

**Chapter 1 : Reviving the Case for GDP-Indexed Bonds - CORE**

*and Braun () make the case for restructuring Argentina's debt into GDP-indexed bonds. A handful of emerging market economies have already issued a few bonds with elements of indexation. 2 Mexico has issued bonds indexed to oil prices.*

We show that GDP-indexed bonds could provide substantial benefits in reducing the likelihood of default crises and allowing countries to avoid pro-cyclical fiscal policies. The insurance premium would likely be small, because cross-country comovement of GDP growth rates is low and cross-country GDP growth risk is thus largely diversifiable for an investor holding a portfolio of GDP-indexed bonds. Potential obstacles to the emergence of a market for these bonds include the verifiability of GDP data, the trade-off between insurance and moral hazard, and the need for liquidity. Theory and past experience suggest that financial innovation often requires official intervention and its timing and form are difficult to predict. We discuss institutional fixes and suggest an approach for attempting to start up a market. Access to full text is restricted to subscribers. As the access to this document is restricted, you may want to search for a different version of it. More about this item Access and download statistics Corrections All material on this site has been provided by the respective publishers and authors. You can help correct errors and omissions. See general information about how to correct material in RePEc. For technical questions regarding this item, or to correct its authors, title, abstract, bibliographic or download information, contact: Wiley Content Delivery or Christopher F. General contact details of provider: If you have authored this item and are not yet registered with RePEc, we encourage you to do it here. This allows to link your profile to this item. It also allows you to accept potential citations to this item that we are uncertain about. We have no references for this item. You can help adding them by using this form. If you know of missing items citing this one, you can help us creating those links by adding the relevant references in the same way as above, for each referring item. If you are a registered author of this item, you may also want to check the "citations" tab in your RePEc Author Service profile, as there may be some citations waiting for confirmation. Please note that corrections may take a couple of weeks to filter through the various RePEc services. More services and features.

**Chapter 2 : EconPapers: Reviving the Case for GDP-Indexed Bonds**

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funds benchmark their returns against the public pension system, which is indexed to the growth of GDP. Thus, an instrument whose return is linked to growth would be attractive for pension funds. GDP-indexed bonds could work as follows. They find that public spending is even more so than taxes is especially procyclical in Latin America compared with the OECD. They argue that nominal rather than real indexing would protect buyers of the securities against inflation. For this insurance, the borrowing country will pay a premium above the interest rate that it would ordinarily be charged. As shown below, this premium could be relatively small. While focusing on GDP risk for the sake of simplicity, we recognize that there are many sources of risk affecting the debt-service capacity of emerging markets. Terms-of-trade risk has been stressed in this regard, supporting the idea of debt instruments that are adjusted to the world price of some key commodity, for example. Sharp changes in the exchange rate can also impair the ability to service foreign debt, or foreign-currency denominated debt more generally. These different risks are not independent: In this paper, we focus on GDP as a good summary of the effects of a variety of shocks, but this is not to deny the merits of analysing the ultimate sources of risk separately. An old idea with many interesting challenges In many ways, the desirability of issuing GDP-linked bonds is not a new idea. A first wave of interest in indexing debt to GDP, exports or key commodity prices emerged in the aftermath of the debt crisis of the s. Bailey suggested the conversion of debt into proportional claims on exports. Krugman , Froot et al. At the time, a majority view within the academic community seemed, on balance, to emphasize the moral hazard costs rather than the insurance benefits of indexing to exports or GDP. Barro shows that bonds ought to be indexed to consumption and government expenditure in a model of optimal debt management where the government seeks to smooth tax rates over time. By contrast, Shiller security markets would have to be set up from scratch. For emerging market economies, the case for contingent debt contracts has received new impetus after the financial and debt crises of the s. Caballero , recommends that countries issue bonds with contingencies to commodity prices and other external variables of relevance to them for example, Chile should issue bonds indexed to the price of copper. Haldane argues that emerging markets would benefit from indexing debt to commodity prices. Daniel argues that many governments would benefit from hedging oil price risk through existing financial instruments and markets, and that international institutions should encourage them to explore this possibility. A number of questions may be raised about the feasibility of creating a market for securities such as the one proposed here. Could countries misreport their growth rates? We discuss these and other issues and argue that none of the objections present insurmountable difficulties. It is not likely, however, that a market for contingent claims of this kind would emerge spontaneously, owing largely to the same reasons that many other innovative financial instruments were only made possible by official intervention. We argue that there is a case for official intervention in this regard, to set statistical standards and verify the reliability of the national accounts, and to foster a dialogue among potential participants in a market for GDP-indexed instruments. In Section 2 we briefly outline the various sources of the benefits one might expect from GDP-indexed bonds, focusing on the macroeconomic benefits for borrowing countries, and we also discuss how they would change repayment incentives for sovereign debtors. We then show simple examples of GDP-indexed bond specification, and report a number of numerical exercises aimed at illustrating their benefits, which we find to be substantial. But if the benefits are as large as we claim, why have these bonds not already been adopted by market participants? In Section 3, we attempt to identify possible obstacles to what would seem to be desirable financial innovation, with a focus on the special case of sovereign borrowers. In doing so, we note how these obstacles differ between sovereigns and corporates: To see how some of these obstacles have been overcome by sovereigns in the past, in Section 4 we review the historical experience of financial innovation in sovereign borrowing. Readers who without reading much of the paper have a killer objection to GDP-indexed bonds might wish to turn straight to that section. In Section 6, we conclude with a few forward-looking observations. To the extent that people prefer stable consumption over time and across states of nature because of ingrained consumption habits and risk aversion , this improves welfare. In this paper, we focus on the insurance benefits of GDP-indexed bonds for the borrowing countries and their citizens. Yet, GDP-indexed bonds can be viewed more generally as desirable vehicles for international risk-sharing and as a way of avoiding the disruptions arising from formal default. They thus have a number of

