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PRICE-INDEXED BONDS: TRIMMING \$12 BILLION FROM THE DEFICIT

INTRODUCTION

The deficit problem has legislators scrambling for ways to save money in the federal budget. In this quest, it is almost universally assumed that interest on the \$1.6 trillion national debt is an item that cannot be cut. This consensus is wrong. Interest outlays in fact can be trimmed through price-indexed bonds, a device that Congress should consider.

The U.S. Treasury is now paying an interest rate of over 11 percent on much of the national debt. The \$111 billion interest payments for 1984 equalled 3.1 percent of Gross National Product (GNP) or 13 percent of the federal budget. This amounts to nearly two-thirds of the deficit. By FY 1989 interest payments are projected to exceed 4 percent of GNP (\$214 billion) and 16 percent of the budget. Throughout the 1970s, the debt service burden averaged just 1.6 percent of GNP and 8 percent of the budget.

Inflation averaged less than 4 percent throughout 1984, yet ten-year Treasury bond rates paid 12.4 percent. These high real rates paid by the Treasury--as much as 8.5 percentage points higher than expected inflation--bloat current spending and lock the government into heavy outlays long into the future.

There clearly is an immediate need to control the growth of interest payments. To do so, Congress must consider innovative methods of financing the debt. One means of doing so would be for the federal government to issue price-indexed, inflation-proofed bonds. Several bills have been introduced in Congress that would require the Treasury to introduce such bonds. The Joint Economic Committee is scheduled to hold hearings on May 14. Switching entirely to such bonds could reduce current interest outlays by up to \$30 billion and achieve a net cost saving of \$15

billion in the first year of implementation. Even a modest, practical first step toward indexing could cut outlays by over \$12 billion. That would be a significant move toward reducing the deficit without raising economically damaging new taxes.

WHAT ARE PRICE-INDEXED BONDS?

Price-indexed, or purchasing power, bonds pay a fixed rate of interest that is as close as possible to the normal "real" return on capital. Though the rate of interest is fixed, the nominal value of the bond is adjusted for inflation periodically. Hence the "coupon" payment--the product of the nominal value of the bond and the interest rate--varies with inflation.

A conventional bond loses purchasing power as inflation mounts. Normally an investor compensates for this by demanding an "inflation premium," or higher interest rate, based on the investor's estimate of future inflation. The rate of interest demanded by the investor usually is bloated because he is not completely confident that his estimate of inflation will be correct. The less certain the bondholder is about future inflation, the higher the so-called "risk premium" that he demands as interest.

In the case of a price-indexed bond, however, the investor is guaranteed a real return each year on his investment, because the Treasury agrees to compensate the investor fully for inflation when the bond matures. Because the indexed bonds protect investors from losses associated with unexpected changes in the rate of inflation, they reduce the risk premium investors demand to compensate them for assuming the high risk of uncertain inflation. This, in turn, reduces the total cost to the Treasury of issuing the bond.

For example, a \$1,000 price-indexed bond would work as follows: Instead of promising to pay \$120 in coupon payments every year on a conventional ten-year, 12 percent bond, the Treasury would agree to pay price-indexed bond holders an annual interest rate (probably about 3 percent) that reflected the typical real yield on assets. If there were no inflation, the coupon payment--the interest rate times the nominal value of the bond--would equal \$30 each year. If inflation in the first year were 10 percent, however, the nominal value of the bond would be adjusted to \$1,100 (\$1,000 plus \$100 for inflation), and the coupon payment raised to \$33 (\$30 plus 3 percent of \$100). At maturity the Treasury would pay the bondholder the face amount of the bond (\$1,000), plus compensation for the loss of real value resulting from inflation. For example, if prices doubled during the period, the Treasury would pay the bondholder \$2,000 at maturity.

HOW INFLATION RISK AFFECTS INTEREST RATES

There are two traditional, and incomplete, ways of looking at the components of the interest rate. The most popular analysis of the interest rate simply subtracts the current rate of inflation from current nominal interest rates to ascertain "real" interest rates. Thus, if the nominal interest rate paid on a bond were 11 percent, and the inflation rate were 5 percent, the real rate would be said to be 6 percent.

This derivation of real interest rates is misleading, however, because it implicitly assumes that the investor is certain that inflation will not change during the life of the asset. An alternative approach begins with the nominal rate, but subtracts what through history has been real yield on capital (about 3 percent) to calculate the expected inflation rate. By this method, if a ten-year Treasury bond yields 12 percent, the market is said to be expecting inflation of 9 percent over the next 10 years.

