# Отчет о разработке

версия 0.01

Основная модель Hybrid LGM1FDupireLocalVolatilityModel

| **PS Model Name** | **Supported Asset classes** | **Supported trade type** | **Risk Factor** | **Risk Factor Model** | **Calibration Instruments** | **Comments** |
|---|---|---|---|---|---|---|
| Hybrid LGM1F DupireLocalVolatility Model | IR, FX, CM, EQ | IRS<br>CIRS<br><br>Caps/Floors<br>Quanto IRS<br>Any IR exotics (e.g. TARF)<br>FX Swap<br>FX Forward<br>NDF<br>CommoditySwap<br>CommodityOption<br>AsianCommodityOption<br><br>…<br><br>Generally any IR/FX/CM/EQ exotic | Interest Rate | HW1F (aka LGM1F) | ATMF caplets/floorlets with diff maturity | Out of the money caps will be priced approximately.<br>It’s a rather standard approximation in CVA engines, we can remove it at a later stage if really necessary. |
| | | | Interest rate basis | Deterministic | Inferred from calibrated rates cures | The model is **<u>not</u>** appropriate when spread volatility is a main risk factor e.g. options on spread |
| | | | FX rate | Fx Black | AMTF FX options (all maturities) | Out of the money FX options will be priced approximately. It’s a rather standard approximation in CVA engines, we can remove it at a later stage if really necessary. |
| | | | Correlations | Deterministic | Trader's input | |

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| | | | | Equity Spot | DupireLocalVolatility | Equity options | Currently with an approximation which works when rates vol is much smaller than equity vol (usually the case) |
| | | | | Commodity futures | CommoditySpotCheyette1F | Commodity futures, options on commodity futures | Currently with a limitation: only zero correlations between commodity and rates are allowed<br><br>Fairly good model for commodities where futures/options expirations are closely aligned and there is little seasonality (works for our portfolio for now). |
| | | | | Credit | Deterministic | Input calibrated curve | Credit curve bootstraping can be added if really needed |