

[Help](#)

```
#include "libor_affine_cir1d.h"
#include "chk.h"
#include "model.h"
#include "enums.h"
#include "premia_obj.h"

double MOD(GetYield)(TYPEMOD *pt)
{
    VAR *Par;
    Par = lookup_premia_enum_par(&(pt->flat_flag), 0);
    return Par[0].Val.V_PDOUBLE;
}

char *MOD(GetCurve)(TYPEMOD *pt)
{
    VAR *Par;
    Par = lookup_premia_enum_par(&(pt->flat_flag), 1);
    return Par[0].Val.V_FILENAME;
}

static int MOD(Init)(Model *model)
{
    VAR *Par;
    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 = 0.0;
        pt->T.Viter = ALLOW;
        model->nvar++;

        pt->flat_flag.Vname = "Initial Yield Curve";
```

```
pt->flat_flag.Vtype = ENUM;
pt->flat_flag.Val.V_ENUM.value = 0;
pt->flat_flag.Val.V_ENUM.members = &PremiaEnumFlat;
pt->flat_flag.Viter = ALLOW;
model->nvar++;
Par = lookup_premia_enum_par(&(pt->flat_flag), 0);
Par[0].Vname = "Initial Yield";
Par[0].Vtype = PDOUBLE;
Par[0].Val.V_PDOUBLE = 0.05;
Par[0].Viter = FORBID;
Par[0].Vsetable = SETABLE;
Par = lookup_premia_enum_par(&(pt->flat_flag), 1);
Par[0].Vname = "Yield Curve";
Par[0].Vtype = FILENAME;
Par[0].Val.V_FILENAME = NULL;
Par[0].Viter = FORBID;
Par[0].Vsetable = SETABLE;

pt->x0.Vname = "x0";
pt->x0.Vtype = PDOUBLE;
pt->x0.Val.V_PDOUBLE = 1.2500;
pt->x0.Viter = ALLOW;
model->nvar++;

pt->lambda.Vname = "lambda";
pt->lambda.Vtype = PDOUBLE;
pt->lambda.Val.V_PDOUBLE = 0.0125;
pt->lambda.Viter = ALLOW;
model->nvar++;

pt->theta.Vname = "theta";
pt->theta.Vtype = PDOUBLE;
pt->theta.Val.V_PDOUBLE = 0.50;
pt->theta.Viter = ALLOW;
model->nvar++;

pt->eta.Vname = "eta";
pt->eta.Vtype = PDOUBLE;
pt->eta.Val.V_PDOUBLE = sqrt(0.5);
pt->eta.Viter = ALLOW;
model->nvar++;
```

```
    }
    Par = lookup_premia_enum_par(&(pt->flat_flag), 1);
    if (Par[0].Val.V_FILENAME == NULL)
    {
        if ((Par[0].Val.V_FILENAME = malloc(sizeof(char) * MAX_PATH_LEN)) == NULL)
            return MEMORY_ALLOCATION_FAILURE;
        sprintf(Par[0].Val.V_FILENAME, "%s%sinitialyield.dat", premia_data_dir, pa
    }

    return OK;
}
```

```
TYPEMOD Libor_Affine_Cir1d;
MAKEMOD(Libor_Affine_Cir1d);
```