Both approaches assume that Treasury bonds are risk free. Though the chances of default, or credit risk, on such bonds may indeed be negligible, there is a significant risk resulting from the uncertainty involved in estimating future inflation. Both the above theories fail to account for this, and assume that the expectation of inflation is a firm element in an investor's calculations. If the investor could perfectly predict inflation, he would demand an interest rate equal to this expected inflation plus a market real rate (probably close to the historical 3 percent). But if the investor is at all uncertain about the future, as the typical investor is, he will demand additional compensation in exchange for assuming this risk.

There is good reason to believe that investors currently demand heavy risk protection. The past two decades of monetary policy have destroyed the previous harmony of inflation rate expectations. Market surveys generally show that investors, on average, now expect inflation to be 4 or 5 percent over the foreseeable horizon. But these forecasts vary considerably from deflation to hyper-inflation. They reveal unprecedented degrees of uncertainty, which translates into unprecedented risk premiums. Investors have been bitten so hard by fluctuating inflation rates that they seem to distrust most forecasts and rely heavily on their own hunches--which vary widely. Likewise there is increased uncertainty about the future level of interest rates. Blue chip financial forecasts find that predictions about the prime rate in the first quarter of 1986 range from 8.5 percent to 14.6 percent. This range of uncertainty is no doubt larger for longer maturities.¹

¹ "Business Bulletin," The Wall Street Journal, April 18, 1985, p. 1.

The growing amount of federal debt, moreover, has some investors fearful that Congress will pressure the Federal Reserve System to inflate. Subtracting the traditional real interest rate of 3 percent, plus the expected inflation rate of 4 percent, from current interest rates of over 11 percent, the current purchasing power risk premium amounts to about 4 percentage points. A recent poll of leading investors by a prominent Wall Street firm provides empirical evidence for a segment of the investing population. In February 1985, when the yield on ten-year government bonds was 11.5 percent, respondents said they expected an inflation rate of 5.5 percent. Assuming that the desired real rate of return is approximately 3 percent, this means that investors were demanding a risk premium of 3 percentage points.² If this held for all investors, it would imply that nearly 30 percent of the interest expenditures of the Treasury occurred simply because investors were unsure of the inflation rate.

Economists across the ideological spectrum, including John Maynard Keynes and Nobel laureates James Tobin³ and Milton Friedman,⁴ over the years have recommended that governments convert a portion of the public debt to price-indexed bonds. Moreover, bills directing the Treasury to issue a limited quantity of price-indexed bonds have been introduced in the House of Representatives by Dan Lungren (R-CA), and in the Senate (S.1088) by Dan Quayle (R-IN) and Paul Trible (R-VA). The Joint Economic Committee will hold hearings on the issue on May 14.

THE BRITISH EXPERIENCE

While there has been considerable academic interest in price-indexed bonds, politicians have resisted what they felt to be an untested concept. But now empirical evidence at last exists. Since March 1981, price-indexed bonds have been the principal form of long-term government debt in Great Britain. More than one-third of all new bonds, and virtually all long-term issues, have been indexed. Now more than 11 percent of all outstanding, privately held British Treasury debt is indexed. The British experiment provides a sound basis on which to project American success, since the current yield on conventional British Treasury stock is comparable to similar maturities of U.S. debt and inflation is at approximately the same level.

Indexed debt in Britain is sold by the Treasury with interest rates between 3 and 3.25 percent. From 1981 to fall 1984, Britain

² Decisionmakers' Poll (New York: Drexel, Burnham and Lambert, Inc., March 13, 1985).

³ James Tobin, "The Theory of Portfolio Selection," in F. H. Hahn and F. P. R. Brechling, The Theory of Interest Rates (London, England: MacMillan, 1965).

⁴ Milton Friedman, "Sending Mixed Signals," Newsweek, October 19, 1981.

issued the equivalent of approximately \$11 billion in price-indexed bonds. During this period, the rate of interest on conventional Treasury bonds was 12 percent, while the inflation rate was below 5 percent. The annual savings to the government from these bonds, therefore, has been the 9 point difference in the rates on conventional and indexed bonds (12 and 3 percent), less the 5 percent annual inflation compensation that ultimately must be paid. This implies a net saving of approximately 4 percent of the bond price, equivalent to \$440 million each year on the \$11 billion issued, and about \$1 billion in savings on current outlays for interest payments (the difference being inflation compensation payable upon maturity).

