

BOND BUYBACKS AND EXCHANGES

Background Note

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This note on bond buybacks and exchanges is part a series of background notes produced under the World Bank Group Government Bond Markets Advisory Services Program as a by-product of its strategy to support the development of liquid local currency bond markets. Topics selected have been a key focus in Advisory Services' work area because of their catalytic impact on debt market development. Six notes have been produced so far: Domestic Syndications, Bond Buybacks and Exchanges, Securities Lending and Related Standing Facilities, Primary Dealer Systems, Electronic Trading Platforms, and Repo Markets.

Bond buybacks and bond exchanges are an essential component in the management of public debt because they can be used to pursue a wide variety of objectives. The objective of this background note is to review the various functions of these important liability management instruments and to illustrate their usage with some country examples.

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¹ This background note has been prepared to support World Bank Group technical assistance programs for the development of local capital markets. This note is a work in progress because data intended to show practical examples of country practices are still being collected. Comments to baudouin.richard@live.be, asilva3@worldbank.org, and oakcadag@ifc.org are welcome.

² Including the Hungarian Government Debt Management Agency (ARK), Ministry of Finance and Public Credit Mexico, Ministry of Economy and Finance Morocco, Ministry of Finance Poland, and National Treasury of South Africa .



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Abbreviations and Acronyms

BDA	Belgian Debt Agency
DMO	Debt Management Office
GDP	Gross Domestic Product
GEMM	Gilt-Edged Market Maker
NPV	Net Present Value
OECD	Organisation for Economic Co-operation and Development
PD	Primary Dealer



1. Introduction

Bond buybacks and exchanges are liability management tools widely used in government securities markets to manage refinancing and liquidity risks. In addition to their capacity to pursue different objectives, they are closely linked to the implementation of a benchmark issuance policy, which is itself one of the prerequisites for an efficient government securities market. Bond buybacks and exchanges are therefore usually implemented at a relatively early stage in the life of a market to support and accelerate its development. This is possible because using these tools may require only focused capacity building at the start.

This background note focuses on the use of bond buybacks and bond exchanges in the domestic government securities market. The objective is to provide an overview of their functions and of the procedures that facilitate their implementation, using country examples as illustrations. The note is organized as follows: First, it defines bond buybacks and exchanges, and it makes an inventory of the functions that they can fulfill. It then describes the different bond buyback and exchange methods. It also analyzes their respective risks and advantages, and it reviews some of the procedures involved. After summarizing the results of a recent survey of the prevailing practices in Organisation for Economic Co-operation and Development (OECD) countries, the note underlines the importance of market communications and concludes with a summary of sound market practices.



2. Definition of Bond Buybacks and Exchanges

Bond buybacks enable issuers to retire an outstanding debt before its maturity date against a cash payment. Bond exchanges achieve the same result but in combination with the issuance of a new debt. Both transactions are liability management operations. They provide no additional funding, but they affect the composition of the debt portfolio by restructuring an outstanding debt.²

³ Additional funding can be generated in some occasional cases of liability management operations, for example, by doing off-market interest rate swaps. However, the additional funding is normally not the objective of the transaction, and the amount of new funding generated is usually quite small.



3. Functions of Bond Buybacks and Exchanges

3.1. Bond Buybacks and Exchanges Increase Market Liquidity

The principal functions of bond buybacks and exchanges are to enhance market liquidity and to mitigate refinancing risks. These two functions are closely connected. On the one hand, retiring illiquid off-the-run bonds from the market offers additional issuance opportunities, which enables the faster building of benchmarks. On the other hand, the gradual buyback of bonds as they approach maturity mitigates the refinancing risk and, as a result, enables the issuance of benchmarks of a larger size. In both cases, market liquidity is enhanced.

Bond buybacks and exchanges have a wide array of other potential uses. The availability of additional opportunities for issuance enables increased stability and regularity in the issuance calendar. The ability to retire from the market undervalued bonds and to refinance high-coupon bonds enables the correction of market distortions and the ability to book budget savings. Bond buybacks and exchanges can contribute to stabilizing the market during periods of stress by restoring price transparency. Last but not least, bond buybacks can offer profitable opportunities to invest surplus cash. The list is not exhaustive (see appendix 3).

3.2. Bond Buybacks and Exchanges Stimulate the Build-up of Benchmark Bond Issues

Benchmark bonds increase the liquidity of the government securities market because they are widely traded. Benchmarks also enhance the price transparency of other bonds issued within the same maturity range. The specific features and usefulness of benchmark bonds are reviewed in more detail in appendix 2.

Benchmark bonds create two risks for a debt management office (DMO): a refinancing risk and an interest rate risk. The two risks are connected. Benchmarks are typically bond issues with a large amount outstanding. Thus, a sizeable funding requirement is created when a benchmark bond matures, potentially jeopardizing the ability of the DMO to borrow the needed amount without disrupting the market.⁴ Last, the issuance of the large amount needed to refinance a maturing benchmark can affect the desirable regularity in the DMO's issuance calendar. For these reasons DMOs and certainly cash managers prefer a debt portfolio with a smooth⁵ maturity profile.

Bond buybacks and exchanges support the issuance of benchmark bonds in two complementary ways: by retiring illiquid off-the-run bonds and by retiring bonds with a short remaining life to maturity. First, retiring illiquid off-the-run bonds supports the issuance of benchmarks by creating an additional funding need that can be met by issuing a standard instrument. The latter is typically a current benchmark because the objective is to secure a liquidity premium⁶ for future reopenings as investors are willing to pay a higher price for securities that can be easily traded in the secondary market. As a result, benchmark bond issues can be built up faster. This is particularly useful in periods of limited borrowing requirements. Second, the gradual retirement of bonds with a large

outstanding amount and a short remaining life to maturity is tantamount to refinancing part of the maturing bond ahead of time. The refinancing and interest rate risks⁷ of the DMO are reduced as a result. Thus, an issuer can build benchmarks of a larger size.

