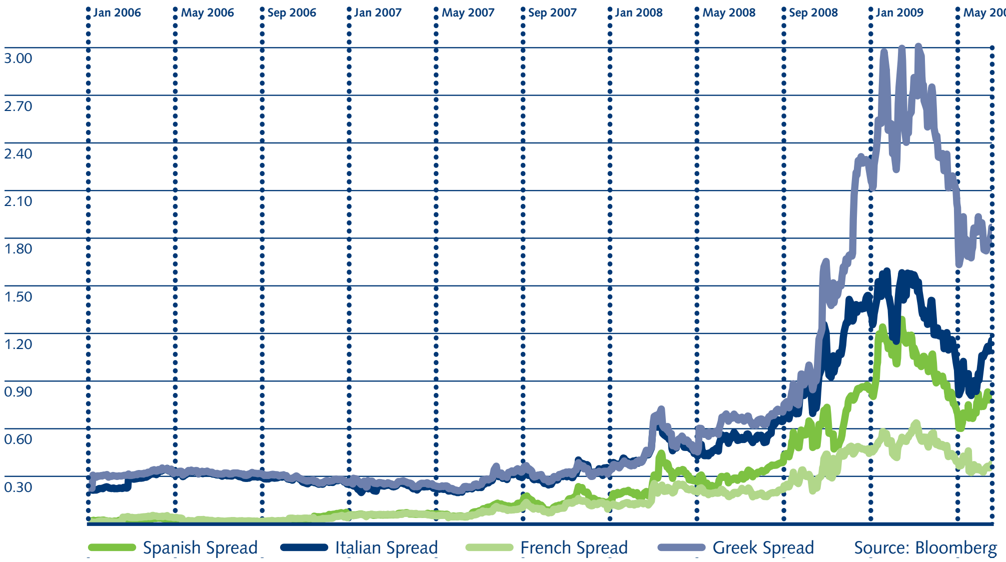
# Eurex to Launch Futures on Italian Bonds

## From Convergence to Divergence

Between 1997 and 2007, spreads between German benchmark government bond yields and other EU states, namely those of Spain, Italy, France and Greece remained narrow and relatively stable. However, deteriorating economic performance, and burgeoning fiscal deficits, led to a significant widening in spreads (see Diagram 1). The financial market turmoil in 2008 exacerbated the widening, with German bonds benefiting from a flight to safety.

**Diagram 1: European Government Bond Yield Spread Relationships to German Benchmark Government Bonds – Ten-Years Maturity**




Prior to the diverging fiscal fortunes of the EU member states, Eurex Euro-Bund Futures were a viable hedging instrument for the majority of EU debt. However, the widening of the spreads has left traders and fund managers of the EU member countries with large basis risk hedging these bonds with Eurex benchmark government bond futures.

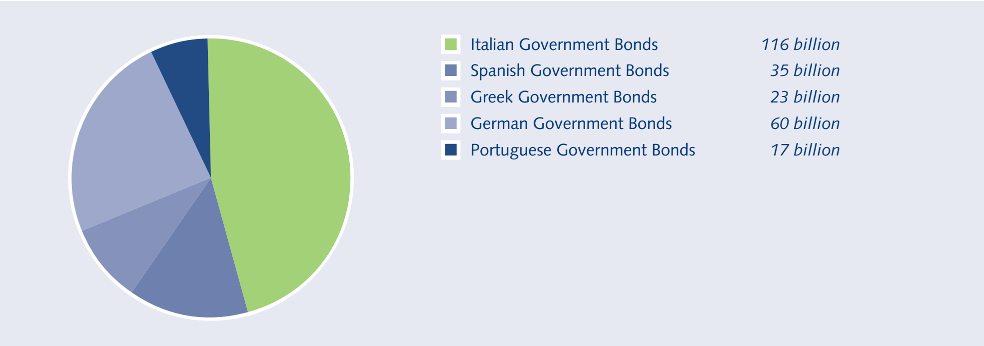
The table below shows the correlation coefficient $R^2$ for the daily change in yields of ten-year German government bonds, to Italy, France, Spain and Greece. It illustrates how the bonds have become less correlated to the benchmark German bonds over the past three years.

