

Introduction to the London Term Sheet for a GDP-linked Bond (version 3)

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The London Term Sheet for a GDP-linked bond (the London Term Sheet) has been drafted for a fictitious sovereign, Arcadia, and provides a set of standard terms for a GDP-linked bond (the GDP Bond) suitable for both advanced and emerging market economies. Not all provisions in this term sheet will be relevant for other sovereigns. We have Arcadia as an example issuer for the GDP Bond because it

- (i) has a Euroclearable local currency, which is required for Euroclear settlement of the GDP Bond;
- (ii) subscribes to the IMF's SDDS, which ensures a [recognized minimum] standard of data quality; and
- (iii) publishes quarterly GDP statistics, which allows for [adequate GDP measurements to support semi-annual coupon payments].

The design of the GDP Bond described in the London Term Sheet has been guided by the principle of aligning Arcadia's payment obligations (both coupon and principal) with its ability to pay, in order to reduce or avoid the need for costly sovereign defaults and debt restructurings. A sovereign's ability to service its debt depends to a large extent on the evolution of nominal tax receipts in domestic currency. In turn, changes in nominal tax receipts in domestic currency are strongly correlated with changes in the country's nominal gross domestic product (GDP). With this in mind, the London Term Sheet defines an instrument:

- denominated in **domestic currency**;
- with **coupon and principal repayments indexed to the level of domestic GDP at current prices**, measured in domestic currency, over a specified period of time;
- with **long maturities** allowing investors to take a long term view on the economic performance of the sovereign issuer.

In contrast to the many forms of highly bespoke GDP warrants – issued in the past as “sweeteners” in the context of sovereign debt restructurings – the GDP Bond:

- has a **symmetrical payout profile** (with optional principal protection), which allows for risk sharing between the investors and the sovereign issuer;
- provides the issuer with **debt and cash flow relief** in the event of an economic downturn;
- allows the investor to **participate in the fruits of an economic upturn** by receiving higher coupon and principal payments in times of strong GDP growth.

These characteristics have been achieved while preserving the character of the GDP Bond as a plain vanilla instrument that allows for a store of value over time. Specifically:

- the payment formula is very simple and **modeled on inflation-linked bonds**, which most public debt management agencies and institutional investors are familiar with, since they are regularly being issued by the majority of G-20 members as well as by a number of other sovereigns;
- being a bond, the GDP Bond pays a semi-annual coupon, and has a **bullet repayment** at a specified maturity date, in contrast to GDP warrants (which are streams of annuity payments);
- the GDP bond can be issued with a **factor on the principal amount** of less than 1 allows the issuer to front-load cash flows and moves the issue price towards par in spite of the step-up

structure of coupon and redemption payments, resulting from their indexation to nominal GDP.

The contractual terms of the GDP Bond provide the issuer with automatic and pre-defined debt relief in the event of an economic crisis, thus reducing the need for a payment default on those instruments. Relevant to this, the GDP Bond:

- is governed by the laws under which Arcadia issues its debt to international investors in the normal course, either domestic or foreign (*e.g.* for Arcadia, they are **governed by the laws of England and Wales**, although they could equally be governed by other appropriate external laws);
- contains the **state-of-the-art ICMA collective action clauses**, including a single-limb provision for the cross-series modification of payment terms with elevated voting thresholds and the disenfranchisement of sovereign holdings in bondholder votes, but aggregate only over the universe of the sovereign's GDP-linked securities and not with its other bonds or warrants, which allows a sovereign to keep the GDP Bond and its other GDP-linked securities outside of a restructuring of fixed rate government bonds, loans or other borrowed money;
- **cross-defaults only with the sovereign's other GDP-linked securities**, which allows the issuer to cease payments on fixed rate government bonds, loans or other borrowed money without risking an involuntary acceleration of the GDP Bond;
- **ranks equally** with all the sovereign issuer's borrowed money obligations, thus ensuring investors no worse legal treatment than other borrowed money claims.

