

## [Help](#)

```
#include "lim.h"

static NumFunc_1 put =
{
    Put,
    {"Strike", PDOUBLE, {100}, ALLOW, SETABLE}, {" ", PREMIA_NULLTYPE, {0}, FORBI
    CHK_call
};

static NumFunc_1 rebate =
{
    Const,
    {"Rebate", PDOUBLE, {100}, ALLOW, SETABLE}, {" ", PREMIA_NULLTYPE, {0}, FORBI
    CHK_digit
};

static NumFunc_1 limit =
{
    ConstLim,
    {
        {"StartingDate", DATE, {0}, IRRELEVANT, UNSETABLE},
        {"FinalDate", DATE, {0}, IRRELEVANT, UNSETABLE},
        {"Frequency", PDOUBLE, {0}, IRRELEVANT, UNSETABLE},
        {"Limit", PDOUBLE, {90}, ALLOW, SETABLE},
        {" ", PREMIA_NULLTYPE, {0}, FORBID, SETABLE}
    },
    CHK_digit
};

static TYPEOPT PutDownOutAmer =
{
    /*Maturity*/    {"Maturity", DATE, {0}, ALLOW, SETABLE},
    /*Limit*/       {"Limit", NUMFUNC_1, {0}, FORBID, SETABLE},
    /*PayOff*/      {"Payoff", NUMFUNC_1, {0}, FORBID, SETABLE},
    /*Rebate*/      {"Rebate", NUMFUNC_1, {0}, FORBID, SETABLE},

    /*OutOrIn*/     {"Out", BOOL, {OUT}, FORBID, UNSETABLE},
    /*DownOrUp*/     {"Down", BOOL, {DOWN}, FORBID, UNSETABLE},
    /*Parisian*/     {"Parisian", BOOL, {FALSE}, FORBID, UNSETABLE},
```

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/*RebNo*/      {"Rebate", BOOL, {REBATE}, FORBID, UNSETABLE},
/*EuOrAm*/     {"Amer", BOOL, {AMER}, FORBID, UNSETABLE},
/*PartOrTot*/  {"Total", BOOL, {TOTAL}, FORBID, UNSETABLE},
/*ContOrDisc*/ {"Cont", BOOL, {CONT}, FORBID, UNSETABLE},
/*ConstLim*/   {"ConstLim", BOOL, {CONSTLIM}, ALLOW, UNSETABLE},
};

```

```

static int OPT(Init)(Option *opt, Model *mod)
{
    TYPEOPT *pt = (TYPEOPT *) (opt->TypeOpt);
    if (opt->init == 0)
    {
        opt->init = 1;
        opt->nvar = 12;
        opt->nvar_setable = 4;

        pt->PayOff.Val.V_NUMFUNC_1 = &put;
        pt->Rebate.Val.V_NUMFUNC_1 = &rebate;
        pt->Limit.Val.V_NUMFUNC_1 = &limit;

        (pt->PayOff.Val.V_NUMFUNC_1)->Par[0].Val.V_PDOUBLE = 100.0;
        (pt->Rebate.Val.V_NUMFUNC_1)->Par[0].Val.V_PDOUBLE = 10.0;

        (pt->OutOrIn).Val.V_BOOL = OUT;
        (pt->DownOrUp).Val.V_BOOL = DOWN;
        (pt->Parisian).Val.V_BOOL = FALSE;
        (pt->RebOrNo).Val.V_BOOL = REBATE;
        (pt->EuOrAm).Val.V_BOOL = AMER;
        (pt->PartOrTot).Val.V_BOOL = TOTAL;
        (pt->ContOrDisc).Val.V_BOOL = CONT;
        (pt->ConstLim).Val.V_BOOL = CONSTLIM;

        (pt->Limit.Val.V_NUMFUNC_1)->Par[3].Val.V_PDOUBLE = 90.0;

        (pt->Maturity).Val.V_DATE = 1.0;

        /* test for setability */
        if ((pt->RebOrNo).Val.V_BOOL == REBATE)
            pt->Rebate.Vsetable = SETABLE;
        else

```

```
        pt->Rebate.Vsetable = UNSETABLE;

    }

    return OK;
}

MAKEOPT(PutDownOutAmer);
```