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## Corporate bond prices and idiosyncratic risk: Evidence from Australia



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#### ABSTRACT

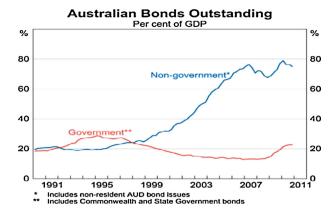
In this paper we investigate the bond price effect upon the information arrival of firm-specific idiosyncratic risk. We consider idiosyncratic dispersion and idiosyncratic volatility that capture, respectively, the direction of information and the magnitude of idiosyncratic risk. We find that idiosyncratic volatility does not affect bond prices, while the direction of idiosyncratic risk which reflects the favorable or unfavorable information exhibits impacts on bond prices. Idiosyncratic dispersion in the stock return of a firm in the preceding week, in general, is positively associated with bond price changes in the current week. This effect is most pronounced for firms exhibiting characteristics associated with lower default risk.

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#### 1. Introduction

The market of non-government bonds in Australia, unlike many other countries, is significantly larger than the government bond market, reflecting the relatively low Australian public debt as depicted in Fig. 1. Debelle (2011) estimates that the ratio of the outstanding amount of

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**Fig. 1. Australian bonds outstanding % of GDP from 1991 to 2011.** Monthly bond issued data are obtained from the Reserve Bank of Australia. The corporate bond issues have been substantially higher than government issues since June 2002. The government bond issues are rather constant between June 2001 and June 2007.

non-government bonds to the GDP in Australia is 94%, in between the 84% ratio in Germany and the 144% ratio in the U.S. Despite the important role that the Australian private debt market plays in the economy, this market remains understudied in empirical finance research. In this paper we explore the Australian bond market and contribute to the literature by conducting an anatomy of the relation between bond price changes and idiosyncratic risk.

We distinguish bond price effects of two components of firm-level idiosyncratic risk: idiosyncratic dispersion  $(\varepsilon_{j,t})$  and idiosyncratic volatility  $IVOL_{j,t}$  that contain, respectively, the (positive or negative) sign and the magnitude of the risk. For this purpose, we investigate whether bond price changes are related to idiosyncratic dispersion in the stock return of a firm. We also examine whether firm-level idiosyncratic volatility is accompanied with bond price changes. Using weekly data of bonds and stocks of individual firms in Australia, we provide direct evidence that bond prices are associated with idiosyncratic dispersion, but not with idiosyncratic volatility.

We first obtain idiosyncratic dispersion of a firm using the regression residual from jointly estimating the three-factor model of Fama and French (1993) for average stock returns and the GJR-GARCH model for conditional volatility. We then test whether bond price changes are related to idiosyncratic dispersion in the stock return of a firm. We run regressions of bond price changes on firm-specific idiosyncratic dispersion and a set of widely used control variables that measure the economic and market conditions. We apply the Newey–West standard errors to correct for heteroskedasticity and autocorrelation. We also run regressions of bond price changes on firm-specific idiosyncratic volatility and the set of control variables to test whether bond price changes are related to idiosyncratic volatility.

This paper contributes to the literature in the following areas. First, we document important evidence that the direction of idiosyncratic risk is significantly related to changes in the bond price. Our investigation into the bond price effect of the direction of idiosyncratic information surprises about a firm sheds important insights into the dynamics between firm-level idiosyncratic risk and bond prices.

We find that it is the with-direction idiosyncratic risk reflecting the information content affects bond prices, often with a time lag of one week. In contrast, the non-direction magnitude of idiosyncratic risk does not exhibit such an effect. This finding suggests that in Australia bond investors do not appear to be concerned about stock return volatility. Kwan (1996) also argues that the driver of the stock and bond prices is predominantly the firm-specific information related to the mean rather than the variance of the firm's underlying assets. Kwan (1996) documents that stocks returns are negatively correlated with yield changes of bonds issued by the same firm, implying a positive relation between stock returns and bond returns.

In this paper, we further point out the fact that volatility does not preserve the sign of the return variation, and therefore does not convey the information content of the return shock, either to the upside

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