hard blow, as bond prices sagged across a broad front. 

5. *How Economic News Affects the Bond Market.*—An apparent oddity in the real world is the fact that bad economic news (higher unemployment, for example) is interpreted as good news for bond markets, causing the bond market to surge, and that good economic news causes the bond market to fall. This phenomenon can be explained by analyzing the influence of this news on the nominal interest rate, either by appealing to the impact of this information on expected inflation or by introducing expectations of a central-bank reaction (such as the “Taylor rule,” which is itself based on the real versus nominal distinction). An example:


According to the latest statistics, housing starts are up, indicating unexpected strength in the economy. Bond prices fell on the news. 

6. *Central Bank Control of Interest Rates.*—Students often think that the Fed has close control over the interest rate, in particular, that there is a policy lever in the Fed's control that can influence the interest rate directly. Although this may be true to some extent in the short run, in the longer run inflation expectations play a prominent role, inhibiting any influence the Fed may have over interest rates. An example:


He added that the principal misunderstanding about the Fed's role in the present situation is that it could achieve more or less immediately a low level of interest rates if it wanted to. 

7. *Equivocal Impact of Monetary Policy on the Interest Rate.*—In the absence of changes in inflation expectations, an increase in the money

supply lowers the interest rate, the classic textbook message. But an increase in the money supply when the economy is near full employment could be interpreted as creating inflation, increasing inflation expectations, and increasing the nominal interest rate. An example:

This brings us back to the fears of higher interest rates before the market break. These fears are still potent, especially if investors see through the temporary reduction in interest rates made possible by stepping up the rate of creation of the money supply. 

8. *Explaining International Interest-Rate Differences.*—The interest-rate-parity theorem says that, except for a risk differential, real interest rates should be roughly the same across countries. Nominal interest rates, however, can differ substantially, so for students to make sense of international interest-rate comparisons they need to understand the real/nominal interest-rate distinction. An example:

Prior to 1989 it was widely believed that New Zealand [NZ] 10-year government bond interest rates could not fall below those of Australia. Once NZ rates fell below those of Australia the view on relative rates changed to one where NZ rates could not fall below those of the United States due to the high liquidity of the U.S. bond market. But this also has been proved wrong. 

### III. Conclusion

As should be evident from the news clips above, the real/nominal interest-rate distinction plays a prominent role in generating explanations of a wide variety of real-world macroeco-

nommic phenomena appearing in the media. The range and practical nature of these examples form the strongest case for why this concept should be viewed as being of crucial, if not primary, importance in Macroeconomics Principles courses.

The “interest rate,” which in common parlance refers to the observed, or nominal interest rate, is an important price in the macroeconomy, changing daily, of frequent policy concern, and influencing significantly the financial fortunes of most adults. Because of this, macroeconomics courses have an obligation to ensure that students have a good understanding of its determination and role in understanding macroeconomic phenomena. The major Principles textbooks explain the determination of the interest rate in the context of zero inflation and then alert students to the difference between the real and nominal interest rate. A major point of this paper is that this is not good enough. Few students will be able to transfer this information to an adequate interpretation of the many ways in which the difference between real and nominal interest rates manifests itself in the analysis of media reports on the macroeconomy. Students should be explicitly introduced to these real-world applications via examples such as those presented earlier.

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