

Box 2

Valuations in corporate bond and equity markets

Prepared by Daniel Kapp, Thomas Kostka, Kristian Kristiansen and Christian Sørensen

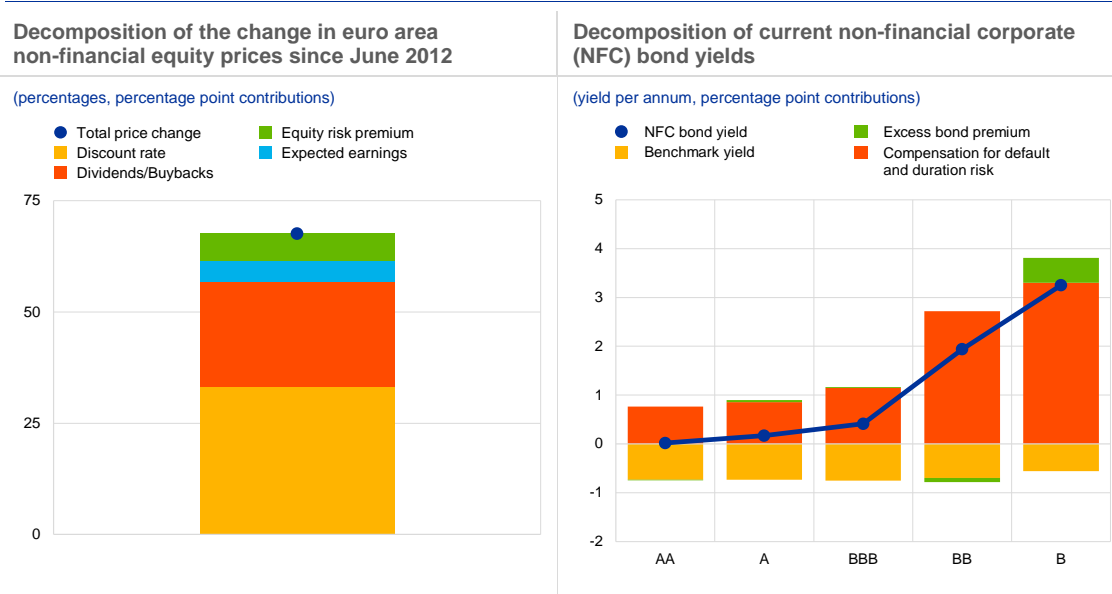
Global equity and corporate bond prices have increased steadily since the end of the euro area sovereign debt crisis. Equity prices relative to earnings expectations are at the upper end of their historical distribution (see **Chart 2.9**, left panel) and corporate bond yields in the euro area are on aggregate at a historical low. During this time, euro area equity and corporate bond prices have been supported by the large decline in benchmark interest rates, which – in turn – reflects a decline in nominal economic growth rates, as well as accommodative monetary policies, including measures

that brought down the short and the long end of the yield curve.¹³ This box presents model-based estimates of the drivers of price developments in euro area equity and credit markets and draws conclusions for prospective risks associated with asset valuations, in particular under more adverse economic conditions.

The decline in benchmark yields has been one of the main drivers of asset price increases in euro area equity and corporate bond markets. According to ECB staff valuation models, falling discount rates have played a major role in the appreciation of euro area equity prices over the past seven years (see **Chart A**, left panel). In fact, according to a dividend discount model, half of the increase in aggregate equity prices since the end of the euro area sovereign debt crisis can be attributed to lower benchmark yields, which inflate the present value of future earnings. The remainder is shared between higher dividend payments, an improved earnings outlook and a more favourable risk sentiment. Likewise, the historically low levels of corporate bond yields are largely due to their negative benchmark rate (see **Chart A**, right panel). Aggregate credit spreads, accounting for changes in rating and maturity structure, are currently broadly in line with historical averages, after increasing somewhat from the compressed levels observed in 2017.

Chart A

Equity price inflation and corporate bond yields reflect to a significant extent the decline in benchmark yields



Sources: Refinitiv, IHS Markit and ECB calculations.

Notes: Left panel: The decomposition is based on a dividend discount model. The model includes share buybacks, discounts future cash flows with interest rates of appropriate maturity, and includes five expected dividend growth horizons. See *Economic Bulletin*, Issue 4, ECB, 2018, for more details. The cumulative change is calculated between 1 January 2014 and 13 September 2019 (weekly data). Right panel: The excess bond premium is the deviation of corporate credit spreads from the measured default and duration risk of the issuer. See ECB Working Paper No 1930, July 2016, for more details. The cumulative change is calculated between January 2014 and August 2019 (monthly data).