POSSIBLE SAVINGS IN THE U.S.

Given the much larger borrowing requirements of the U.S. Treasury, the savings in the U.S. would be correspondingly greater. This year the federal government probably will issue about \$200 billion in new debt, while rolling over nearly \$450 billion in maturing securities. Assuming the same 3 percent coupon rate on indexed bonds as in Britain and basing calculations on the 4 percent inflation rate and 12 percent typical bond rate during 1984, a total switch to indexed bonds could translate into an annual saving in current outlays for interest of nearly \$30 billion, assuming the bonds were issued gradually throughout the year. Ultimately there would be a net saving (taking into account inflation compensation that would eventually have to be paid) of over \$15 billion.

Even if the interest rate differential proved narrower than this or the amount of debt financed with indexed bonds were smaller, the savings still would be considerable. Fortune magazine, for instance, calculates that if the bonds shaved only 2 percentage points from net interest payments, savings would amount to \$13 billion this year, rising to \$30 billion by 1990.⁵

Assume that the U.S. Treasury issued all new debt of one year maturity or longer on a price-indexed basis (approximately \$275 billion of issues in FY 1986) and that these bonds paid an interest rate of 3 percent on the underlying value of the bonds. Over the next year, the Treasury would pay holders of these bonds approximately \$4 billion in coupon payments (equal to 3 percent on \$275 billion of bonds issued evenly throughout the year). If Treasury were to issue conventional bonds instead and interest rates remained in the neighborhood of 12 percent, comparable interest payments would be \$16.5 billion. Consequently, Treasury could reduce immediate cash interest payments by as much as \$12.5 billion on the first year of issue alone. With all this debt

⁵ "A Painless Way to Save a Bundle on Interest Costs," Fortune, April 1, 1985.

held by the public for a full year, the savings on future years would be much higher.

Although there would be savings in current federal outlays, there would be greater expenditures when the bond matured because the Treasury would have to compensate investors for the loss in purchasing power of the original bond. In other words, when the bond matured, Treasury would have to redeem the original face value, as it does with conventional bonds, plus compensation for all intervening inflation. Hence, part of the Treasury's savings would only have been deferred. Yet the savings still would be significant because of the elimination of the purchasing power risk premium.

Even if only half of all new debt were issued on a price-indexed basis, FY 1986 savings would still exceed \$6 billion. As a steadily higher percentage of the national debt became indexed, the savings would compound. To the extent that taxable bondholders substituted price-indexed bonds for conventional bonds, of course, the impact on the deficit would be reduced because the Treasury would receive less tax revenue on lower interest payments.

THE BENEFITS OF PRICE-INDEXED BONDS

Reduced budgetary expenditure seems reason enough to consider seriously trial issues of price-indexed bonds, but there are other sound benefits from such a financial instrument. Among them:

- 1) Price-indexed bonds would be an important addition to the financial markets.

The financial markets do not provide a truly inflation-proof means of accumulating savings. In fact, all current financial instruments force savers to run the risk of inflation eroding their capital. Yet many would be willing to pay a price to avoid that risk. An investment instrument that eliminated such risk and thus guaranteed a real rate of return would be ideally suited to many savers. For instance, a young couple saving for their child's education might prefer an inflation-proof asset over a speculative investment, even if the former paid a slightly lower yield. The most demanding market probably would be for pension funds, life insurance, and Individual Retirement Accounts. Surely elderly Americans whose retirement savings were ravaged by inflation in the 1970s would gladly have accepted a lower yield in return for an absolute guarantee that their savings would retain its purchasing power.

Price-indexed bonds could also stabilize the level of financial savings in times of expected inflation, thus adding to the financial stability and efficiency of the financial markets. When inflation expectations skyrocketed in the late 1970s, many investors, seeking an inflation hedge, fled the bond and equity

markets to invest in real estate and other tangible assets such as art, silver, and gold. These massive shifts from intangible to tangible assets reduced the liquidity of the financial markets and drove interest rates higher. If these investors had had the option of purchasing price-indexed securities, many would have kept money in their financial assets, thereby helping to keep interest rates low and productive investment high.

- 2) A Treasury portfolio of inflation-indexed bonds would put less pressure on Washington to inflate the currency.

