8. ANNEXES

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ANNEXE 1 : CONDITIONS DE COURBURE

Les tableaux suivants rapportent les valeurs propres des matrices E, F, G et Q_m dans le but de vérifier les conditions de courbure imposées *ex-ante*.

Fermes de grandes cultures

Concavité des prix des intrants : Matrice E semi-définie négative

Matrix E				
	e1	e2	e3	e4
Belgique	0	-1171.431	-2135.39	-6727.678
Flandre	9.095E-13	-3867.298	-6097.05	-23350.5
Wallonie	-2.344E-13	-15.698	-777.235	-3079.34

Convexité des intrants fixes : Matrice F semi-définie positive

Matrix F	
	e1
Belgique	2.32E-09
Flandre	0.00258
Wallonie	49.275

Convexité des produits : Matrice G semi-définie positive

Matrix G					
	e1	e2	e3	e4	e5
Belgique	616.818	350.498	6.14899	0.000016	8.993E-18
Flandre	1387.45	515.61	33.82	3.519	1.776E-15
Wallonie	709.578	16.704	4.156	0.0104	-1.102E-40

Fermes bovines

Concavité des prix des intrants : Matrice E semi-définie négative

Matrix E				
	e1	e2	e3	e4
Belgique	-4.547E-13	-3077.12	-11559.62	-18611.24
Flandre	0	-1985.87	-2565.73	-14202.19
Wallonie	7.276E-12	-4289.42	-6418.15	-28445.92

Convexité des intrants fixes : Matrice F semi-définie positive

Matrix F	
	e1
Belgique	1.494E-09
Flandre	7.139E-06
Wallonie	0.000051

Convexité des produits : Matrice G semi-définie positive

Matrix G				
	e1	e2	e3	e4
Belgique	273.053	89.054	38.515	1.207E-07
Flandre	332.094	85.109	29.467	2.879E-07
Wallonie	773.355	259.995	0.0463	2.283E-06

Fermes laitières

Concavité des prix des intrants : Matrice E semi-définie négative

Matrix E				
	e1	e2	e3	e4
Belgique	5.457E-12	-2825.541	-4467.79	-16490.015
Flandre	9.022E-13	-380.555	-3461.57	-14831.5
Wallonie	4.547E-13	-1991.31	-3035.82	-11355.61

Convexité des intrants fixes : Matrice F semi-définie positive

Matrix F	
	e1
Belgique	1049.563
Flandre	156.863
Wallonie	1039.871

Convexité des produits : Matrices Q_m semi-définies positives

Matrix Q1				
	e1	e2	e3	e4
Belgique	463.553	18.159	-3.823	-325.852
Flandre	2234.821	95.751	5.129	-95.577
Wallonie	4.658	1.285	0.0299	-3.158

Matrix Q2				
	e1	e2	e3	e4
Belgique	67.4199	4.5799	-0.523	-54.401
Flandre	68.173	9.638	-3.42	-110.792
Wallonie	116.782	9.719	0.0892	-115.956

Matrix Q3				
	e1	e2	e3	e4
Belgique	141.141	68.122	-2.8012	-32.857
Flandre	105.379	27.248	-11.724	-89.34
Wallonie	86.429	20.767	2.319	-511.037

Matrix Q4				
	e1	e2	e3	e4
Belgique	374.0304	87.7297	2.343	-109.487
Flandre	121.197	13.162	2.582	-23.069
Wallonie	510.313	-0.185	-3.322	-427.34

ANNEXE 2 : COUTS MARGINAUX PAR RAPPORT AUX QUANTITES DE PRODUITS

Source des données : UE-RICA - DG AGRI.

Fermes de grandes cultures

Belgique

(En euro/tonne)

M_MargCost[5,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
MCya	45522	1014.78	530.075	246.918	3002.28	868.31	0
MCyb	14123	1506.51	800.162	332.479	4184.15	1396.3	0
MCyc	100330	23.3843	8.86322	9.4758	56.6126	21.8633	0
MCyd	100403	158.944	44.8375	10.3229	335.213	156.287	0
MCye	31438	382.123	141.945	118.181	884.414	356.225	0

Flandre

(En euro/tonne)