Retiring illiquid off-the-run bonds from the market to stimulate the creation of benchmarks is a widespread practice. For example, Denmark made recurrent use of bond buybacks in the early 2000s to keep issuing in spite of a budget surplus. The U.K. DMO has a permanently open window to buy back "rump bonds."⁸ The Republic of Korea has a standing program for exchanging off-the-run bonds against on-the-run bonds. When the euro was introduced in January 1999, the Dutch DMO made an exchange of "legacy bonds"⁹ for an amount equal to 20 percent of its total bond portfolio, reducing in the process the number of maturities outstanding from 39 to 15. In most mature markets, DMOs systematically start buying back or exchanging benchmark bonds ahead of their maturity date (usually 12 months before). Generally up to 40 or 50 percent of the benchmark size is refinanced ahead of time.

3.3. Bond Buybacks and Exchanges Enhance Liquidity in Other Ways

Retiring illiquid off-the-run bonds from the market can contribute to market liquidity in two additional ways. The reduction in the number of maturities outstanding reduces the fragmentation of the market, and it enhances price transparency. Bond buybacks and exchanges enhance price discovery as trading is concentrated across fewer lines of outstanding bonds and pricing is constantly updated. Regular bond buybacks and exchanges enhance trading activity as dealers adjust their positions based on new supply and demand. Dealers purchase off-the-run bonds more actively when they are confident that they can liquidate their position.

⁴ The DMO also faces the risk of higher interest rates at the moment of refinancing

⁵ "Smooth" does not mean "even." As a consequence of the time value of money, the present value of longer maturities is smaller than their nominal amount. Therefore, bonds can be issued for larger amounts as their maturity lengthens.

⁶ See section "Importance of Market Liquidity" for details.

⁷ See the IMF–World Bank Revised Guidelines for Public Debt Management for a detailed discussion of risks encountered in public debt management

⁸ A "rump" gilt is one declared by the DMO, in which gilt-edged market makers are not required to make two-way markets. The current list of rump gilts is published on the DMO website (www.dmo.gov.uk). Rump gilts are those that have been reduced in size to less than £850 million (nominal) in issue. The government will not sell further amounts of "rump" gilts to the market, but the DMO is always prepared, when asked by a GEMM, to bid a price of its own choosing for such gilts.

⁹ Legacy bonds are those denominated in the former national currencies of the member states of the European Monetary Union..

3.4. Bond Buybacks and Exchanges as Risk Management Tools

Bond buybacks and exchanges enable decreasing the refinancing and interest rate risks. The refinancing (or roll-over) risk is the risk that debt will have to be rolled over at an unusually high cost or, in extreme cases, cannot be rolled over at all. The interest rate risk aspect applies in this case to reduced repricing risk by reducing concentration in maturities and consequently interest rate pressures stemming from large volumes at specific points in time.

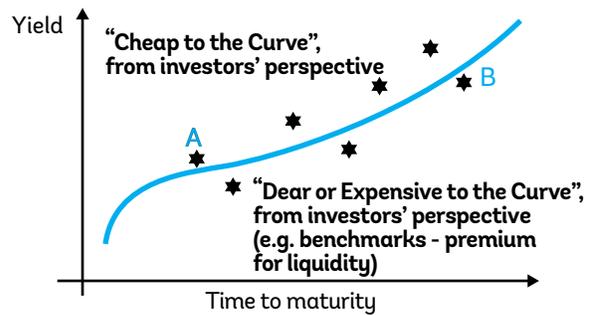
Bond buybacks and exchanges decrease the refinancing and interest rate risks directly when they are used to smoothen the maturity profile of the debt portfolio (section 3.2). They also decrease risks indirectly because they enhance liquidity in the secondary market. Liquidity increases market demand for the issued securities, which decreases execution risk. It also enables lengthening the average life of the debt portfolio by issuing longer maturities, which decreases both refinancing and interest rate risk.

3.5. Bond Buybacks and Exchanges May Correct and Take Advantage of Market Distortions

Bonds sometimes trade at a yield higher than normal above the curve. This can happen for different reasons: the coupon of the bond is out of the market, the bond is seldom traded because its outstanding amount is too small, its maturity is unattractive for the market, or its holdings are concentrated in a few hands, and so on.

With a bond buyback or exchange, the distortion in the curve can be eliminated and a cost savings can be made in the process. As an illustration, when converting from a less liquid into a more liquid bond, there is a net present value (NPV) benefit that can be shared with the market to encourage them to convert. This is the case even where the coupon of the target bond is higher (which it often will be with an upward sloping yield curve). The NPV benefit is represented in figure 3.1 by the difference from A to the curve and B to the curve.

Figure 3.1. Building Benchmarks Can Reduce NPV of Debt



Take advantage of cheap/dear spread in bond swap - swapping A into B save NPV

Note: NPV = net present value.

3.6. Bond Buybacks and Exchanges Come to the Rescue of the Market during Periods of Stress

During periods of stress, liquidity has to be reallocated between instruments and funding sources. Turkey provided an illustration in June 2001. The DMO exchanged \$8 billion short-dated nominal domestic debt into dollar-indexed lira debt or floating-rate lira debt. This had the effect of simultaneously reducing a liquidity overhang in the domestic market and removing net currency exposure in the banking system (see box 3.2).

