

[Help](#)

```
#include "
href../../mod/bs1d/bs1d_stda/bs1d_stda_h_src.pdfstda.h"

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

static TYPEOPT iCPPI =
{
    /*PayOff*/ {"Payoff", NUMFUNC_1, {0}, ALLOW, SETABLE},
    /*EuOrAm*/ {"Euro", BOOL, {AMER}, IRRELEVANT, UNSETABLE},
    /*Maturity*/ {"Maturity", DATE, {0}, ALLOW, SETABLE},
    /*DeemedContribution*/ {"Deemed Contribution", PDOUBLE, {0}, IRRELEVANT, UNSETABLE},
    /*InitialAge*/ {"Initial Age", PDOUBLE, {0}, IRRELEVANT, UNSETABLE},
    /*Premium*/ {"Premium", PDOUBLE, {0}, ALLOW, SETABLE},
    /*MinimumGuaranteed*/ {"MinimumGuaranteed", PDOUBLE, {0}, ALLOW, SETABLE},
    /*Number of Monitoring Dates*/ {"Number of Monitoring Dates", PINT, {0}, ALLOW, UNSETABLE},
    /*Alpha*/ {"Alpha", PDOUBLE, {0}, IRRELEVANT, UNSETABLE},
    /*Alpha_m*/ {"Alpha_m", PDOUBLE, {0}, IRRELEVANT, UNSETABLE},
    /*MultiplieriCPPI*/ {"MultiplieriCPPI", PDOUBLE, {0}, ALLOW, SETABLE},
    /*Ratchet*/ {"Ratchet", BOOL, {0}, IRRELEVANT, UNSETABLE},
    /*Gamma*/ {"Gamma", PDOUBLE, {0}, IRRELEVANT, UNSETABLE},
    /*Bonus B*/ {"Bonus", PDOUBLE, {0}, IRRELEVANT, UNSETABLE},
    /*WithdrawlRate G*/ {"WithdrawlRate", PDOUBLE, {0}, IRRELEVANT, UNSETABLE},
    /*Base case surrender charges*/ {"SurrenderCharges", PNLVECT, {0}, IRRELEVANT, UNSETABLE},
    /*Base case surrender Times*/ {"SurrenderTimes", PNLVECT, {0}, IRRELEVANT, UNSETABLE},
    /*Mortality*/ {"MortalityData", FILENAME, {0}, IRRELEVANT, UNSETABLE},
    /*Maximum WithdrawlRate G*/ {"MaximumWithdrawlRate", PDOUBLE, {0}, FORBID, UNSETABLE},
    /*RateAccumulation*/ {"RateAccumulation", PDOUBLE, {0}, FORBID, UNSETABLE},
    /*PremiumPercentage*/ {"PremiumPercentage", PDOUBLE, {0}, FORBID, UNSETABLE},
    /*RollUpRate*/ {"CompoundRollUpRate", PDOUBLE, {0}, FORBID, UNSETABLE},
    /*ForceOfMortality*/ {"ForceOfMortality", PDOUBLE, {0}, FORBID, UNSETABLE},
    /*TermCertainAnnuitiyMaturity*/ {"TermCertainAnnuitiyMaturity", DATE, {0}, FORBID, UNSETABLE},
};

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 = 5;

        pt->PayOff.Val.V_NUMFUNC_1 = &put;

        (pt->Maturity).Val.V_DATE = 1.0;
        (pt->Premium).Val.V_PDOUBLE = 100.;
        (pt->MultiplieriCPPi).Val.V_PDOUBLE = 2.;
        (pt->MinimumGuaranteed).Val.V_PDOUBLE = 90.;
        (pt->NumberofMonitoringDates).Val.V_PINT = 52;
    }

    return OK;
}

MAKEOPT(iCPPI);

```