

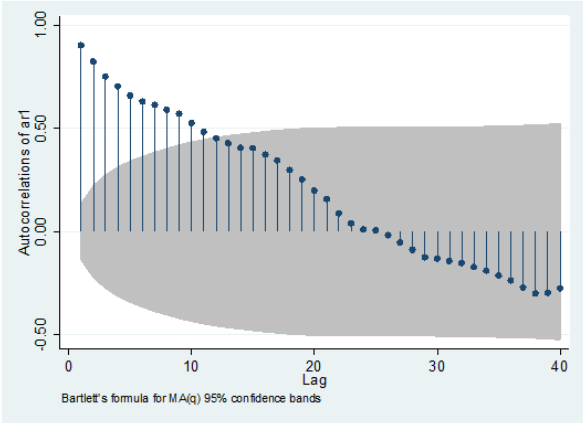
A partial autocorrelation function (PACF) plot for the variable 'ma 1'. The y-axis is labeled 'Partial autocorrelations of ma 1' and ranges from -0.20 to 0.60. The x-axis is labeled 'Lag' and ranges from 0 to 40. A shaded gray region represents the 95% confidence bands, with a legend at the bottom indicating the formula $se = 1/\sqrt{n}$. The plot shows a very strong positive partial autocorrelation at lag 1, reaching approximately 0.52. Subsequent lags show much smaller values, mostly within the confidence bands, indicating that the series is likely an MA(1) process.

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.
. * L' AR(1) avec au niveau de l'AC la décroissance (alpha positif) et PAC 1er retard
significatif et les autres nuls
. sim_arma ar1 , nobs(200) spin (2000) ar(0.9) time(temps)

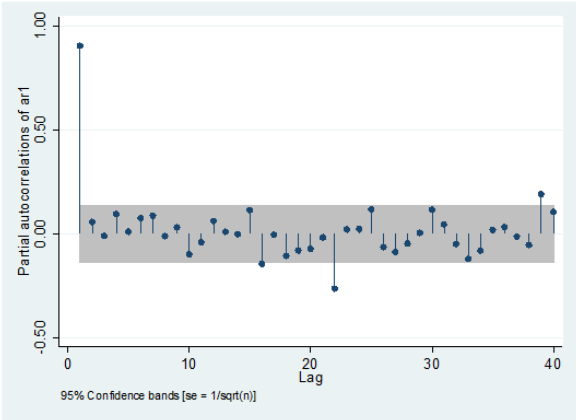
. corrgram ar1, lag(15)
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LAG	AC	PAC	Q	Prob>Q	-1 0 1 [Autocorrelation]	-1 0 1 [Partial Autocor]
1	0.9017	0.9029	165.06	0.0000	-----	-----
2	0.8231	0.0557	303.28	0.0000	-----	-----
3	0.7504	-0.0112	418.76	0.0000	-----	-----
4	0.7032	0.0953	520.67	0.0000	-----	-----
5	0.6585	0.0088	610.5	0.0000	-----	-----
6	0.6296	0.0745	693.04	0.0000	-----	-----
7	0.6123	0.0860	771.52	0.0000	-----	-----
8	0.5896	-0.0121	844.67	0.0000	-----	-----
9	0.5691	0.0304	913.16	0.0000	-----	-----
10	0.5257	-0.1004	971.92	0.0000	-----	-----
11	0.4818	-0.0409	1021.5	0.0000	-----	-----
12	0.4516	0.0609	1065.4	0.0000	-----	-----
13	0.4280	0.0087	1104.9	0.0000	-----	-----
14	0.4050	-0.0027	1140.6	0.0000	-----	-----
15	0.4035	0.1132	1176.1	0.0000	-----	-----

```
. ac ar1
```



```
. pac ar1
```