**Correlation of the Changing Yields of Ten-Year German Government Bonds to Ten-Year Italian, French, Greek and Spanish Government Bonds**

| | Jan 06–Sept 07 | Sept 07–May 09 |
|---|---|---|
| **Germany–Italy** | 0.96 | 0.81 |
| **Germany–France** | 0.99 | 0.92 |
| **Germany–Greece** | 0.94 | 0.42 |
| **Germany–Spain** | 0.99 | 0.81 |

In response to the problems created by widening EU member states government bond yields to German benchmark bond yields, Eurex is launching futures on ten-year Italian government bonds (Buoni del Tesoro Poliennali – BTP), complementing its benchmark Eurozone instruments. The launch date will be September 14, 2009. The new Eurex Euro-BTP Futures will serve to remove the basis risk currently present by hedging with the Eurex Euro-Bund Futures. Additionally, the large issuance of Italian debt, as shown below in Diagram 2, makes it an attractive proposition as a proxy for other A to AA rated EUR-denominated bonds.

**Diagram 2: Total Issuance Size of Bonds with a Remaining Maturity of 8 to 12 Years**




Source: Bloomberg March 2009

The Euro-BTP Futures will also offer asset managers an opportunity to generate alpha by trading the spread between the countries on exchange. This will allow investors to trade the inter-country EUR-denominated spread with reduced counterparty and credit risk. Investors also benefit from margin off-sets against existing positions in Eurex's fixed income futures contracts.

## Mitigated Risks Through CCP Clearing

With Eurex Clearing, Europe's leading Clearing House, being central counterparty to all trades, you will benefit from mitigated counterparty risk. Eurex Clearing provides effective risk and collateral management and high operational efficiency. The new Euro-BTP Futures will be eligible for trading via the OTC Block Trade, the Exchange for Physicals (EFP) and the Exchange for Swaps (EFS) facilities.

This gives asset managers and traders the opportunity to bilaterally agree transactions in Euro-BTP Futures off-exchange and novate the trade to Eurex Clearing. Eurex Euro-BTP Futures are subject to a minimum block trade threshold of 250 contracts. To facilitate basis trading, the EFP and EFS trade facilities allow for the simultaneous purchase (sale) of futures along with a sale (purchase) of the underlying bond, vanilla swap or another futures contract.

Such transactions are generally not subject to a minimum number of contracts. For example, a market participant wishing to trade the yield spread between Eurex's Euro-Bund Futures and Eurex's Euro-BTP Futures can agree the trade bilaterally and use the EFP trade facility to bring the transaction to Eurex Clearing.

The prerequisite is that one leg of the spread ("underlying security") has either been block traded or traded in the regular order book. In this example a minimum trade of 250 Euro-BTP Futures could be entered into the OTC Block Trade facility to allow a qualifying transaction in the Euro-Bund Futures leg via the OTC EFP trade facility.

## Designated Market-Making

To support liquidity in the new product, Eurex will implement a Designated Market-Making (DMM) scheme, requiring participants to quote two way markets continuously between 09:00 and 17:30 CET. The minimum quotation will be 20 contracts at an average spread of 0.08.

On fulfilment, DMM firms will receive a total refund of exchange fees for Euro-BTP Futures contracts traded on the P- and M-accounts during the commitment period (September 14, 2009 up to March 31, 2010). The DMM scheme will run until the end of March 2010.

If obligations are fulfilled for at least five out of the seven months during the commitment period, DMM firms will receive an additional total refund of exchange fees for Euro-BTP Futures for the next twelve months (until March 31, 2011) on the P- and M-accounts.

Additionally, if obligations are fulfilled for at least five out of the seven months during the commitment period, 50 percent of the revenues in 2010 and 2011 will be distributed on a quarterly basis to the three leading Market Makers during the commitment period according to their share within this group.

