

Federal debt management: The basics

Since its foundation in 2000, an important and consistent priority for the German Finance Agency has been to minimise the interest costs it incurs through the efficient management of its portfolio of Federal debt. As well as maintaining a highly liquid market for German government securities, this has meant actively using the swap market.

At the primary level of the bond market, the Bund has always focused on ensuring that its new issuance is aligned with investor demand. Basic portfolio theory, however, suggests that adherence to a primary placement schedule based on an issuance calendar can create debt portfolio management inefficiencies. One solution to this dilemma has been to make active use of the swap market by adjusting the interest rate profile of the debt portfolio, while simultaneously ensuring that the supply of German government securities remains aligned with investor demand.

The Bund's debt portfolio management strategy aims to achieve an efficient portfolio on all time horizons: short-dated (up to one year) and long term (more than 10 years). Efficient asset management generally calls for long-term risk preference to be determined by the choice of a benchmark. However, since German government securities themselves form the benchmark of choice in today's market for Euro-denominated sovereign securities, this approach is not possible for the Bund as an issuer. The Finance Agency and the Ministry of Finance have therefore designed a target portfolio acting as a benchmark that achieves what is regarded as a long-term optimum structure for the time to fixing. Deviations from this benchmark are possible over short- and medium-term time horizons. The basics of the long-term portfolio structuring exercise are explained in this report.

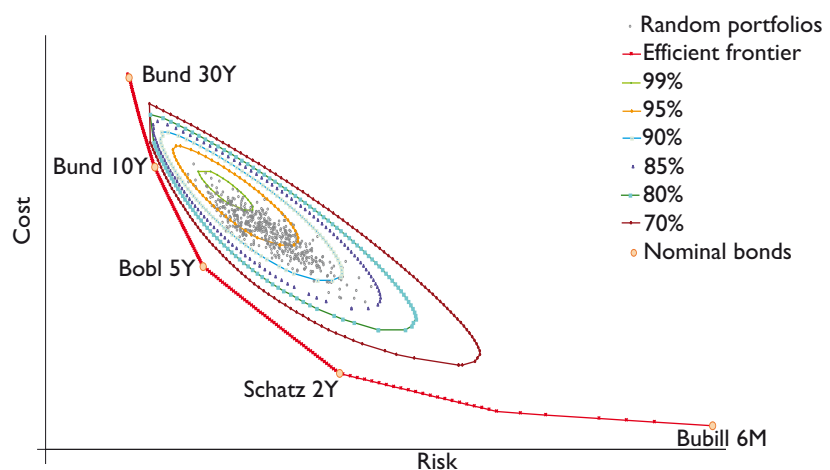
In classical portfolio management, the yield and risk of possible investments within a given portfolio are weighted against one another. In debt management, however, maturities are the main components for optimising the structure of the portfolio. Interest rate fluctuations, however, mean that every refinancing brings with it the risk of rising financing costs. Portfolios with a larger component of short-term financing levels are subject to a higher risk of increased financing costs than those that make heavier

use of longer-term financing. The debt management strategy of the Bund aims at minimising interest costs in the long-term average, while limiting the risk associated with managing the fiscal budget. Only portfolios deemed to be low-risk are considered as benchmarks.

Achieving long-term average cost savings based on the choice of an interest rate structure is only possible when the long-term average costs for financing a range of maturities are different. Assumptions, therefore, have to be made for a range of different risk premiums. In spite of excellent theoretical arguments for the existence of risk premiums, estimates of future cost differences are notoriously unreliable, which is why asset management is often based on market-capitalised benchmarks. This is normally associated with the assumption that markets are in equilibrium. In markets driven by many independent participants, the global portfolio of assets should be in equilibrium and should be relatively robust against changes in risk premiums and risk structures. However, this common approach to defining a benchmark is unsuitable for debt management because – by definition – the issuer itself holds the market-capitalised portfolio in its available instruments. The Finance Agency therefore calculates an alternative key number for maintaining

The Bund's debt portfolio management strategy aims to achieve an efficient portfolio on all time horizons: short-dated (up to one year)

COST VERSUS RISK



an appropriate risk balance, which is a measure of the distribution of risk across the range of financing options. Maximising this key number creates a portfolio with risk distribution equally across the available financing tools. The more uneven the risk distribution among the financing tools is, the lower this key figure becomes.

