

Help

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extern "C" {
#include "kould_pad.h"
#include "error_msg.h"
}
#include "math/ap_kou_model/functions.h"

extern "C" {
#if defined(PremiaCurrentVersion) && PremiaCurrentVersion < (2008+2) //The "#els
static int CHK_OPT(AP_Kou_Fixed)(void *Opt, void *Mod)
{
return NONACTIVE;
}
int CALC(AP_Kou_Fixed)(void *Opt, void *Mod, PricingMethod *Met)
{
return AVAILABLE_IN_FULL_PREMIA;
}
#else
static int Kou_Ap_Fixed(double s_maxmin, NumFunc_2 *P, double S0, double T, do
{
double K;
long double x[11];
double ksi = p * lambdap / (lambdap - 1) + (1 - p) * lambdam / (lambdam + 1)
K = P->Par[0].Val.V_DOUBLE;

/*Call Case*/
if ((P->Compute) == &Call_OverSpot2)
{
if ((s_maxmin >= S0) || (K >= S0))
{
x[0] = (r - divid) - sigma * sigma / 2 - lambda * ksi;
x[1] = sigma;
x[2] = lambda;
x[3] = p;
x[4] = lambdap;
x[5] = lambdam;
x[6] = S0;
x[7] = r;
x[8] = T;
x[9] = (s_maxmin > K) ? s_maxmin : K;

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        x[10] = divid;

        *ptprice = PLB(x, T) + S0 * exp(-divid * T) - K * exp(-r * T);
        *ptdelta = dPLB(x, T) + exp(-divid * T);
    }
    else return UNTREATED_CASE;

}

else if ((P->Compute) == &Put_OverSpot2)
{
    if ((s_maxmin <= S0) || (K <= S0))
    {
        x[0] = -((r - divid) - sigma * sigma / 2 - lambda * ksi);
        x[1] = sigma;
        x[2] = lambda;
        x[3] = 1 - p;
        x[4] = lambdam;
        x[5] = lambdap;
        x[6] = S0;
        x[7] = r;
        x[8] = T;
        x[9] = (s_maxmin < K) ? s_maxmin : K;
        x[10] = divid;

        *ptprice = CLB(x, T) - S0 * exp(-divid * T) + K * exp(-r * T);
        *ptdelta = dCLB(x, T) - exp(-divid * T);
    }
    else return UNTREATED_CASE;
}

return OK;
}

int CALC(AP_Kou_Fixed)(void *Opt, void *Mod, PricingMethod *Met)
{
    TYPEOPT *ptOpt = (TYPEOPT *)Opt;
    TYPEMOD *ptMod = (TYPEMOD *)Mod;
    double r, divid;

    r = log(1. + ptMod->R.Val.V_DOUBLE / 100.);
    divid = log(1. + ptMod->Divid.Val.V_DOUBLE / 100.);

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    return Kou_Ap_Fixed((ptOpt->PathDep.Val.V_NUMFUNC_2)->Par[4].Val.V_PDOUBLE,
}

static int CHK_OPT(AP_Kou_Fixed)(void *Opt, void *Mod)
{
    if ((strcmp(((Option *)Opt)->Name, "LookBackCallFixedEuro") == 0) || (strcmp
        return OK;
    return WRONG;
}

#endif //PremiaCurrentVersion
static int MET(Init)(PricingMethod *Met, Option *Mod)
{
    return OK;
}

PricingMethod MET(AP_Kou_Fixed) =
{
    "AP_Kou_LookbackFixed",
    {" ", PREMIA_NULLTYPE, {0}, FORBID}},
    CALC(AP_Kou_Fixed),
    {"Price", DOUBLE, {100}, FORBID}, {"Delta", DOUBLE, {100}, FORBID}, {" ", P
    CHK_OPT(AP_Kou_Fixed),
    CHK_ok,
    MET(Init)
} ;
}

```