With increasingly limited scope for euro area benchmark rates to decline to the extent seen over recent years, equity and credit valuations are becoming more sensitive to deteriorations in the macroeconomic outlook or in investor risk appetite. The key role of declining

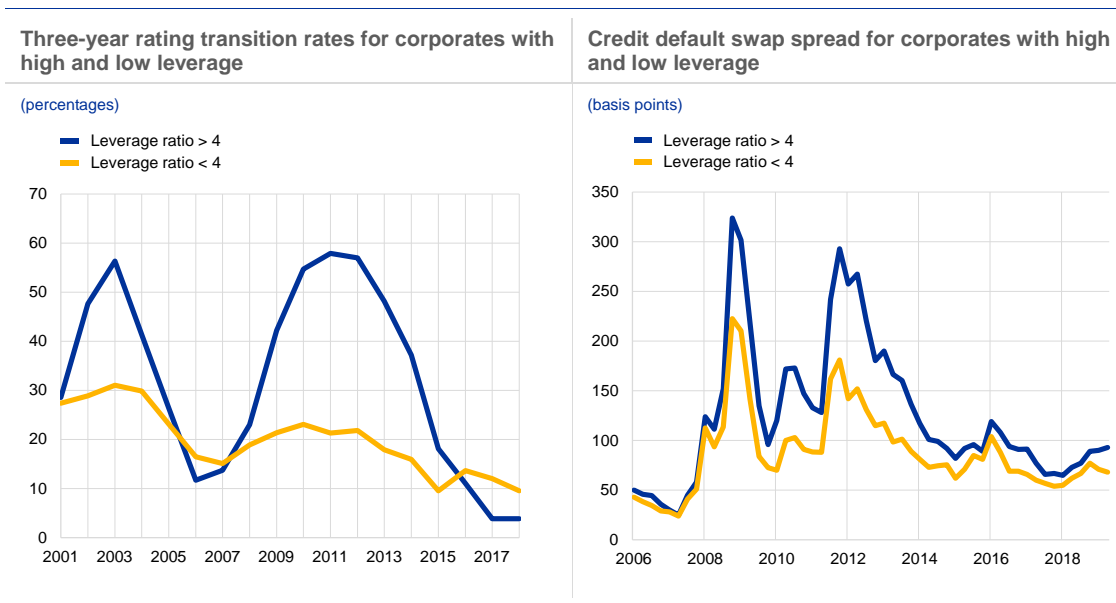
¹³ All else equal, equity prices tend to increase and corporate bond yields drop (corporate bond prices increase) if risk-free rates decline. This relationship is to some extent mechanical. Equity prices reflect changes in discount rates via changes in the net present value of future payouts to shareholders. Likewise, corporate bonds are usually priced using the risk-free yield curve as a benchmark, adding a credit spread which captures the issuer's credit risk. Beyond these mechanical effects, lower risk-free rates could work by compressing the risk premia associated with these asset classes (namely the equity risk premium and the excess bond premium) as investors increase their demand for riskier assets to maintain a certain absolute return on their portfolios.

benchmark/discount rates for developments in both equity and corporate bond markets implies that current valuations could rapidly unwind if benchmark yields (or discount rates) were to increase. With nominal growth stalling and global monetary policy entering another easing round, the risk of higher interest rates may appear today more remote than in recent years. However, the model also implies that valuations have probably become more vulnerable to adverse economic shocks than they were in the past, reflecting the more limited scope for risk-free rates to decline and thereby to counteract the effects from adverse economic shocks to the same extent as over recent years.

Corporate bond valuations are moreover contingent on current corporate ratings, which are at risk of downgrades in adverse economic conditions. With a rising share of corporates rated BBB (see **Chapter 1**), a wave of downgrades would trigger a sharp increase in aggregate funding costs since the spread difference between the investment-grade and high-yield segments is large (see **Chart A**, right panel). The procyclical nature of corporate leverage could amplify market developments in such a scenario. In particular, higher leverage ratios among corporates may be appropriate in an environment of lower funding costs. But debt levels can become unsustainable in a protracted economic downturn when earnings and their outlook dwindle. In such downturn scenarios, both markets and rating agencies noticeably discriminate between corporates with high and low levels of leverage (see **Chart B**).

Chart B

Procyclical downgrading and pricing behaviour for highly leveraged firms



Sources: S&P Global Market Intelligence, Refinitiv and ECB calculations.
 Notes: The sample consists of investment-grade non-financial companies in the EU. Leverage is defined as gross debt over EBITDA (adjusted for financial activities). Transition rates are calculated as the three-year cumulative (unweighted) share of downgraded companies.