

[Help](#)

```
#include "merhes1d.h"
#include "chk.h"
#include "error_msg.h"
#include "model.h"

extern char *path_sep;

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 = 120.;
        pt->S0.Viter = ALLOW;
        model->nvar++;

        pt->Divid.Vname = "Annual Dividend Rate";
        pt->Divid.Vtype = DOUBLE;
        pt->Divid.Val.V_DOUBLE = 5.12711;
        pt->Divid.Viter = ALLOW;
        model->nvar++;

        pt->R.Vname = "Annual Interest Rate";
        pt->R.Vtype = DOUBLE;
        pt->R.Val.V_DOUBLE = 3.04545;
        pt->R.Viter = ALLOW;
```

```
model->nvar++;

pt->Sigma0.Vname = "Current Variance";
pt->Sigma0.Vtype = DOUBLE;
pt->Sigma0.Val.V_DOUBLE = 0.04;
pt->Sigma0.Viter = ALLOW;
model->nvar++;

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

pt->LongRunVariance.Vname = "Long-Run Variance";
pt->LongRunVariance.Vtype = DOUBLE;
pt->LongRunVariance.Val.V_DOUBLE = 0.04;
pt->LongRunVariance.Viter = ALLOW;
model->nvar++;

pt->Sigma.Vname = "Volatility of Variance";
pt->Sigma.Vtype = DOUBLE;
pt->Sigma.Val.V_DOUBLE = 0.7;
pt->Sigma.Viter = ALLOW;
model->nvar++;

pt->Lambda.Vname = "Lambda";
pt->Lambda.Vtype = DOUBLE;
pt->Lambda.Val.V_DOUBLE = 5;
pt->Lambda.Viter = ALLOW;
model->nvar++;

pt->Mean.Vname = "Mean of Jumps";
pt->Mean.Vtype = DOUBLE;
pt->Mean.Val.V_DOUBLE = -0.005;
pt->Mean.Viter = ALLOW;
model->nvar++;

pt->Variance.Vname = "Variance of Jumps";
pt->Variance.Vtype = DOUBLE;
pt->Variance.Val.V_DOUBLE = 0.01;
```

```
    pt->Variance.Viter = ALLOW;
    model->nvar++;

    pt->Rho.Vname = "Rho";
    pt->Rho.Vtype = DOUBLE;
    pt->Rho.Val.V_DOUBLE = 0.5;
    pt->Rho.Viter = ALLOW;
    model->nvar++;

    model->HelpFilenameHint = "MERHES1D";

}

return OK;
}

TYPEMOD MertonHeston1dim;

MAKEMOD(MertonHeston1dim);
```