3.7. Bond Buybacks and Exchanges May Reduce the Reported Debt-Servicing Cost or Lower the Reported Debt/GDP Ratio

The reported debt-servicing cost is reduced when a bond bearing a high coupon is refinanced at a lower market rate. This involves two transactions. First, a DMO issues a new bond. Second, the DMO either uses the proceeds to buy back the old bond, or alternatively it offers the new bond in exchange for the old one.¹⁰

¹⁰ As an illustration, in 2006 Colombia combined auctions and tenders to extinguish high-coupon debt and consolidate different long-dated maturities into one single issue.

Box 3.2. Country Illustrations of the Use of Bonds Buybacks and Exchanges in Times of Crisis

Brazil	In May 2006, the DMO conducted simultaneous auctions to buy and sell certain government bonds to provide price parameters to the market in unstable market conditions. In September 2008, the DMO performed four buyback auctions to allow investors to unwind positions
Hungary	In Q2 2009, the DMO launched a buyback program for an amount equivalent to \$2.5 billion. The program was successful, and it enabled the Government Debt Management Agency (ÁKK) to restart regular bond auctions in April 2009.
Poland	In October 2008 and January 2009 the DMO organized switch auctions for some illiquid consumer price index-linked and floating-rate bonds.

In both cases, the reported budget deficit is decreased by an amount equal to the coupon differential. Simultaneously, however, the amount of the outstanding debt is raised by an amount equal to the premium of the price of the old bond. In the absence of a distortion in the curve that could be taken advantage of, the net result is thus financially neutral on the issuer's actual funding cost. The impact of the two operations (new issuance and bond buyback or bond exchange) net out (see box 3.3). Therefore, the benefit is optical in the accounts.

Box 3.3. Economics of Bond Buybacks and Issuance

Assumptions	Old Bonds Repurchased	New Bond Issued	
Nominal amount	100	100	
Coupon	8%	4%	
Maturity	10 year	10 year	
Per the bond price calculation formula, the current price of the old bond is 132.44 (=present value at 4% of a stream of 10 annual cash flows of 8 and of 100 in 10 years)			
Cash flows	Cash	Coupons	At Maturity
Repurchase of old bond	(132.44)	8% = 8	100
Issuance of new bond	132.44	4% = 5.30	(132)
Net	0	2.70	(32)
Analysis			
(32) = future value at 4% of the annual saving of 2.70 over 10 years			

The same technique can be used to reduce the debt to gross domestic product (GDP) ratio. This is possible when the bonds being repurchased or exchanged trade below par. The accounting impact of this transaction is the mirror image of the repurchase of a bond with a high coupon. Thus, the benefit is also optical in the accounts.

3.8. Bond Buybacks and Exchanges Have Other Benefits

Yet another potential benefit, specific to bond exchanges, is to help investors restructure their portfolio in an efficient manner.¹¹ The advantage for the issuer is to increase investors' market participation. It also helps to preserve market stability when the composition of an index changes.

Bond buyback and exchange operations also enable DMOs to obtain high-quality information on the depth and breadth of the market for various securities. They provide

¹¹ Brazil achieved the same objective during extremely volatile market conditions by holding simultaneous buying and selling auctions of the same securities (in May 2006 and October 2008) to provide price parameters to the market (box 3.2). The initiative was successful because it enabled some investors to perform coordinated portfolio reallocations, while making other investors confident in maintaining their position.

DMOs with feedback from market participants, which they can use to adapt their borrowing programs, bringing lower cost and volatility. Last but not least, they can be a way to stimulate the motivation of primary dealers to perform by offering them the exclusive direct access to exchange and reverse actions.

3.9. Preconditions for Using Bond Buybacks and Exchanges

Using bond buybacks and exchanges has three main preconditions. The issuer has to have a debt management strategy to define the desirable adjustments in the composition of the debt portfolio. The issuer also has to have an issuance strategy to provide a framework for the execution of the transactions. Last, there has to be a least

an embryo of activity in the secondary market to make it possible to execute the transactions.

3.10. Conclusion

A common feature of bond buybacks and exchanges is to increase market liquidity both directly and indirectly. They increase market liquidity directly by supporting the creation of benchmarks and by reducing the number of outstanding bond issues. They increase market liquidity indirectly because dealers take positions more actively (particularly in purchasing off-the-run bonds) if they know that they can liquidate their holdings in the future in regular bond buybacks or exchanges (see table 3.1). Globally, bond buybacks and exchanges lower the funding cost of the issuer.

Table 3.1. Buyback and Exchanges: Summary of Advantages

Retired bond	Impact	Consequences
Illiquid	<ul style="list-style-type: none"> • Creates a funding need • Cleans the yield curve • Reduces fragmentation • Can also smoothen maturity profile if large bond or heavy refinancing period 	<ul style="list-style-type: none"> • Benchmarks can be built up faster • Issuance activity can be more stable and regular • Increases price transparency • Increases market liquidity • Reduces risks (refinancing and interest rate)
Large and close to maturity	<ul style="list-style-type: none"> • Reduces risks (refinancing and interest rate) • Creates opportunity to reinvest cash surplus 	<ul style="list-style-type: none"> • Larger benchmarks can be built up • Higher return
Undervalued	<ul style="list-style-type: none"> • Generates cost savings 	<ul style="list-style-type: none"> • Potentially reduces NPV of debt when measured off the yield curve
High coupon	<ul style="list-style-type: none"> • Reduces reported debt-servicing cost 	
Side benefits	<ul style="list-style-type: none"> • Enhances trading activity • Enhances the quality of the issuer's market information • Can: <ul style="list-style-type: none"> • Stimulate PDs' motivation to perform by offering them exclusive access to bond exchange and reverse auctions • Help investors to restructure their portfolio • Contribute to stabilization of the market in periods of stress 	

Note: NPV = net present value; PD = primary dealer.



