

Help

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#include "stda.h"
#include "error_msg.h"
#include "premia_obj.h"

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

static TYPEOPT GMIB =
{
    /*PayOff*/ {"Payoff", NUMFUNC_1, {0}, FORBID, UNSETABLE},
    /*EuOrAm*/ {"Euro", BOOL, {AMER}, FORBID, UNSETABLE},
    /*Maturity*/ {"Maturity", DATE, {0}, ALLOW, SETABLE},
    /*DeemedContribution*/ {"Deemed Contribution", PDOUBLE,
        {0}, IRRELEVANT, UNSETABLE},
    /*InitialAge*/ {"Initial Age", PDOUBLE, {0}, FORBID, UNSETABLE},
    /*Premium*/ {"Premium", PDOUBLE, {0}, IRRELEVANT, UNSETABLE},
    /*MinimumGuaranteed*/ {"MinimumGuaranteed", PDOUBLE, {0},
        ALLOW, SETABLE},
    /*Number of Monitoring Dates*/ {"Number of Monitoring
        Dates", PINT, {0}, FORBID, UNSETABLE},
    /*Alpha*/ {"Alpha", RGDOUBLE, {0}, FORBID, UNSETABLE},
    /*Alpha_m*/ {"Alpha_m", RGDOUBLE, {0}, FORBID, UNSETABLE},
    ,
    /*MultiplierCPPi*/ {"MultiplierCPPi", PDOUBLE, {0}, IR
        RELEVANT, UNSETABLE},
    /*Ratchet*/ {"Ratchet at the Monitoring Dates(Boolean)",
        BOOL, {0}, FORBID, UNSETABLE},
    /*Gamma*/ {"Gamma", PDOUBLE, {0}, FORBID, UNSETABLE},
    /*Bonus B*/ {"Bonus", PDOUBLE, {0}, FORBID, UNSETABLE},
    /*WithdrawlRate G*/ {"WithdrawlRate", PDOUBLE, {0}, FORB
        ID, UNSETABLE},

```

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/*Base case surrender charges*/{"SurrenderCharges", PNLV
  ECT, {0}, IRRELEVANT, UNSETABLE},
/*Base case surrender Times*/{"SurrenderTimes", PNLVECT,
  {0}, IRRELEVANT, UNSETABLE},
/*Mortality*/{"MortalityData", FILENAME, {0}, FORBID, UN
  SETABLE},
/*Maximum WithdrawalRate G*/ {"MaximumWithdrawalRate",
  PDOUBLE, {0}, FORBID, UNSETABLE},
/*RateAccumulation*/ {"RateAccumulation", PDOUBLE, {0},
  FORBID, UNSETABLE},
/*PremiumPercentage*/ {"PremiumPercentage", PDOUBLE, {0
  }, ALLOW, SETABLE},
/*RollUpRate*/ {"CompoundRollUpRate", PDOUBLE, {0}, ALLOW
  , SETABLE},
/*ForceOfMortality*/ {"ForceOfMortality", PDOUBLE, {0},
  FORBID, UNSETABLE},
/*TermCertainAnnuitiyMaturity*/ {"TermCertainAnnuitiyMatu
  rity", DATE, {0}, ALLOW, SETABLE},
};

```

```

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

  if (opt->init == 0)
  {
    opt->init = 1;
    opt->nvar = 24;
    opt->nvar_setable = 4;
    pt->PayOff.Val.V_NUMFUNC_1 = &put;

    (pt->Maturity).Val.V_DATE = 6;
    (pt->PremiumPercentage).Val.V_PDOUBLE = 1.0;
    (pt->CompoundRollUpRate).Val.V_PDOUBLE = 0.0;
    (pt->MinimumGuaranteed).Val.V_PDOUBLE = 0.101;
    (pt->TermCertainAnnuitiyMaturity).Val.V_DATE = 30;
  }

  return OK;
}

```

MAKEOPT(GMIB);

References