With conventional debt financing, the federal government has a vested interest in encouraging inflation, because it profits when the value of Treasury bonds debt is debased. On the other hand, if the rate of inflation is reduced, the government loses, because it has to pay comparatively high interest rates both to service old debt issued when rates reflected rampant inflation and to meet the inflation risk premium investors add to the interest rates they demand. Indexing removes this profit from inflation, because debt has to be paid back with the same, not cheaper, dollars. Also, servicing costs fall when inflation is cut.

OBJECTIONS TO PRICE-INDEXED BONDS

There have been legitimate objections raised to price-indexed bonds. Yet an analysis of these criticisms indicates that they are not serious and can easily be overcome.

The Burden of Compensating for Inflation

A complaint about price-indexed bonds is that they would saddle the government with an incalculable and possibly enormous future debt burden in the form of compensation for inflation. These critics maintain that the government could lose heavily if inflation increased and it were forced to pay substantial inflation compensation when bonds matured. They point to the experience of Israel, where the government issued price-indexed bonds only to find its liabilities skyrocketing with 800 percent inflation.

Yet removing the potential gains from inflation weakens the incentive for government to generate or allow inflation. So the issuance of such bonds would likely lead to a reduction in inflation, and hence, in the cost of compensating investors. Moreover, inflation would have to increase substantially for the government, on balance, to lose significantly by issuing price-indexed bonds, since the government would realize large savings in interest payments as inflation was rising. In fact, inflation would have to double, from 4 to 8 percent, before net interest costs for price-indexed debt would equal that for conventional debt. Finally, in real terms, the burden of debt under today's conventional financing is incalculable. For instance, the President's February 1982 budget predicted that interest on the national debt

would equal \$140.7 billion in FY 1984--only 20 months later. In fact, that interest reached \$153.8 billion. The projection for FY 1985 (\$146.6 billion) will probably be even further off the mark.⁶ Treasury really has little idea what percentage of GNP or taxes the national debt will consume ten years from now. Indexed debt would provide a much more accurate benchmark of future national debt liabilities.

Which Index Should Be Used?

The Treasury Department rightly points out that the choice of an inflation index would be somewhat arbitrary. There are several major price indexes in use, such as the consumer price index, the wage index, and the producer price index. Not only is it unclear which index should be used, Treasury argues, but because the indexes are determined by the government, investors might be wary of government manipulation of the indexes to reduce interest expenditures and demand higher rates of interest--thus defeating the purpose of indexing.

To be sure, no index is perfect. Yet certainty is what counts, and if any of the generally accepted indexes were to be used, the goal of risk reduction would be achieved. It is unlikely, moreover, that investors would be any more concerned about government manipulation of the indexes than they are generally about the government defaulting on its debt. The indexes would not be computed by the Treasury Department, would be subject to public scrutiny, and could not be manipulated without jeopardizing political confidence in the Treasury and government. If this happened, the benefits of indexing bonds would evaporate rapidly at great cost to the government.

Taxation

Perhaps the most significant objection concerns the uncertainty regarding the tax treatment of price-indexed bonds. There are two components in a bond that are taxed; interest payments and capital gains. Most analysts agree that the annual interest payments should be taxed as ordinary income upon receipt. The problem rests with the tax treatment of the inflation-adjusted principal.

There are several alternatives for the treatment of such gains. Treasury could tax price-indexed bonds in the same manner that it currently taxes "zero coupon" bonds--that is, the annual imputed gain from inflation would be taxed as ordinary income. Alternatively, Treasury could tax the principal adjustment as capital gain upon realization, as it does currently for most assets. Either approach obviously would reduce the appeal of

⁶ Budget of the United States Government (Washington, D.C.: Government Printing Office, February 1982 and February 1986).

indexed bonds, since taxes would rise if inflation spurted, although if capital gains were to be indexed for tax purposes--as the Treasury recently recommended--there would be no tax on the inflation-induced "gain."

CONCLUSION

Debt service costs, which represent 15 percent of the budget and two-thirds of the likely FY 1986 deficit, need not and must not be thought of as uncontrollable. By experimenting with price-indexed bonds, the Treasury can reduce government spending immediately by over \$12 billion. But even beyond providing a key instrument to help solve the deficit crisis, price-indexed bonds could become a valuable addition to the financial markets.

Prepared for The Heritage Foundation
by John M. Palffy*

*John M. Palffy is Chief Economist on the staff of Senator Dan Quayle of Indiana.