4. Types of Buybacks

Buybacks can be done bilaterally or with a reverse auction. In the first case, buybacks are done one at a time over a certain period. In the second case, several buybacks may be done simultaneously.

4.1. OTC Buyback

An OTC buyback can be done bilaterally or in the framework of a buyback window. Bilateral buybacks are concluded at a negotiated price. The price, generally not published, is negotiated by the issuer, either directly with the counterpart or using an intermediary. In the latter case, the issuer gives a mandate to a primary dealer to buy back a specific bond within a specified deadline. The DMO then sets the amount, the settlement date, the maximum price, and the intermediary's fee. This procedure has been used in Italy, for example. Using an intermediary has the advantage of potentially minimizing the impact of the transaction on market prices. The drawback is a lack of transparency.

A buyback window means that an issuer makes a standing offer to the market to buy back some securities. The offer is valid over a certain period. The price is published, and it is generally set for the duration of the window.

4.2. Reverse Auction

A reverse auction is the mirror image of a standard auction. In a standard auction, the issuer sells securities and receives cash. In a reverse auction the issuer buys securities and pays cash. Reverse auctions seem to be predominantly of the multiple-price category. The reason is fewer potential counterparts because their number is limited to the investors holding the relevant securities. The willingness of investors to sell a security is also more difficult to gauge than their interest in buying it. The securities may be concentrated in a small number of portfolios and/or some investors may be reluctant to sell them because they are held against specific liabilities or otherwise fit in the portfolio.¹² Therefore, issuers tend to find it safer to average out the prices offered by the market rather than agreeing to buy back all securities at the lowest accepted price.

¹² The fit in the portfolio is mainly the result of insulation from market price movements, such as a hedge.

The timing of the announcement of a reverse auction varies from a quarterly schedule (United Kingdom) down to three days ahead of the operation (Greece). Reverse auctions are generally announced a couple of weeks in advance. The advantage of a reverse auction over an OTC

buyback is that an auction helps create a marketing event. Their drawback is that they correspondingly increase the issuer's "reputational risk" if the operation is not successful (see table 4.1).

Table 4.1. Multiple and Uniform Price Auctions

	Advantages	Drawbacks
Multiple price	<ul style="list-style-type: none"> • Issuer benefits from bids made at high prices • Enhances the value of the status of PDs (premium to expertise, advisory role) • More stable prices (due to the averaging-out effect) 	<ul style="list-style-type: none"> • Fewer participants at the auctions (higher investor risks; winner's curse, loser's nightmare) • Increased risk of collusion
Uniform price	<ul style="list-style-type: none"> • Larger number of participants 	<ul style="list-style-type: none"> • Loss of the advantages of multiple price system • More volatile auction results



5. Types of Bond Exchanges

Bond exchanges can be done in five ways: a tender at a fixed exchange ratio, an auction, an auction combined with a tender, two separate auctions, and a bilateral exchange.

5.1. Tender at a Fixed Exchange Ratio

The exchange ratio is set by the DMO. Different types of exchange ratios have been used: for example, a dirty price destination bond/dirty price source bond (Denmark, Ireland, Sweden, and the United Kingdom) or clean price destination bond/dirty price source bond (Belgium).

Fixed-spread ratios are attractive to both investors and traders. Investors have no winner's curse risk. Traders are effectively offered a call option at a fixed spread by the issuer. The market risk—the risk of an adverse change in market prices while processing the operation—is borne by the issuer.

5.2. Auction

The exchange ratio is set by the market. Bids can be submitted according to two different formats. Either the DMO sets the clean price of the source bond and the market bids a clean price for the destination bond (e.g., Australia, Denmark, Hungary, Poland, Sweden, the United Kingdom), or the DMO sets the price of the destination bond and the market bids a clean price for the source bond (e.g., the Netherlands, Slovenia, Spain). The exchange ratio is generally calculated using dirty prices. The objective is to make a cash-neutral settlement. Market practice varies as to whether the auction is a single price (Belgium, Denmark, Spain, the United Kingdom) or multiple prices (Finland, Sweden, the United Kingdom).

The advantage for the issuer of an auction over a fixed-price exchange is that the auction creates no market risk; the risk is borne by the bidders. The size of the transaction can also be larger than in a fixed price exchange because the issuer can adjust the price to the level asked by the market.

5.3. Combination of an Auction and a Tender

This procedure splits the transaction in two steps. The way it is implemented in Colombia is used as an illustration below. On day 1, a bond is issued via an auction. On day 2, the DMO announces a spread (= ratio) of an outstanding bond against the issued bond. A tender is then processed for the outstanding bond at that spread with the same settlement date as the auction.

This procedure is more flexible than a bond exchange auction for the market and for the issuer. The participants on day 1 do not have to hold the outstanding bond. The spread of the outstanding bond is announced by the issuer after the auction of the new bond. However, the procedure creates more uncertainty for the issuer because of the split of the transaction into two steps. This would represent a significant drawback because if the buyback is unsuccessful, the issuer will have issued larger volume than what was required. For investors wanting to exchange their old bonds for new it also presents a risk, because if they are unsuccessful in either the sell or the buyback, they will need to adjust their positions in the secondary market, which implies a market risk that they would increase the borrowing cost.