The net practical effect of these economic characteristics and legal features is to create an instrument which is more likely to continue to perform and remain in the markets in times when the sovereign finds itself in a challenging economic situation.

Institutional investors regularly purchase sovereign bonds with highly uncertain payout profiles, such as floating-rate bonds that are indexed to the future level of Libor or inflation-linked bonds that are indexed to changes in the Consumer Price Index (CPI) of a country or an economic region. Those state-contingent bonds are often held as assets in order to match equally uncertain, but correlated streams of liabilities (such as short-term customer deposits or defined benefit pension claims that evolve with wages), and they can readily be valued by market participants and traded in the secondary market. History has shown that financial and economic indices such as Libor or CPI are not only variable, but can also be subject to manipulation, which could apply to GDP. The GDP Bond provides investors with an extra layer of **protection against the manipulation of GDP statistics**:

- **put options** allow the investor to demand early repayment of the obligation if the issuer: (i) fails to publish an Article IV report in agreement with the IMF; (ii) violates data dissemination standards; (iii) fails to provide GDP data to the IMF as in a manner consistent with the relevant IMF Articles of Agreement; or, (iv) ceases to be a member of the IMF;
- a **fallback calculation mechanism** for GDP statistics is provided;
- a **penalty early redemption amount** if reliable GDP statistics are unavailable in a timely manner is suggested.

Official **data revisions** are potentially a source of uncertainty around the performance of the GDP Bond. A preliminary estimate for a quarter's GDP is typically produced around one or two months after the end of the quarter, a second estimate one month later and a first full set of quarterly accounts published after a further month. The data can often be revised further as GDP statistics for subsequent quarters are produced. To ensure that the third estimate, as published in the first full set of quarterly accounts, is available to be referenced in the GDP Bond, the London Term Sheet indexes the principal and coupon on the bond to GDP data with a six-month lag. This compares to a

three-month lag for inflation-linked debt, where the reference index is measured at a higher frequency and generally not revised.

In addition to the scheduled releases of a first, second and third estimate of quarterly GDP, there are often regular revisions to past estimates of growth, which can result in a material change to the level of GDP. There are two options in dealing with revisions to the history of recorded GDP growth when calculating payments on GDP-linked bonds. Payments can be indexed to (i) the latest vintage of data for cumulative GDP growth since issuance, taking into account periodic revisions of the latest available estimate of the base quarter, or to (ii) a chain-linked nominal GDP index that freezes the base quarter and subsequent quarterly growth rates at the third estimate of the latest available vintage of data. Consultations with the private sector, which were conducted with support of the International Capital Market Association, Institute for International Finance, and Emerging Markets Trade Association, indicate a preference for the latter option, where advantages are seen as providing a more stable and predictable pricing framework and a bond structure that promotes timely and consistent reporting of GDP data. While the structure of the term sheet is compatible with either choice for the index to nominal GDP, the Ad Hoc Working Group on GDP-linked Bonds notes a preference for linking to a chain-linked series of the third estimates.

Once a particular coupon or principle payment has been made, based on the specified vintage of the GDP-data available at the calculation date for determining the payment on the GDP Bond, that payment is final. There is no later compensation for future revisions to GDP-data.

Consultations with industry suggest that for some investors, particular those based in the US, would attach a particular value to there being a floor on the bond that ensures the final bullet repayment is least as great as the stated principal amount at issue. Some inflation-linked debt (eg US and continental European issues) incorporates such a floor, though other issues do not (eg Australian, Canadian and UK issues). The third version of this term-sheet nests one option without a floor and one option with a floor. Including a floor still allows for some debt relief during periods of weak GDP growth but places a limit on the degree of that relief, particularly where the maturity of the instrument is short and/or the baseline, trend rate of nominal GDP growth for the issuer is low.

All of these design elements and features of the London Term Sheet have been chosen in order to create a simple instrument that can easily be valued and traded, at a low GDP risk premium over fixed rate government bonds of the same issuer.

This box has been prepared by the London-based Ad Hoc Working Group on GDP-linked Bonds.