

## Help

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#include "exoi.h"
static NumFunc_1 call=
{
    Call,
    {"Strike",PDOUBLE,{100},FORBID,UNSETABLE},{ " ",PREMIA_
    NULLTYPE,{0},FORBID,SETABLE}},
    CHK_call
};

static TYPEOPT CallableCMSSpread=
{
    {"Payoff",NUMFUNC_1,{0},FORBID,SETABLE},      /* PayOff;
    */
    {"First Exercise Date",DATE,{0},ALLOW,SETABLE}, /* Fir
    stExerciseDate;*/
    {"Last Payment Date",DATE,{0},ALLOW,SETABLE},/* LastPay
    mentDate;*/
    {"Reset Period",PDOUBLE,{0},ALLOW,SETABLE},   /* Reset
    Period;*/
    {"Nominal Value",PDOUBLE,{0},ALLOW,SETABLE},  /* Nomina
    l;*/
    {"Spread Rate",PDOUBLE,{0},ALLOW,UNSETABLE},   /* Spr
    ead Rate;*/
    {"Cap Rate",PDOUBLE,{0},ALLOW,SETABLE},        /* Cap Ra
    te;*/
    {"Strike",PDOUBLE,{0},ALLOW,UNSETABLE},        /* Strike;
    */
    {"Gearing",PDOUBLE,{0},ALLOW,UNSETABLE},       /* Gearin
    g;*/
    {"Floor Rate",PDOUBLE,{0},ALLOW,SETABLE},      /* Floor;*/
    {"Fixed Rate",PDOUBLE,{0},ALLOW,UNSETABLE},    /* Fix
    edRate;*/
    {"Lower Range Bound",PDOUBLE,{0},ALLOW,UNSETABLE},
    /* LowerRangeBound;*/
    {"Upper Range Bound",PDOUBLE,{0},ALLOW,UNSETABLE},
    /* UpperRangeBound;*/
    {"CMS1 Maturity",PDOUBLE,{0},ALLOW,SETABLE},   /* CM
    SMat1;*/
    {"CMS2 Maturity",PDOUBLE,{0},ALLOW,SETABLE},   /* CM
    SMat2;*/

```

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};

static int OPT(Init)(Option *opt,Model *mod)
{
    TYPEOPT* pt=( TYPEOPT*)(opt->TypeOpt);

    if ( opt->init == 0)
    {
        opt->init = 1;
        opt->nvar = 15;
        opt->nvar_setable=9;

        pt->PayOff.Val.V_NUMFUNC_1=&call;
        (pt->FirstExerciseDate).Val.V_DATE=1.0;
        (pt->LastPaymentDate).Val.V_DATE=10.0;
        (pt->ResetPeriod).Val.V_PDOUBLE=1.0;
        (pt->Nominal).Val.V_PDOUBLE=10000.0;
        (pt->Spread).Val.V_PDOUBLE=0.05;
        (pt->Cap).Val.V_PDOUBLE=0.06;
        (pt->Strike).Val.V_PDOUBLE=0.12;
        (pt->Gearing).Val.V_PDOUBLE=2.;
        (pt->Floor).Val.V_PDOUBLE=0.;
        (pt->FixedRate).Val.V_PDOUBLE=0.07;
        (pt->LowerRangeBound).Val.V_PDOUBLE=0.;
        (pt->UpperRangeBound).Val.V_PDOUBLE=0.045;
        (pt->CMSMat1).Val.V_PDOUBLE=10;
        (pt->CMSMat2).Val.V_PDOUBLE=2;
    }

    return OK;
}

MAKEOPT(CallableCMSSpread);

```

## References