5.4. Two Separate Auctions

This procedure combines a bond buyback with the issuance of new bond (one hour later in the case of Finland). The separate execution of the two operations makes them more straightforward for the DMO to process. It also makes them attractive to a wider group of investors.¹³ The risk for the DMO is to have a funding shortfall if the amount issued at the auction is smaller than the amount bought back.

5.5. Bilateral Exchange

A bilateral exchange is the bond exchange equivalent of an OTC buyback. In the euro zone, this procedure is used primarily by Greece and Sweden. Greece uses the prevailing price in the secondary market with a scope for negotiation depending on the characteristics of the bond being exchanged and the investment policy and needs of the counterpart.

¹³ A bond exchange attracts only those investors who are interested both in selling the old bond and in acquiring the new one (although a PD an intermediate between different groups). By contrast, a bond buyback attracts all investors interested in selling, and an auction attracts all investors interested in buying, the relevant security. The two groups of investors need not overlap.



6. Risks Common to Bond Buybacks and Exchanges

Three risks are common to both procedures: first, the risk of market price manipulation after the announcement of the operation; second, the budgetary cost if a premium has to be paid to obtain a significant amount of the source bond; and, third, the possibility of locking in an unattractive forward rate for the acquired bond.

An additional risk is the lack of market interest. The DMO then has a “reputation risk” (image risk) if the operation is not successful. To manage market expectations, many DMOs announce that they have no target amount to exchange or buy back because their principal concern is to be of service to investors by offering them an efficient way to rebalance their securities portfolio.

When retiring a bond from the market, a few DMOs inform the market that they will maintain a sufficient size of the outstanding bond to ensure a minimum tradability. Such an announcement is fair to the extent that a DMO may wish to avoid giving investors the sentiment that they are being trapped. At the same time, the announcement can be counterproductive because the risk of confronting an altogether illiquid market is an incentive for investors to sell the relevant securities. The offer of a buyback window for investors who want to sell after bond buyback and exchange operations have ended is perhaps a better procedure. It offers investors a way out, but the price is at the DMO’s discretion.



7. Respective Advantages and Drawbacks of Bond Buybacks and Exchanges

Buybacks have two advantages relative to bond exchanges. They are an easier and more flexible procedure. They are also a more powerful instrument because they can attract a wider investor base. Any investor holding the relevant security is a potential seller. By contrast, investors participating in a bond exchange have to have an interest both in selling the source bond and in buying the destination bond (it requires an efficient PD system to make the link between the two categories of investors by standing in between them). However, buybacks create two risks for the DMO: a refinancing risk and an unknown exchange ratio when the bond buyback is followed by the auction of a benchmark to fund the operation.

Bond exchanges also have some advantages. The issuer bears no refinancing risk. The investors have no execution risk because the reinvestment of their funds is automatic. Exchanges may help investors in restructuring their portfolio (e.g., when a bond is included in a bond index and is bid strongly as a result). However, an exchange alters the duration of the debt when the two bonds involved do not have a similar remaining life to maturity. Altering the duration of the debt portfolio through an exchange may be an explicit goal of the DMO (e.g., to lengthen the duration of the debt portfolio). However, it can also be an unintended consequence of the operation, in which case investors may be reluctant to utilize exchanges to avoid any unintended alteration of the duration of their portfolio. Bond exchanges are thus more complex transactions.



8. Procedures

An issue specific to bond exchanges is the number of bonds included in the exchange. Market practice varies from one source bond to multiple destination bonds (e.g., Belgium during the 1990s: one short-dated source bond against up to eight destination bonds) to a 1:1 ratio (the Netherlands, Sweden, the United Kingdom). A 2:1 ratio is applied in Ireland and Spain.

Four procedural items are common to buybacks and exchanges: the timing of the announcement, the eligible participants, the price-setting reference, and the accounting.

8.1. Timing of the Announcement

A widespread practice is to inform the market that the DMO is ready to repurchase bonds with a short¹⁴ remaining life to maturity (Belgium, Finland, Sweden, the United Kingdom) and/or to repurchase off-the-run illiquid bonds that have a relatively small amount outstanding (Italy, the United Kingdom).

Other practiced procedures are an annual calendar of planned operations (Belgium up to 1998), three weeks' advance notice (the United Kingdom), one week's advance notice (Finland, Sweden), and two days' advance notice (Ireland).

8.2. Eligible Participants

The most common practice is to limit participation in a buyback or exchange event to the primary dealers (PDs). All holders of bonds must then submit their bids through a PD.

However, there are exceptions. For example, in Denmark, all entities authorized to trade on the Copenhagen Exchange are eligible to participate. In Spain, all market members can participate, although some extra time to bid is given to PDs. In the United Kingdom there is a distinction between conversions, which seek to exchange all an outstanding bond and are open to all holders, and switch auctions, which are partial conversions only and aim to leave the source bonds sufficiently liquid; in those cases it is only PDs who participate. Full conversions have been done in the United Kingdom on an exceptional basis, and they seem to have been discontinued in the late 1990s.

¹⁴ Usually less than 12 months.

8.3. Price-Setting Reference

The reference is predominantly the observed market prices (average of market quotes) over a certain period, making allowance for the refinancing cost (particularly for short-dated bonds) and/or for internal analytics (cheap/dear analysis).

8.4. Accounting

The securities are generally canceled. However, they can also be held with a view to being used by the DMO either as collateral in the repo market (Belgium) or to alleviate tensions in the secondary market (Spain).

