

Help

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#include "bergomirev2d.h"
#include "chk.h"
#include "error_msg.h"
#include "model.h"
#include "premia_obj.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 = "Annual Dividend Rate";
        pt->Divid.Vtype=DOUBLE;
        pt->Divid.Val.V_DOUBLE=0.;
        pt->Divid.Viter=ALLOW;
        model->nvar++;

        pt->R.Vname = "Annual Interest Rate";
        pt->R.Vtype=DOUBLE;
        pt->R.Val.V_DOUBLE=4.;
        pt->R.Viter=ALLOW;
        model->nvar++;

        pt->theta.Vname = "Theta";
        pt->theta.Vtype=PDOUBLE;
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pt->theta.Val.V_PDOUBLE=0.3;
pt->theta.Viter=ALLOW;
model->nvar++;

pt->k1.Vname = "Mean Reversion Speed 1";
pt->k1.Vtype=PDOUBLE;
pt->k1.Val.V_PDOUBLE=0.3;
pt->k1.Viter=ALLOW;
model->nvar++;

pt->k2.Vname = "Mean Reversion Speed 2";
pt->k2.Vtype=PDOUBLE;
pt->k2.Val.V_PDOUBLE=8.0;
pt->k2.Viter=ALLOW;
model->nvar++;

/* pt->rhoxy.Vname = "Correlation between factors";
 * pt->rhoxy.Vtype=RGDOUBLEM11;
 * pt->rhoxy.Val.V_RGDOUBLEM11=0.;
 * pt->rhoxy.Viter=ALLOW;
 * model->nvar++; */

pt->rhoSx.Vname = "Correlation between stock and
factor 1";
pt->rhoSx.Vtype=RGDOUBLEM11;
pt->rhoSx.Val.V_RGDOUBLEM11=-0.6;
pt->rhoSx.Viter=ALLOW;
model->nvar++;

pt->rhoSy.Vname = "Correlation between stock and
factor 2";
pt->rhoSy.Vtype=RGDOUBLEM11;
pt->rhoSy.Val.V_RGDOUBLEM11=-0.7;
pt->rhoSy.Viter=ALLOW;
model->nvar++;

pt->ForwardVarianceData.Vname = "ForwardVarianceData"
;
pt->ForwardVarianceData.Vtype=FILENAME;
pt->ForwardVarianceData.Val.V_INT=0;
pt->ForwardVarianceData.Viter=FORBID;
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    pt->ForwardVarianceData.Vsetable = UNSETABLE;

    model->nvar++;
    if (( pt->ForwardVarianceData.Val.V_FILENAME=malloc(
sizeof(char)*MAX_PATH_LEN))==NULL)
        return MEMORY_ALLOCATION_FAILURE;
    sprintf( pt->ForwardVarianceData.Val.V_FILENAME, "%s%
sForwardVarianceData.dat", premia_data_dir,path_sep);

}

return OK;
}

TYPEMOD bergomirev2d;
MAKEMOD(bergomirev2d);
```

References