## Product Applications

Eurex Euro-BTP Futures offer investors a number of trading opportunities. The following section outlines various product applications for traditional and alternative investment managers.

**Euro-BTP Futures and Portfolio Overlay**
The introduction of Euro-BTP Futures to Eurex's existing suite of benchmark fixed income futures increases the fund managers' possibilities in effecting changes in portfolio asset allocation, whilst leaving the existing portfolio intact.

For example, consider a European pension fund manager who wishes to switch 10 percent of his EUR 100 million current EU benchmark ten-year bond portfolio into Italian bonds. The portfolio has duration of 7.5 years. The steps in the portfolio overlay to synthetically switch part of the portfolio into BTP's are as follows:

**1. Calculate the number of Eurex Euro-Bund December 09 Futures to be sold to reduce the EU benchmark ten-year bond portfolio by 10 percent:**

(Duration × Investment × 0.0001) / BPV Euro-Bund Futures
(The BPV of Euro-Bund Futures = BPV CTD / Conversion Factor)
= (7.50 × EUR 10 million × 0.0001) / (8.23 / 0.885104)
= (7.50 × EUR 10 million × 0.0001) / 9.298 futures ticks
= (7.50 × EUR 10 million × 0.0001) / EUR 92.98
= 80.659
= 81 Eurex Euro-Bund Futures

BPV measures the change in value of an asset or portfolio resulting from a 0.01 percent change in yield.

The CTD (Cheapest to Deliver) is the bond, deliverable against a futures contract, for which delivery is most attractive in terms of cost from the short position holder's point of view.

The Conversion Factor is that factor used to equalize for the difference in issue terms between the notional bond underlying a bond futures contract and the real bonds eligible for delivery.

**2. Calculate the ratio of Euro-BTP Futures to Euro-Bund Futures**

The BPV of the Euro-BTP Futures, using the same calculation as above, is:

= 7.61 / 0.905395
= 8.405 futures ticks (EUR 84.05)

Therefore, the ratio of Euro-Bund Futures to Euro-BTP Futures is 1 : 1.1063

The fund manager sells 81 Euro-Bund Futures and buys 90 Euro-BTP Futures to synthetically switch 10 percent of his core European bond exposure to Italian bond exposure.

By way of this portfolio overlay strategy, the fund manager can quickly switch part of his core exposure into Italian exposure, whilst keeping the underlying portfolio intact. When the fund manager believes the outperformance of Italian bonds has run its course, he can unwind the long Euro-BTP/short Euro-Bund Futures spread position. Diagram 3 below outlines portfolio overlay using Eurex Euro-Bund Futures and Eurex Euro-BTP Futures.

**Diagram 3: Using Eurex Euro-Bund Futures and Eurex Euro-BTP Futures in Portfolio Overlay**


**Synthetic Cash Investment**
By buying Euro-BTP Futures a fund manager can create a synthetic bond investment. He has a target duration of 7.5 years.

The steps in the creation of the synthetic cash investment are as follows:

**Calculate the number of Eurex Euro-BTP December 09 Futures to buy to synthetically create a EUR 10 million investment in Italian government bonds with a duration of 7.5 years.**

(Duration × Investment × 0.0001) / BPV Euro-BTP Futures
= 7.50 × EUR 10 million × 0.0001 / (BPV CTD / Conversion Factor CTD)
= 7.50 × EUR 10 million × 0.0001 / 84.05
= 89.23 (89 Euro-BTP Futures)

By buying 89 Eurex Euro-BTP Futures, a fund manager can quickly create a synthetic investment in Italian government bonds.

**Synthetic Spread Trading**

A fund manager who has a particular view on the spread between benchmark German government bonds and Italian government bonds can enter into a spread trade between Eurex Euro-Bund and Euro-BTP Futures. Under these circumstances, he can buy (sell) the Euro-Bund and simultaneously sell (buy) the Euro-BTP Futures. This offers a fast and effective way to take a directional view on the spread between the German and Italian bond markets.