In the euro zone, the European System of Accounts provides that the amount of capital gains and losses on bonds issued earlier and bought back or exchanged (hereinafter referred to as “old bond”) is recognized up front in the outstanding amount of the debt. This regime is consistent with the accounting of the public debt on a nominal basis, as opposed to a mark-to-market basis. The cancellation of the old bond is considered to be a financial transaction neutral to the budget balance. By contrast, the premium or discount on the new bond is accounted for as interest, and it is prorated over the life of the bond. The accounting procedure implemented at the Belgian Debt Agency for capital gains and losses is appended as an illustration (see appendix 1).

The impact of the coupons on the annual budget balance is the net of the annual coupons that are respectively saved on the old bond and payable on the new bond. Therefore, the buyback or exchange of an old bond with a high coupon refinanced by a new bond with a lower coupon will narrow the budget deficit while the corresponding capital loss increases the amount of the debt. The fact that the initial impact of the buyback or exchange of a high-coupon bond is a narrowing of the budget deficit may create the impression that the transaction is financially attractive. Yet, in the absence of a market arbitrage (i.e., retiring an underpriced bond from the market), the transaction is financially neutral (see box 3.3).



9. Prevailing Practices in OECD Countries

The OECD¹⁵ conducted a survey in 2011 of 33 of its 34 member countries to enquire about their practices with respect to bond buybacks and exchanges. The main conclusions of the survey are summarized below.

A significant majority of countries use bond buybacks and exchanges (29 out of 33 or 88 percent). The percentages mentioned below are expressed by reference to the 29 countries that use bond buybacks and exchanges. Bond buybacks are used more often than exchanges (85 percent versus 55 percent; many countries use both tools). Transactions are done on an ad hoc basis more often than on a regular basis (68 percent for bond buybacks and 61 percent for bond exchanges). Auctions are the most used mechanism for both bond buybacks and exchanges. For bond exchanges, auctions are used by close to 100 percent with a small number of countries using simultaneously other mechanisms.¹⁶ For bond buybacks, 54 percent use reverse auctions versus 46 percent OTC. Multiple-price auctions seem to prevail over uniform-price auctions (no global percentages are reported). Ad hoc transactions prevail over calendar announcements (61 percent for bond exchange, 68 percent for bond buyback).

For bond exchanges, DMOs set the price of the source bond more often than the price of the destination bond (11 DMO versus five). The average reduction in the refinancing risk on the final maturity date of large benchmark bonds is between 30 and 40 percent of the total issued amount.

¹⁵ Working Party on Public Debt Management.

¹⁶ For example, Italy (e-trading platform) and Ireland (bidding window on Bloomberg and negotiated bilateral agreement).



10. Importance of Communication

Good internal and external communications are a prerequisite for the success of the transactions. Within the government, the key requirements are internal approval and buy-in, uniformity of message, and consistency of the contemplated strategy with the overall borrowing plan and budget planning. Outside the government, the market has to be prepared and educated. Investors have to understand the DMO's strategy, the instruments, and the benefits of the transactions for them. The DMO should consult the market, about both procedures in general and specific proposals, to keep abreast of its needs and expectations.

A clear announcement of policy is particularly important. As an illustration, the Belgian Debt Agency (BDA) ensures that the market is well aware of two standing rules. First, any bond with a remaining life to maturity equal to, or less than, 12 months can be subject to repurchase or exchange by the government. Second, the BDA will assess the quality of the prices offered by the market by reference to the price levels prevailing in the market before the announcement of the transaction. The implicit message is that there is no point in trying to manipulate market prices.



11. Policy Issues

11.1. Legal

The public debt law has to include bond buybacks and exchanges among the authorized purposes for borrowing. The law should also define the objectives to be pursued by the transactions, preferably in an indicative manner. There are many possible objectives, and a limitative list might not be exhaustive.

11.2. Institutional

The authority to execute the transactions has to be delegated by the Minister of Finance to the DMO. The delegation includes the determination of the objective pursued by any specific transactions being considered. This will in turn determine which securities should be retired from the market by priority and which mechanism should be used. In practice, the selection of the mechanism and of the relevant securities is often made following the same procedure as for bond issuance, and the pricing is decided by the same committee as the one in charge of pricing at the auctions.



12. Sound Market Practices

No “one-size-fits-all” procedure is found in government securities markets. Yet some procedures seem to often work well and can therefore be considered as sound market practices. The objective of this section is to review these procedures

12.1. Bond Buyback and Bond Exchange Policy

The DMO is transparent about the objectives pursued and the mechanics of the procedure. Specifically, the DMO informs the market about three things: first, that the primary objective of these operations is either to increase market liquidity by issuing benchmarks to retire illiquid bonds from the market or to smoothen the redemption profile of public debt by reducing the amount outstanding of large bonds with a short remaining life to maturity; second, for illiquid bonds, that the securities selected for the operations will usually be chosen by the DMO after consulting with the market (i.e., PDs in countries that have a PD system); and, third, for bonds with a large amount outstanding and a short remaining life to maturity, the securities may begin to be bought back or exchanged a certain number of months (usually 12) before their maturity date.

12.2. Calendar

The decision as to whether transactions should be implemented on a calendar or on an ad hoc basis is country specific. Transactions on an ad hoc basis dominate in mature government securities markets presumably because few illiquid bonds are left in the debt portfolio and DMOs have the adequate means (technical and know-how) to buy back OTC bonds with a large amount outstanding and a short remaining life to maturity. They may nevertheless indicate their general intention in the annual strategy or financing plan, or in regular market consultations. For the other government securities markets, the number of bonds involved in the buyback or exchange program may help in making the choice. A calendar may be appropriate to streamline frequent transactions. If not, transactions done on an ad hoc basis have the advantage of providing flexibility.