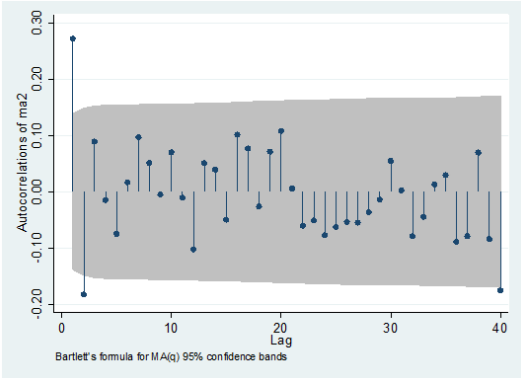
```
.
. * Le MA(2) avec au niveau de l'AC les deux premiers retards significatif et PAC
décroissance sinusoidale amortie
. sim_arma ma2 , nobs(200) spin (2000) ma(0.6 -0.3) time(temps)

. corrgram ma2, lag(15)
```

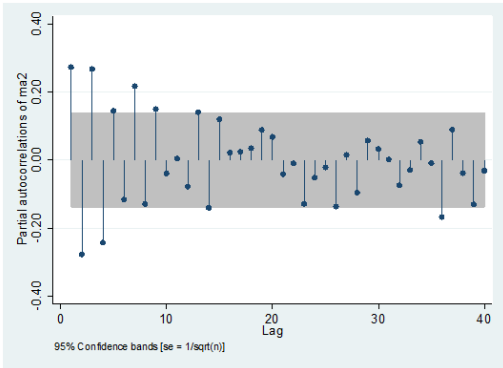
LAG	AC	PAC	Q	Prob>Q	-1 0 1 [Autocorrelation]	-1 0 1 [Partial Autocor]
1	0.2719	0.2720	15.013	0.0001	--	--
2	-0.1827	-0.2782	21.826	0.0000	-	--

3	0.0888	0.2669	23.442	0.0000		
4	-0.0154	-0.2435	23.491	0.0001	-	-
5	-0.0749	0.1440	24.654	0.0002	-	-
6	0.0168	-0.1173	24.712	0.0004	-	-
7	0.0968	0.2171	26.674	0.0004	-	-
8	0.0509	-0.1292	27.219	0.0006	-	-
9	-0.0050	0.1493	27.224	0.0013	-	-
10	0.0695	-0.0401	28.252	0.0016		
11	-0.0105	0.0040	28.275	0.0029		
12	-0.1022	-0.0789	30.522	0.0023		
13	0.0506	0.1402	31.075	0.0033	-	-
14	0.0391	-0.1414	31.406	0.0049	-	-
15	-0.0499	0.1195	31.95	0.0065		

. ac ma2



. pac ma2



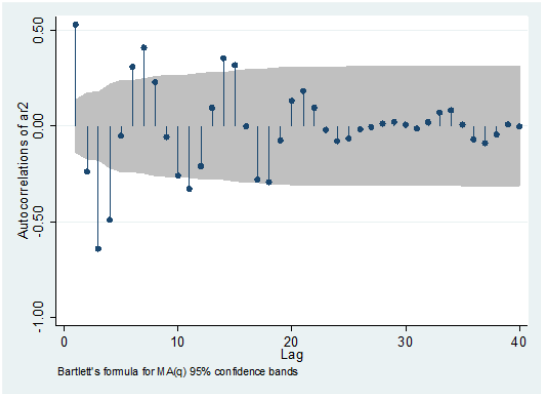
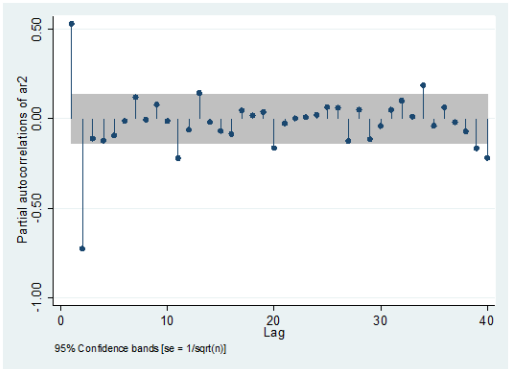
```
.
. * L' AR(2) avec au niveau de l'AC la décroissance sinusoidale et PAC les 2 premiers
retards significatifs et les autres nuls
. sim_arma ar2 , nobs(200) spin (2000) ar(0.9 -0.7) time(temps)

. corrgram ar2, lag(15)
```

