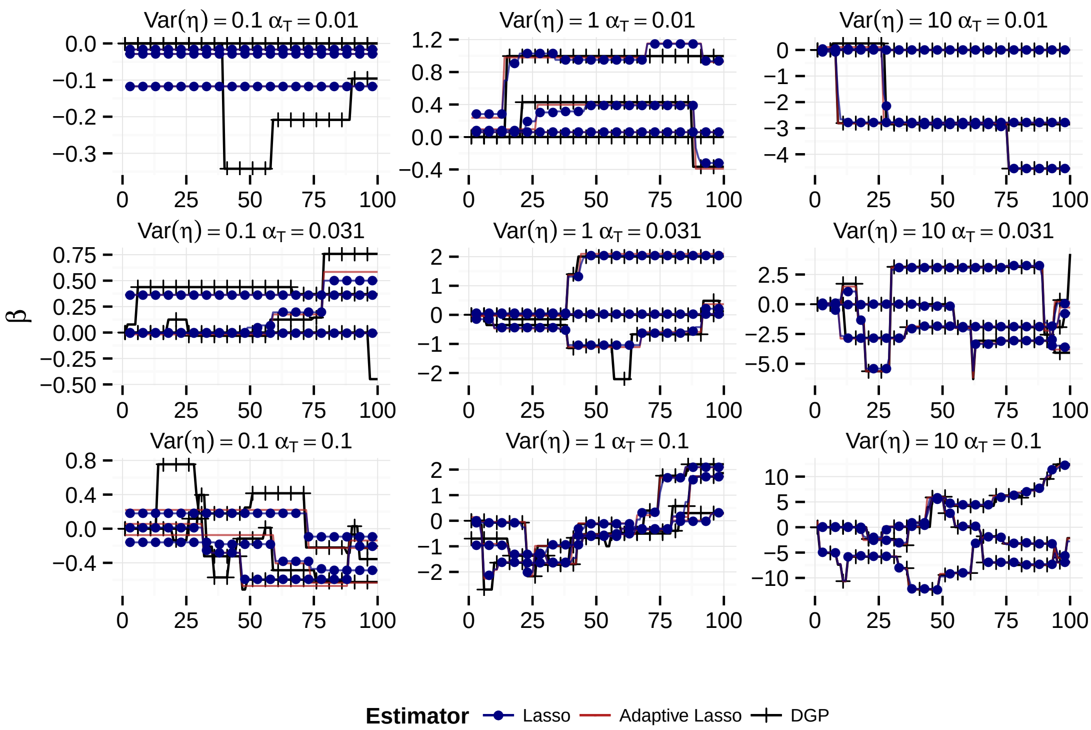
MONTE CARLOS PARSIMONIOUSLY TIME VARYING PARAMETER MODELS. DETERMINISTIC DGPS.

LAFC JTK

```
load('../mcsaves/mc_prw')

# preparing the data
mxp <- melt(mcxp)
colnames(mxp) <- c('Time','Variable','value','Estimator','iter','Experiment')
mxp$iter <- factor(mxp$iter)

xpnames <- unique(mxp$Experiment)

xn <- matrix(unlist(strsplit(x = mxp$Experiment,split=' ')),ncol=2,byrow = TRUE)
colnames(xn) <- c('sigma_nu','alpha_T')
mxp$sigma <- xn[,1]
mxp$alpha <- xn[,2]
```

```
npath   <- 3
mxp.plt <- subset(mxp,(iter%in%c(1:npath)) &  (!(Estimator%in%c('lambda','cLasso'))) )
# plotting
plt<-mcpltgrid(mxp.plt)
ggsave(plt,file='figure/prw.pdf',width=24,height=18,units='cm')
print(plt)
```

Date: March 12, 2015.




```
statn <- c('Nbr. breaks','False positive','True positive','False negative','Esti. error l
en <- c('Lasso','aLasso','cLasso','Post')

mc <- length(mcxp[[1]])
ptvtbl <- ptv.xptab(mcxp=mcxp,statn=statn,en=en,mc=mc)
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```

		Var(eta)==0.1 alpha[T]==0.01	Var(eta)==0.1 alpha[T]==0.031	Var(eta)==0.1 alpha[T]==0.1	Var(eta)=
Nbr. breaks	DGP	0.992	3.063	9.975	
	Lasso	0.992	2.614	6.33	
	aLasso	0.561	1.388	3.307	
False positive	Lasso	0.824	2.1	4.597	
	aLasso	0.436	1.021	2.15	
True positive	Lasso	0.168	0.515	1.733	
	aLasso	0.126	0.367	1.157	
False negative	Lasso	0.824	2.548	8.242	
	aLasso	0.867	2.696	8.818	
Esti. error l1	Lasso	0.205	0.263	0.335	
	aLasso	0.24	0.267	0.332	
	Post	0.209	0.27	0.352	
Pred. error l2	Lasso	0.056	0.089	0.133	
	aLasso	0.076	0.092	0.131	
	Post	0.058	0.089	0.133	
rmse	Lasso	0.312	0.313	0.316	
	aLasso	0.304	0.305	0.308	
	Post	0.31	0.308	0.306	
Lambda	Lasso	0.024	0.023	0.019	
	aLasso	0.004	0.004	0.016	

TABLE 1. Constant parameter, varying sample size: 10000 iterations.

```
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#Nbr breaks in the DGP path
nbrk <- ptvtbl[,1,'DGP']
# Formating the table
mtbl <- melt(ptvtbl)
mtbl <- subset(mtbl,!(Estimator%in%c('DGP','cLasso')))
tbl <-  acast(mtbl,Stat + Estimator ~ Experiment)
tbl[which(is.na(tbl),arr.ind = TRUE)] <- 0
```