The steps involved are a combination of the two examples above. The ratio of Euro-Bund Futures to Euro-BTP Futures is: 1 : 1.1063. Therefore, for a nominal EUR 5 million exposure, to trade the Euro-Bund/Euro-BTP government bond spread, the fund manager would buy 40 Eurex Euro-Bund Futures and sell 44 Eurex Euro-BTP Futures.

## Conclusion

The widening of spreads of European government bonds during the financial crisis has created both challenges and opportunities for market participants.

The Eurex Euro-BTP Futures offer a more suitable contract to remove the basis risk associated with using Euro-Bund Futures to hedge Italian and other non core European bond exposure. Opportunities are also created to generate alpha by trading on exchange the spread between German benchmark government bonds and Italian government bonds.

## Contract Specifications – Euro-BTP Futures

| | |
|---|---|
| **Underlyings** | Notional long-term debt instruments issued by the Republic of Italy with an original maturity of no longer than 16 years and a remaining term of 8.5 to 11 years and a coupon of 6 percent. |
| **Product ISIN** | DE000A0ZW3V8 |
| **Contract Value** | EUR 100,000 |
| **Settlement** | A delivery obligation arising out of a short position may only be fulfilled by the delivery of certain debt securities issued by Republic of Italy with an original maturity of no longer than 16 years and a remaining term of 8.5 to 11 years. Such debt securities must have a minimum issue amount of EUR 10 billion. |
| **Price Quotation and Minimum Price Change** | In percent of the par value, with two decimal places. The Minimum Price Change is 0.01 percent, equivalent to a value of EUR 10. |
| **Contract Months** | Up to 9 months: The three nearest quarterly months of the March, June, September and December cycle. |
| **Delivery Day** | The tenth calendar day of the respective quarterly month, if this day is an exchange day; otherwise, the exchange day immediately succeeding that day. |
| **Last Trading Day** | Two exchange days prior to the Delivery Day of the relevant maturity month. Close of trading in the maturing futures on the Last Trading Day is at 12:30 CET. |
| **Daily Settlement Price** | The Daily Settlement Price for the current maturity month is derived from the volume-weighted average of the prices of all transactions during the minute before 17:15 CET (reference point), provided that more than five trades transacted within this period. For the remaining maturity months the Daily Settlement Price for a contract is determined based on the average bid/ask spread of the combination order book. |
| **Final Settlement Price** | The Final Settlement Price is established by Eurex on the Final Settlement Day at 12:30 CET; based on the volume-weighted average price of all trades during the final minute of trading provided that more than ten trades occurred during this minute; otherwise the volume-weighted average price of the last ten trades of the day, provided that these are not older than 30 minutes. If such a price cannot be determined, or does not reasonably reflect the prevailing market conditions, Eurex will establish the Final Settlement Price. |
| **Trading Hours** | 08:00–19:00 CET, on Last Trading Day 08:00–12:30 CET. |
| **Vendor Codes** | Bloomberg: IKA cmdty ThomsonReuters: <0#FBTP:> CQG: FBTP |

## For Further Information Please Contact


**London**
Vassily Pascalis
T +44-20-78 62-72 11
E-mail: Vassily.Pascalis@eurexchange.com

**Frankfurt**
Dimitar Dimitrov
T +49-69-211-1 82 33
E-mail: Dimitar.Dimitrov@eurexchange.com

**Zurich**
Francesca Dell'Era
T +41-58-854-22 66
E-mail: Francesca.Dellera@eurexchange.com

**Paris**
Paul Beck
T +33-1-55 27-67 72
E-mail: Paul.Beck@eurexchange.com

**Chicago**
Chris Dopp
T +1-312-544-10 11
E-mail: Chris.Dopp@eurexchange.com

**Product Strategy**
Nadja Urban
T +49-69-211-1 51 05
E-mail: Nadja.Urban@eurexchange.com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Eurex Frankfurt AG
Neue Börsenstraße 1
60487 Frankfurt/Main
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Eurex Zürich AG
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