LAG	AC	PAC	Q	Prob>Q	-1	0	1	-1	0	1
					[Autocorrelation]		[Partial Autocor]			
1	0.5292	0.5294	56.845	0.0000		----		----		----
2	-0.2388	-0.7283	68.479	0.0000	-			-----		
3	-0.6422	-0.1115	153.07	0.0000	-----					
4	-0.4918	-0.1240	202.91	0.0000	---					
5	-0.0517	-0.0952	203.47	0.0000						
6	0.3094	-0.0141	223.4	0.0000		--				
7	0.4099	0.1192	258.57	0.0000		---				
8	0.2289	-0.0058	269.6	0.0000		-				
9	-0.0580	0.0776	270.31	0.0000						
10	-0.2600	-0.0133	284.68	0.0000	--					
11	-0.3286	-0.2211	307.77	0.0000	--				-	
12	-0.2112	-0.0620	317.35	0.0000	-					
13	0.0947	0.1429	319.29	0.0000					-	
14	0.3538	-0.0192	346.48	0.0000		--				
15	0.3176	-0.0693	368.51	0.0000		--				

. ac ar2

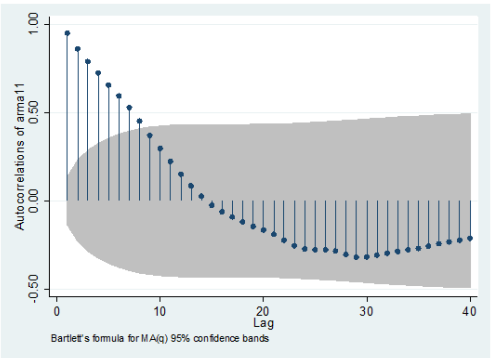
```
. pac ar2
```



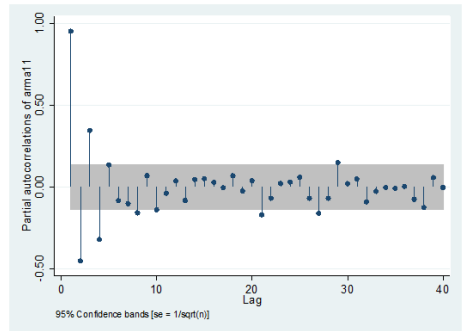
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.  
* L' ARMA(1,1) avec au niveau de l'AC la décroissance exponentielle et PAC la  
décroissance rapide après le 1er retard  
. sim_arma armall , nobs(200) spin (2000) ma(0.8) ar(0.9) time(temps)  
  
. corrgram armall, lag(15)
```

LAG	AC	PAC	Q	Prob>Q	-1	0	1	-1	0	1
					[Autocorrelation]		[Partial Autocor]			
1	0.9491	0.9510	182.88	0.0000						
2	0.8599	-0.4523	333.77	0.0000						
3	0.7879	0.3448	461.08	0.0000						
4	0.7229	-0.3211	568.81	0.0000						
5	0.6554	0.1338	657.81	0.0000						
6	0.5924	-0.0853	730.88	0.0000						
7	0.5276	-0.1039	789.15	0.0000						
8	0.4495	-0.1588	831.66	0.0000						
9	0.3696	0.0670	860.56	0.0000						
10	0.2964	-0.1398	879.24	0.0000						
11	0.2214	-0.0399	889.71	0.0000						
12	0.1491	0.0359	894.49	0.0000						
13	0.0840	-0.0835	896.02	0.0000						
14	0.0251	0.0440	896.15	0.0000						
15	-0.0256	0.0492	896.3	0.0000						

```
. ac armall
```



```
. pac armall
```



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.  
end of do-file  
  
. exit, clear
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