12.3. Organization of Bond Exchanges

To begin by doing bond exchanges on a negotiated basis to test the market and establish the process can be a step worth considering in some countries (e.g., it has been done in Vietnam). Otherwise exchange auctions are the prevailing procedure, with the DMO setting the price, preferably of the destination bond (i.e., the benchmark that will be issued in the framework of the exchange). The exchange auction then takes place preferably after a standard bond auction.¹⁷ The choice between multiple-price or single-price auctions is country specific. On balance, the multiple-price system seems to prevail. However, in countries where the standard auctions follow the uniform-price system, DMOs should consult the market about the potential advantages of standardization. No target exchange amount is announced before the auctions. In countries with a PD system, the prevailing market practice is that only PDs have direct access to the auctions. Other investors submit their bids through a PD.

12.4. Organization of Bond Buybacks

Bond buybacks are negotiated bilaterally or structured as a reverse auction. The prevailing auction type is the multiple-price system. However, in countries where the standard auctions follow the uniform-price system, DMOs should consult market participants about the potential merits of standardization, as for bond exchange auctions (see previous paragraph). In countries with a PD system, the prevailing market practice is that only PDs have direct access to the auctions, the same as for a bond exchange.

If the government has no surplus cash to invest and provided the DMO is confident in its ability to raise the required amount of funding, a buyback can take place before a standard bond or bill auction. For example, Finland has done buy backs in the morning followed by a standard bond auction in the afternoon of the same day. Belgium has done buybacks followed by an auction of T-bills on the next day with the same settlement date (buybacks are T+3 and T-bills T+2).

12.5. Choice between Bond Exchanges and Buybacks

For bonds raising a refinancing risk, the maturity profile of the debt seems to be smoothed¹⁸ most efficiently by doing bond exchanges first and bond buybacks thereafter. Bond exchanges are a first choice because they create no refinancing risk. However, buybacks are a more powerful instrument, and they may thus be preferred as the maturity date of the bond approaches.

For illiquid bonds raising no refinancing risk in the short term, bond exchanges are the safest choice. They raise no refinancing risk for the DMO, and there is no urgency to retire the securities from the market.

¹⁷ The price of the benchmark that will be issued in the framework of the exchange is easier to determine when the benchmark has recently been auctioned.

¹⁸ For example, exchanges during the first six months followed by buybacks during the next six months.



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Appendix 1: Accounting for Capital Gains and Losses. Illustration: Belgium

Example

A new bond is issued at 98 to buy back an old bond at 104.
 The nominal value of both bonds = 100
 The cash shortfall is financed by the issuance at par of a short-term security of 6.

1. Impact of the transaction on the amount of the debt outstanding:

The amount of capital gains and losses impact the outstanding amount of the debt up front. This regime is consistent with the accounting of the debt on a nominal basis:

- New bond issued: 100
- Old bond cancelled: (100)
- New security: 6
- Net: +6

If the debt had been accounted for on a mark-to-market basis (which it is not), one would have had:

- New bond issued: 98
- Old bond cancelled: (104)
- New security: 6
- Net: 0

2. Impact of the transaction on the budget balance

2.1. Capital gains/losses:

In the Eurozone, the European System of Accounting provides that:

- The premium or discount on the issuance of the new bond is accounted for as interest. Therefore, the premium/discount is prorated over the life of the bond.
- The cancellation of the old bond is a financial transaction that is neutral to the budget.

Therefore, the capital gain/loss is recognized only in the calculation of the outstanding amount of the debt.

2.2. Annual coupons:

The impact on the annual budget balance is the net of the annual coupon saved on the old bond and payable on the new bond. Therefore, the buyback of an old bond with a high coupon will narrow the budget deficit (while increasing the amount of the debt).



Appendix 2: Benchmark Features and Development Techniques

1. Introduction

Building benchmarks requires a comprehensive debt management strategy. Both issuance policy and liability management operations are involved in the process. For emerging markets, several reforms are typically required in both the primary and the secondary markets.

2. Importance of Market Liquidity

A market is liquid when a large value of securities can be bought or sold promptly, at little cost and with no significant impact on market prices. In other words, a security is liquid when it can be easily converted into cash and vice versa.

Investors are willing to pay a premium to buy securities that are liquid. They allow a more flexible investment strategy than securities that are difficult to acquire or to sell. Since the yield of a fixed-income security decreases when its price rises, DMOs have a vested interest in enhancing the liquidity of their government securities market because this reduces their funding cost.

Several prerequisites have to be met for a market to be liquid. A security is liquid when it is widely traded. For a security to be widely traded, it must be easy for investors to find a matching trading interest. To simplify the matching of trading interests, the amount outstanding of the relevant security must be large, and the price must be easy to determine (“price transparency”). One of the advantages of issuing benchmark bonds is to enhance the price transparency of other bonds.

3. Definition of a Benchmark Bond

A benchmark bond¹⁹ is a standard against which the yield of other bonds can be measured. For example, if a five-year bond yields 5 percent and a six-year bond yields 5.25 percent, and if the five-year bond is a benchmark, then the yield of the six-year bond can be expressed as “benchmark + 0.25 percent.”

¹⁹The word “bond” is used here as a shortcut for “security.” A Tbill can also be a benchmark..

