

[Help](#)

```
#include "hawkes_trading.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)
    {

        pt->Rho.Vname = "Initial Speed";
        pt->Rho.Vtype = SPDOUBLE;
        pt->Rho.Val.V_SPDOUBLE = 70.;
        pt->Rho.Viter = ALLOW;
        model->nvar++;

        pt->k_infty.Vname = "Baseline Intensity";
        pt->k_infty.Vtype = SPDOUBLE;
        pt->k_infty.Val.V_SPDOUBLE = 0.1;
        pt->k_infty.Viter = ALLOW;
        model->nvar++;

        pt->m1.Vname = "Average Trade";
        pt->m1.Vtype = PDOUBLE;
        pt->m1.Val.V_PDOUBLE = 700.;
        pt->m1.Viter = ALLOW;
        model->nvar++;

        pt->beta.Vname = "Average Speed";
        pt->beta.Vtype = SPDOUBLE;
        pt->beta.Val.V_SPDOUBLE = 20.;
        pt->beta.Viter = ALLOW;
```

```
model->nvar++;

pt->ioc.Vname = "Cross Excitation";
pt->ioc.Vtype = PDOUBLE;
pt->ioc.Val.V_PDOUBLE = 0.0;
pt->ioc.Viter = ALLOW;
model->nvar++;

pt->ios.Vname = "Self Excitation";
pt->ios.Vtype = PDOUBLE;
pt->ios.Val.V_PDOUBLE = 20.0;
pt->ios.Viter = ALLOW;
model->nvar++;

pt->nu.Vname = "Permanent Impact (others)";
pt->nu.Vtype = PDOUBLE;
pt->nu.Val.V_PDOUBLE = 0.4;
pt->nu.Viter = ALLOW;
model->nvar++;
model->HelpFilenameHint = "HAWKES_TRADING";

pt->D0.Vname = "Initial Balance";
pt->D0.Vtype = DOUBLE;
pt->D0.Val.V_DOUBLE = -0.005;
pt->D0.Viter = ALLOW;
model->nvar++;

pt->S0.Vname = "Initial Price";
pt->S0.Vtype = PDOUBLE;
pt->S0.Val.V_PDOUBLE = 40;
pt->S0.Viter = ALLOW;
model->nvar++;

pt->kp0 .Vname = "Initial Buy Intensity";
pt->kp0 .Vtype = SPDOUBLE;
pt->kp0 .Val.V_SPDOUBLE = 100;
pt->kp0 .Viter = ALLOW;
model->nvar++;

pt->km0 .Vname = "Initial Sell Intensity";
```

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    pt->km0 .Vtype = SPDOUBLE;
    pt->km0 .Val.V_SPDOUBLE = 110;
    pt->km0 .Viter = ALLOW;
    model->nvar++;

    pt->epsilon.Vname = "Permanent Impact (self)";
    pt->epsilon.Vtype = PDOUBLE;
    pt->epsilon.Val.V_PDOUBLE = 0.4;
    pt->epsilon.Viter = ALLOW;
    model->nvar++;

    pt->q.Vname = "Average Liquidity";
    pt->q.Vtype = SPDOUBLE;
    pt->q.Val.V_PDOUBLE = 200000;
    pt->q.Viter = ALLOW;
    model->nvar++;
}

return OK;
}
```

```
TYPEMOD Hawkes_Trading;
```

```
MAKEMOD(Hawkes_Trading);
```