

https://dspace.org/

The valuation and Hedging of default-contingent claims in multiple currencies

Truter, Gavin Kenneth

2012-09-18
http://hdl.handle.net/10539/11955

Downloaded from a DSpace repository. https://dspace.org/

Corrections to *The Valuation and Hedging of Default-Contingent Claims in Multiple Currencies*

Gavin Truter

19 April 2012

The following two sections deal with the each of the concerns raised by the examiners.

1 Dependence Between Recovery and Appreciation Fraction

The second examiner's first remark was as follows:

> Throughout the thesis the severity δ of the default only intervenes through its average $\hat{\delta}$, so that the interest and meaning of the marks in the model does not appear clearly. I suggest to add a word of explanation in this regard, cf. for instance in the paper by Ehlers and Schönbucher: "if recovery and devaluation show negative correlation, then the protection buyer of a foreign CDS is doubly punished. In a light default scenario, i.e. when recovery is large, the LGD payed to the protection buyer will be small. In the case of a severe default, i.e. when recovery is small, then the LGD amount in foreign currency will be large, but its value in domestic currency will typically be reduced by a high devaluation fraction".

Thus we have included the following paragraph at the end of Section 4.2:

> Note that by assuming R to be constant, we eliminate any possible dependence between the recovery rate and the appreciation fraction. This dependence may, however, be important: as noted by Ehlers, negative correlation between the recovery rate in the foreign currency and the appreciation fraction is beneficial to the protection buyer in a credit default swap denominated in foreign currency – when recovery is low and he must receive a large protection payment, it will likely have an increased value in local currency, while if

he suffers from a less favourable exchange rate, he will likely do so only on a small receipt of foreign currency.

2 Financial Justification of the Martingale Invariance Property

Both examiners commented on Section 3.4. The first examiner's comment was:

> I am of the opinion that the financial justification of the *martingale invariance property* is not adequate and this needs some attention.

The second examiner's comment was:

> The financial justification of the $(\mathcal{H})$-hypothesis (martingale invariance property) which is postulated is not very convincing. Wouldn't it be more fair to say that the mathematical convenience of a reduced-form approach greatly relies on this assumption, which is therefore made for tractability?

As such, we have amended the following paragraph, excluding the struck-out sentences and including the italicised one.

> Ehlers [14] gives the same interpretation in our model: 'The financial interpretation of [our variation on the martingale invariance property] is that if the (default-free) $\mathbb{F}^W$-market is arbitrage-free, then default does not introduce arbitrage in this market.' ~~However it seems that this interpretation makes little sense in our framework where (unless $\delta = 0$ identically) the exchange rate, and hence the domestic currency value of the foreign money-market account, are not adapted to the 'reference' filtration $\mathbb{F}^W$, so here $\mathbb{F}^W$ does not represent any default-free market. In this model, we believe, one should instead interpret the martingale invariance property directly as meaning that, given the history of the Brownian motion, the future evolution of the Brownian motion is not affected by the history of the point process.~~ *This property proves very useful in the analytical tractability of the general model.*