potential benefits also for international investors: Nevertheless, we would draw attention to Solnik and several papers by the same author, who showed that an investor who held a well-diversified portfolio of US stocks or stocks of another country would draw large additional diversification benefits by beginning to invest also in the stock markets of other countries. A similar approach could be taken with respect to claims to the GDP of several countries, and we speculate that the results could be similarly striking. In fact, we show below that the risk from the indexation clause would be easily diversifiable across countries, thus making for a low insurance premium on the GDP-indexed bonds. This is the way we approach the costs of default in the Appendix. Alternatively, one could focus on the uncertainty of the return on standard bonds following default; one would then view GDP-indexed bonds as beneficial to the extent that they reduced uncertainty for risk-averse investors. By making defaults less likely, might growth-indexed bonds in fact remove the main mechanism that encourages sovereigns to repay their obligations? It is true that a complete removal of default costs would eliminate any deterrent to default and make it impossible for sovereign debt markets to exist Dooley, Our view, however, is that the evidence indicates that default costs have been exceedingly high and yet have not been completely successful in encouraging responsible behaviour by sovereign states as also acknowledged by Dooley, Default costs are apparent in a long list of respects, including the following: Whether borrowing countries would walk away from their obligations if growth turned out higher than expected is an open question see, for example, Eaton and Fernandez, This is consistent with the observation that it is extremely rare for countries to default on their external debt obligations in times when their output growth is relatively high. With GDP-indexed bonds, in the event of higher-than-expected output growth the amount to be repaid would be higher than average, but the cost of sanctions would probably also be higher than average. Defaults not triggered by a situation of economic weakness seem to be met with stronger economic and legal sanctions than defaults that seem somewhat warranted by economic circumstances: On the legal front, Kaletsky, p. A simple example It is useful to illustrate the effects of GDP-indexed bonds with a simple example. Consider a dollar-denominated, floating rate bond with a coupon rate that varies according to the performance of the domestic economy. Specifically, the coupon rate equals: For simplicity, we assume here that the baseline is chosen as the average GDP growth rate over the previous 20 years. Different indexation formulas The formula linking bond payments to growth determines the degree of insurance for the sovereign and the market acceptability of the instrument. The higher the elasticity of bond payments with respect to changes in economic growth, the higher the insurance for the government. A positive minimum coupon payment reduces insurance, but many fixed income investors may insist on it, possibly because of provisions of the funds they manage. The indexation could also be non-linear, as in: This measure may not give enough weight to the difficulties involved in making a minimum coupon payment during deep recessions. Table 1 compares the mean coupon and correlation between growth and coupon for the three indexation specifications presented in Equations 1-3 above. Parameter values for the various formulas are: Box 1 presents some alternative formulas and makes some comparisons among them. Continuity with small changes in realized growth resulting in small changes in coupon payments seems desirable to minimize incentives to misreport. The need for symmetry with the coupon varying in proportion to the gap between actual and baseline GDP growth on both the upside and the downside is more of an open question. Many institutional bond investors are required to hold assets that pay a positive interest rate, thus leading us to impose a zero minimum for the coupon rate in this exercise and some of those that follow.

### Chapter 3 : CiteSeerX Reviving the Case for GDP-Indexed Bonds

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### Chapter 4 : The case for GDP-indexed bonds

*This paper seeks to revive the case for countries to self-insure against economic growth slowdowns by issuing*

*GDP-indexed bonds. We simulate the effects of GDP-indexed bonds under different assumptions about fiscal policy reaction functions and their output effects and find that they could.*

## Chapter 5 : Reviving the Case for GDP-Indexed Bonds

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## Chapter 6 : Eduardo Borensztein (Author of Bond Markets in Latin America)

*Abstract. This paper seeks to revive the case for countries to self-insure against economic growth slowdowns by issuing GDP-indexed bonds. We simulate the effects of GDP-indexed bonds under different assumptions about fiscal policy reaction functions and their output effects and find that they could substantially reduce the likelihood that debt/GDP paths become explosive.*

## Chapter 7 : case for GDP-indexed bonds | Economic Policy | Oxford Academic

*GDS-indexed bonds This paper seeks to revive the case for countries to insure against economic growth slowdowns by issuing bonds indexed to the rate of growth of GDP.*

## Chapter 8 : The case for GDP-indexed bonds - [PDF Document]

*Reviving the Case for GDP-Indexed Bonds 49 printed pages This paper seeks to revive the case for countries to self-insure against economic growth slowdowns by issuing GDP-indexed bonds.*

## Chapter 9 : EconPapers: The case for GDP-indexed bonds

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