The purpose of expressing the yield of a bond by reference to a standard is linked to the difference between the level and the shape of a yield curve. The level of a yield curve is volatile as interest rates fluctuate up or down. By contrast, the shape of the yield curve (i.e., the spread between the interest rates applicable to different maturities) is more stable. Thus, in the aforementioned example, the yield of the six-year bond can actually be inferred (or at least closely approximated) from the yield of the benchmark bond, irrespective of the level of interest rates. Most important, the yield of the six-year bond can be assessed even in the absence of any recent trades in this bond.

Benchmark bonds enhance price transparency.

4. Main Features of Benchmark Bonds

A benchmark bond is always a widely traded bond, and a standard pricing reference has to be frequently updated. It typically has a large amount outstanding and a diversified placement in the market. A large amount outstanding increases the chances of finding a matching trading interest and any one transaction will be more easily absorbed. A security cannot be traded much if a large amount is concentrated in a few hands. A benchmark generally has a standard maturity date,²⁰ and their maturity spacing ensures that benchmarks are spread along the yield curve. The objective is to maximize the contribution of benchmarks to price transparency. A benchmark can be a reliable pricing reference only for neighboring maturities. Finally, a benchmark bond is usually²¹ the latest standard maturity still being auctioned (“on-the-run bond”). These bonds are the most traded.²²

5. Steps Necessary to Create Liquid Benchmarks with Large Amounts Outstanding and Balanced Distribution

1. The DMO must issue fungible securities, the amount of which can be increased over time with multiple auctions. It must also limit the number of its outstanding maturities to create large benchmarks. The financing requirements of the government are not infinite.
2. Auction rules must be implemented to limit the maximum amount of bids and allocations so as to ensure a balanced distribution.

3. Ideally, a market-maker program should be put in place to maximize liquidity and price transparency.
4. Risks created by large benchmarks need to be managed. The creation of benchmarks mechanically leads to a concentration of maturities. This raises a refinancing risk because maturing benchmarks will need to be refunded. It also raises an interest rate risk because large amounts will need to be refunded at the same time and, thus, at the same rate, this could be a problem if rates are high at that moment.

Bond buybacks and exchanges are efficient tools to mitigate the risks created by the issuance of large benchmarks. Both transactions help in leveling out the maturity profile of the debt. They enable DMOs to refinance ahead of time bonds that will be maturing soon by issuing bonds with a longer life to maturity.

6. Market-Specific Questions for a Benchmark-Building Strategy

In practice, a benchmark-building strategy confronts DMOs with various practical questions for which the answers are market specific, for example:

1. What should be the benchmark maturity dates?
2. What should be the benchmark size?
3. How long can a bond remain a benchmark?
4. What is the corresponding issuance policy?
5. How can a concentration of maturities be avoided?
6. What is the best procedure for shifting illiquid bonds into benchmarks?
7. How can the refinancing risk be best addressed?

7. Conclusion

Building benchmarks is crucial to increasing the liquidity of the market to reduce the DMO’s cost of funding. The process requires a comprehensive debt management strategy. It often requires the implementation of a set of reforms.

²⁰ For example, 3, 5, 10, 15, or 30 years.

²¹ A transition period may be needed for a bond to reach benchmark size.

²² There is also a technical just upon. This implies that the market price of the bond will be at, or close to, par. In general, only recently issued bonds quote at, or close to, par.



Appendix 3: Country Questionnaire on Bond Buybacks and Exchanges²³, May 2015

	Hungary		Mexico		Morocco		Poland		South Africa	
	BB	BX	BB	BX	BB	BX	BB	BX	BB	BX
Other		A new line series is being built up via switch in 2015				Bench-mark		Choice depends on market situation		
4. Procedures/types										
Reverse auction:										
Multiple price	X				X		X		n/a	
Uniform price			X						n/a	
Bilateral agreement:	n/a									
Phone call					X				X	
Continuous price quotation of on ETP by DMO				X						The National Treasury (NT) conducts auctions through a Bloomberg system
Tender at a fixed spread: ^e										X (both DBs and SBs priced by the NT)
DB is priced by DMO ^d				X						
SB is priced by DMO ^e		X		X						
Auction:										
Multiple price		X								The NT moved away from the multiple price auction method. Switch auctions are awarded at uniform price effective from 2015 calendar year
Uniform price				X				X		X

	Hungary		Mexico		Morocco		Poland		South Africa	
	BB	BX	BB	BX	BB	BX	BB	BX	BB	BX
Kept in portfolio by DMO?		X								X
Transparency of bilateral transactions:										
Timing of the disclosure of the amounts of bonds issued and/or cancelled				No						
Are the prices also disclosed? (yes/no)										
Where is the disclosure published?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	n/a
	Website, Bloomberg, Reuters		Central Bank website		Ministry website, Bloomberg page of the ministry "MIFM"		Ministry website, Reuters, Bloomberg		n/a	n/a
			1 hour after the auction		The day of the auction		The day of transaction			

Note: BB = bond buyback; BX = bond exchange; DB = destination bond; DMO = debt management office; ER = exchange ratio; ETP = electronic trading platform; PD = primary dealer; RLTM = remaining life to maturity; SB = source bond.

a. Outstanding bond being retired from the market.

b. Bond being issued (new issue or reopening).

c. ER is set by the DMO.

d. Meaning the ER is one $DB = < X > SB$.

e. Meaning the ER is one $SB = < Y > DB$.

f. Meaning, first, DB is issued in auction; thereafter, DMO announces spread of SB vs. DB; tender process for DB with same settlement date as the auction.

