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## Sovereign Postcard: GDP-Linked Bonds

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# (*Editor's Note:* We updated this report on Jan. 26, 2018, to remove ambiguity in the fifth paragraph about the ratability of indexed securities.)

The debt crisis in the eurozone earlier in the decade has reignited a discussion about the design of financial instruments that could help to avoid economically and socially costly sovereign defaults. One instrument that has attracted particular attention is sovereign GDP-linked bonds (GLBs). At least one eurozone sovereign--Portugal--has issued small amounts of non-tradable GLBs for the retail market. What most GLB proposals have in common is debt-service relief in times of economic downturns, while economic booms would coincide with higher debt service payments. In most proposals, GDP is measured in nominal terms.

Sovereign issuers would thus share economic risk with creditors in a more granular way than is the case today, where a value-destroying default may be the consequence. By reducing the amount of public funds needed for debt service in economic distress, so the rationale goes, the risk of a sovereign default would decrease.

Aside from whether sovereigns would likely want to issue GLBs, or whether investors would be willing buyers, what are the potential ratings implications of GLBs? Two questions are particularly pertinent. First, could a GLB receive an issue rating; and, second, could it improve the issuer's overall creditworthiness, i.e., the issuer credit rating? The answers respectively, are possibly and probably not.

### We Could Possibly Rate GLBs, Depending On Their Design Features

In principle, we assign credit ratings to debt instruments only. The more equity content a security contains, the less likely it is that it is ratable. In some cases, the rating of instruments that are somewhere in between the polar positions of the debt-equity spectrum may be rated at a lower level than pure debt instruments, hybrids being one example. We would base our decision about a security is ratable on whether or not the principal and interest components of an instrument individually contain promises that are credit-based and measurable. By credit based, we mean that the promise to pay must be primarily linked to an obligor's willingness and ability to pay. By measurable, we generally mean that the promise to pay relates to a specific amount due on a specific date (for details see "Principles For Rating Debt Issues Based On Imputed Promises," Dec. 19, 2014, on Ratings Direct).

Where coupons are indexed, the variable determining the index can be a traditional fixed-income index, such as benchmark interest rates or inflation. An indexation to the S&P500 equity index, on the other hand, would not classify as "credit based". We could rate such an instrument with a 'p' subscript, indicating that the rating addresses repayment of principal, but not interest. A decision on whether a GLB indexation is "credit based" and the GLB thus ratable (or ratable with a 'p' subscript) would likely depend on the concrete specification.

Apart from credit-based coupon indexation, another condition needs to be fulfilled to make the GLB ratable: the principal must be protected in the sense that it will be repaid in full (at par value) by the maturity date. Deferrable or indexed principal payments would render a GLB in all likelihood unratable.

Another potential complication when rating a GLB is measurability. We generally require that an applied index satisfies several conditions. These include transparency, verifiability, public availability, and track record. Another condition is that a third party independent of the issuer calculates the index. In most countries, GDP is calculated by a government-controlled Statistics Office (which is also true for inflation, which is, however, somewhat more easily verifiable). GLBs are potentially most useful for lower-rated sovereigns, which are more likely to face a default threat. However, lower-rated sovereigns tend to have weaker governance standards and the independence of official statisticians may be more questionable. Notably, the veracity of official statistics has been a considerable cause of disagreement in the two sovereigns involved in the largest defaults on record--Argentina and Greece. GLBs may work best and may be more easily ratable for sovereigns where they are least needed, namely highly rated sovereigns with strong institutions.

#### Impact On Creditworthiness Would Probably Be Negligible

Independently of the ratability of the GLBs, their introduction could lead to less frequent sovereign defaults, as they afford added fiscal flexibility in times of stress. In reality, however, the issuer credit rating is unlikely to change. In order to have a meaningful impact on the default probability of senior unsecured instruments, GLBs need to make up a substantial share of a sovereign's liabilities. That is unlikely to occur anytime soon.

For comparability, we can look at inflation-indexed sovereign bonds (linkers). Linkers have often emerged following hyperinflationary episodes or strong demand by an established pension fund sector looking for instruments to match the structure of their long-term payment obligations. These demand fundamentals may be less compelling for GLBs. Even so, the market for linkers remains relatively small. Only for a handful of sovereigns do linkers account for at least 25% (Israel, Chile, Uruguay, Brazil and the U.K.; see chart 5 of "Sovereign Debt 2017: Global Borrowing To Drop By 4% To US\$6.8 Trillion," Feb. 23, 2017). Given the effective current inexistence of the GLB segment, it would take a very long time until they reach similar proportions in a sovereign's debt portfolio. Even if GLBs were to reach those levels, we would expect, based on simulations, that the inherent debt service relief would be insufficient to materially lower the probability of default.

A final observation: it is true that economic contractions can put severe downward pressure on sovereign ratings. Yet, assessing the performance of rated sovereigns that defaulted, GDP movements (which GLBs are tracking) appear not to be a dominant leading indicator of debt restructuring. Instead, external imbalances and political issues are often the sovereign rating factors that best signal an upcoming default (see "Common Characteristics Of Rated Sovereigns Prior To Default," Jan. 17, 2014).

### **Related Criteria And Research**

#### **Related Criteria**

• Principles For Rating Debt Issues Based On Imputed Promises, Dec. 19, 2014

#### **Related Research**

- Sovereign Debt 2017: Global Borrowing To Drop By 4% To US\$6.8 Trillion, Feb. 23, 2017
- Common Characteristics Of Rated Sovereigns Prior To Default Jan. 17, 2014

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