

[Help](#)

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#include "vasicek1d_std.h"

int MOD_OPT(ChkMix)(Option *Opt, Model *Mod)
{
    TYPEOPT* ptOpt=( TYPEOPT*)(Opt->TypeOpt);
    TYPEMOD* ptMod=( TYPEMOD*)(Mod->TypeModel);
    int status=OK;

    if ((strcmp(Opt->Name,"ZeroCouponCallBondEuro")==0) || (
        strcmp(Opt->Name,"ZeroCouponPutBondEuro")==0) || (strcmp(Opt->Name,"
        ZeroCouponCallBondAmer")==0) || (strcmp(Opt->Name,"
        ZeroCouponPutBondAmer")==0))
    {
        if ((ptOpt->OMaturity.Val.V_DATE)<=(ptMod->T.Val.V_DATE))
        {
            Fprintf(TOSCREENANDFILE,"Current date greater than
            maturity!\n");
            status+=1;
        }
        if ((ptOpt->BMaturity.Val.V_DATE)<=(ptOpt->OMaturity.
        Val.V_DATE))
        {
            Fprintf(TOSCREENANDFILE,"Option maturity greater than
            Bond maturity!\n");
            status+=1;
        }
    }
    if ((strcmp(Opt->Name,"ZCBond")==0))
    {
        if ((ptOpt->BMaturity.Val.V_DATE)<=(ptMod->T.Val.V_DATE))
        {
            Fprintf(TOSCREENANDFILE,"Current date greater than
            maturity!\n");
            status+=1;
        }
    }

    if ((strcmp(Opt->Name,"PayerSwaption")==0) || (strcmp(Opt->
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    Name,"ReceiverSwaption")==0)|| (strcmp(Opt->Name,"
    PayerBermudanSwaption")==0)|| (strcmp(Opt->Name,"
    ReceiverBermudanSwaption")==0))
    if((ptOpt->BMaturity.Val.V_DATE)<=(ptOpt->OMaturity.
    Val.V_DATE))
{
    Fprintf(TOSCREENANDFILE,"Option maturity greater than
    Bond maturity!\n");
    status+=1;
}

if ((strcmp(Opt->Name,"Floor")==0)|| (strcmp(Opt->Name,"    Cap")==0))
{

    if ((ptOpt->FirstResetDate.Val.V_DATE)<=(ptMod->T.Val
    .V_DATE))
    {
        Fprintf(TOSCREENANDFILE,"Current date greater than fir
        st coupon date!\n");
        status+=1;
    }

    if ((ptOpt->FirstResetDate.Val.V_DATE)>=(ptOpt->BMatu
    rity.Val.V_DATE))
    {
        Fprintf(TOSCREENANDFILE,"First reset date greater than
        contract maturity!\n");
        status+=1;
    }
}

return status;
}

```

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extern PricingMethod MET(CF_ZCBond);
extern PricingMethod MET(CF_ZCPutBondEuro);
extern PricingMethod MET(CF_ZCCallBondEuro);
extern PricingMethod MET(CF_Cap);
extern PricingMethod MET(CF_Floor);

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extern PricingMethod MET(CF_PayerSwaption);
extern PricingMethod MET(CF_ReceiverSwaption);
extern PricingMethod MET(FD_ZCBond);
extern PricingMethod MET(FD_ZBO);
extern PricingMethod MET(FD_CAPFLOOR);
extern PricingMethod MET(FD_SWAPTION);
extern PricingMethod MET(FD_GaussZCBond);
extern PricingMethod MET(FD_GaussZBO);
extern PricingMethod MET(FD_GaussCAPFLOOR);
extern PricingMethod MET(FD_GaussSWAPTION);

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PricingMethod* MOD_OPT(methods)[]={
    &MET(CF_ZCBond),
    &MET(CF_ZCPutBondEuro),
    &MET(CF_ZCCallBondEuro),
    &MET(CF_Cap),
    &MET(CF_Floor),
    &MET(CF_PayerSwaption),
    &MET(CF_ReceiverSwaption),
    &MET(FD_ZCBond),
    &MET(FD_ZBO),
    &MET(FD_CAPFLOOR),
    &MET(FD_SWAPTION),
    &MET(FD_GaussZCBond),
    &MET(FD_GaussZBO),
    &MET(FD_GaussCAPFLOOR),
    &MET(FD_GaussSWAPTION),
    NULL
};

DynamicTest* MOD_OPT(tests)[]={
    NULL
};

```

```

Pricing MOD_OPT(pricing)={
    ID_MOD_OPT,
    MOD_OPT(methods),
    MOD_OPT(tests),
    MOD_OPT(ChkMix)
};

```

## References