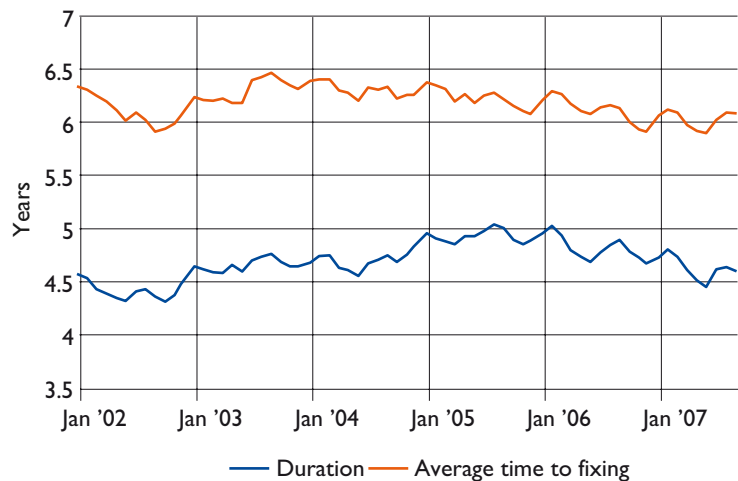
This is illustrated in the first graph below, which compares the long-term average costs of several bonds with their relative refinancing risks. In this graph, the efficient frontier (marked in red) refers to portfolios combining minimum risk at fixed cost levels. For every cost level minimum and maximum budget risks of portfolios are computed across several degrees of risk distribution (70% to 99%) and are indicated by the contour lines in the graph. More detailed calculations confirm what is suggested in this graph – which is that the overall risk distribution declines as the efficient frontier is approached.

This is driven by two key factors. The first is that in the highly efficient and liquid market for German Government securities, the bonds themselves are very good proxies for the efficient frontier. For example, the most efficient portfolio in the five-year maturity is almost the five-year bond itself.

The second is the high correlation between neighbouring maturity segments in the fixed-income markets, meaning that the efficient frontier can be replicated with no more than one or two instruments, rather than with an efficient and highly diversified benchmark portfolio. Furthermore, given the markets ability to absorb supply, basing issuance on too few instruments might be problematic. This is another reason why the Bund has not compromised on its target of continuing to issue the range of securities that has been pivotal in financing the fiscal budget for several years. The identification of the benchmark portfolio calls for a consideration between the risk of refinancing costs and the degree of risk distribution on given cost reduction levels. In the choice of a benchmark portfolio, the structures that are considered are those that accomplish the targeted savings with an acceptable level of risk not considering risk distribution to be unbalanced.

Using a swaps programme and doing annual portfolio alterations is an efficient way of transforming portfolios into the desired structures for the time to fixings: The maturity profile that reflects the Bund's long term issuance strategy can be altered using the swap market to match that of the long-term target portfolio. This swap programme is referred to as

DURATION / AVERAGE TIME TO FIXING OF THE DEBT PORTFOLIO



The Bund's structural component is, therefore, one of the strategies that result in an efficient debt management strategy across all time horizons

the structural component of the Bund's debt management. It is supplemented by a range of strategies aimed at generating savings on both a short and a medium-term basis. One good example is the \$5 billion foreign currency bond issued in May 2005, in which by hedging currency risk the Bund was able to generate cost savings of 0.15 basis points per annum relative to a comparable Euro-denominated bond.

The Bund's structural component is, therefore, one of the strategies that result in an efficient debt management strategy across all time horizons.

More information on the topic above, please refer to the last issue of the Investor FORUM on www.deutsche-finanzagentur.de where the following contents are also available:

- Product Information
- Issuance Calendar
- Publications for Investors
- Presentations
- Auctions Results (current and historic)
- Archive of topics published in FORUM / Newsletter
- Request- and Feedback-Form (web based)
- Free subscription for the Investor FORUM

Contact:
 Federal Republic of Germany
 Finance Agency
 Investor Relations
 Christoph Hennemann
 Phone: +49 (0)69 25616 1577
 Mail: INST@deutsche-finanzagentur.de