

[Help](#)

```
#include "hesvasicek1d.h"
#include "chk.h"
#include "error_msg.h"
#include "model.h"
static int MOD(Init)(Model *model)
{
    TYPEMOD *pt = (TYPEMOD *) (model->TypeModel);

    if (model->init == 0)
    {
        model->init = 1;
        model->nvar = 0;
        pt->T.Vname = "Current Date";
        pt->T.Vtype = DATE;
        pt->T.Val.V_DATE = 0.;
        pt->T.Viter = ALLOW;
        model->nvar++;

        pt->S0.Vname = "Spot";
        pt->S0.Vtype = PDOUBLE;
        pt->S0.Val.V_PDOUBLE = 100.;
        pt->S0.Viter = ALLOW;
        model->nvar++;

        pt->divid.Vname = "Compound Dividend Rate";
        pt->divid.Vtype = PDOUBLE;
        pt->divid.Val.V_PDOUBLE = 0;
        pt->divid.Viter = ALLOW;
        model->nvar++;

        pt->r0.Vname = "Current Interest Rate";
        pt->r0.Vtype = PDOUBLE;
        pt->r0.Val.V_PDOUBLE = 0.04;
        pt->r0.Viter = ALLOW;
        model->nvar++;

        pt->kr.Vname = "Interest Rate Speed of Mean Reversion";
        pt->kr.Vtype = PDOUBLE;
        pt->kr.Val.V_PDOUBLE = 1;
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pt->kr.Viter = ALLOW;
model->nvar++;

pt->thetar.Vname = "Interest Rate Long Term Mean";
pt->thetar.Vtype = PDOUBLE;
pt->thetar.Val.V_PDOUBLE = 0.04;
pt->thetar.Viter = ALLOW;
model->nvar++;

pt->Sigmar.Vname = "Interest Rate Volatility";
pt->Sigmar.Vtype = PDOUBLE;
pt->Sigmar.Val.V_PDOUBLE = 0.3;
pt->Sigmar.Viter = ALLOW;
model->nvar++;

pt->V0.Vname = "Current Variance";
pt->V0.Vtype = DOUBLE;
pt->V0.Val.V_DOUBLE = 0.2;
pt->V0.Viter = ALLOW;
model->nvar++;

pt->kV.Vname = "Speed of Mean Reversion Variance";
pt->kV.Vtype = DOUBLE;
pt->kV.Val.V_DOUBLE = 2;
pt->kV.Viter = ALLOW;
model->nvar++;

pt->thetaV.Vname = "Long-Run Variance";
pt->thetaV.Vtype = DOUBLE;
pt->thetaV.Val.V_DOUBLE = 0.2;
pt->thetaV.Viter = ALLOW;
model->nvar++;

pt->SigmaV.Vname = "Volatility of Variance";
pt->SigmaV.Vtype = DOUBLE;
pt->SigmaV.Val.V_DOUBLE = 0.3;
pt->SigmaV.Viter = ALLOW;
model->nvar++;

pt->RhoSr.Vname = "Rho S r";
pt->RhoSr.Vtype = RGDOUBLEM11;
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    pt->RhoSr.Val.V_RGDOUBLEM11 = 0.0;
    pt->RhoSr.Viter = ALLOW;
    model->nvar++;

    pt->RhoSV.Vname = "Rho S V";
    pt->RhoSV.Vtype = RGDOUBLEM11;
    pt->RhoSV.Val.V_RGDOUBLEM11 = 0.;
    pt->RhoSV.Viter = ALLOW;
    model->nvar++;

    pt->RhorV.Vname = "Rho r V";
    pt->RhorV.Vtype = RGDOUBLEM11;
    pt->RhorV.Val.V_RGDOUBLEM11 = 0.0;
    pt->RhorV.Viter = ALLOW;
    model->nvar++;
}

return OK;
}

TYPEMOD hesvasicek1d;
MAKEMOD(hesvasicek1d);
```