M_MargCost[5,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
MCya	22292	593.56	164.627	274.956	1195.23	567.248	0
MCyb	3880	1313.19	841.314	335.881	3788.88	936.864	0
MCyc	51343	14.479	4.71899	.000054	33.4658	13.5477	0
MCyd	51500	60.2218	21.2985	2.0e-06	129.09	62.7315	0
MCye	19504	271.694	82.5451	75.0267	548.687	261.39	0

Wallonie

(En euro/tonne)

M_MargCost[5,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
MCya	20682	702.106	391.907	153.311	1419.51	709.289	0
MCyb	10367	585.134	76.3891	414.219	789.695	568.692	0
MCyc	44893	19.3141	7.95863	2.3e-06	48.6584	17.9569	0
MCyd	47651	83.6737	26.2557	11.0036	159.09	86.3433	0
MCye	9791	66.0823	16.2441	29.01	112.975	63.8266	0

Fermes bovines

Belgique

(En euro/tête)

M_MargCost[4,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
MCya	63829	420.074	129.939	128.585	957.446	392.641	0
MCyb	172020	182.991	55.7166	1.58821	428.178	178.334	0
MCyc	11729	448.328	142.696	237.792	964.95	406.13	0
MCyd	104811	84.7406	35.0569	33.8067	237.787	76.249	0

Flandre

(En euro/tête)

M_MargCost[4,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
MCya	22520	348.256	53.2832	177.918	541.989	344.832	0
MCyb	60372	57.803	20.7736	16.5041	144.702	52.3138	0
MCyc	5503	128.703	47.9087	53.348	246.293	108.935	0
MCyd	41031	40.5384	16.6654	11.4235	104.762	37.8694	0

Wallonie

(En euro/tête)

M_MargCost[4,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
MCya	39743	476.885	154.212	186.483	1102.89	445.422	0
MCyb	110678	262.859	193.332	.00006	983.311	209.015	0
MCyc	2840	448.225	106.88	275.73	787.994	437.22	0
MCyd	62254	140.004	34.7644	7.95429	261.376	144.277	0

Fermes Laitières

Belgique

(En euro/tête)

M_MargCost[4,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
MCya	186009	243.479	24.9584	190.296	343.671	240.617	.049768
MCyb	183757	261.372	108.438	-62.1883	739.23	238.881	1.16125
MCyc	13718	116.78	73.7424	-31.6929	389.048	97.6805	.21566
MCyd	96815	57.9807	16.8032	3.20608	120.275	57.3059	.381553

Flandre

(En euro/tête)

M_MargCost[4,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
MCya	97610	236.506	18.9517	163.685	317.792	233.782	.098652
MCyb	97173	210.928	90.9479	-21.3818	581.584	197.092	2.13745
MCyc	8636	110.577	25.6826	42.7963	175.207	111.214	.427491
MCyd	55554	38.0638	15.4058	1.95494	100.992	35.1123	.098652

Wallonie

(En euro/tête)

M_MargCost[4,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
MCya	83987	390.119	62.2336	285.292	645.657	381.339	0
MCyb	83365	348.779	122.885	28.6521	835.154	327.341	0
MCyc	3493	253.008	44.9716	83.9338	398.62	252.095	.335458
MCyd	39161	43.8383	25.0176	-44.6069	154.38	39.2861	1.37538

ANNEXE 3 : DEMANDES EN INTRANTS

Source des données : UE-RICA - DG AGRI.

Fermes de grandes cultures

Belgique

(Valeurs en euro des prix sur base de l'année)

xa = intrants liés à l'élevage ; xb = intrants liés aux cultures ; xc = autres intrants ; xd = capital non lié au sol

M_InpDemand[4,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
IDxa	74831	46471.7	35346.1	-155.734	190180	35727.1	.053362
IDxb	101735	19308.2	16405.3	0	90181.8	13081.8	0
IDxc	100946	8217.78	7565.52	0	40351.2	5236.37	0
IDxd	98718	30869	30196.7	-20027.1	159073	19434.9	.573301

Flandre

(Valeurs en euro des prix sur base de l'année)

xa = intrants liés à l'élevage ; xb = intrants liés aux cultures ; xc = autres intrants ; xd = capital non lié au sol

M_InpDemand[4,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
IDxa	33922	2148.52	6318.85	-32523.5	25403.7	614.382	31.9104
IDxb	51593	15006.3	13041.9	0	79395.7	10122.9	0
IDxc	50706	6024.32	5829.06	-201.999	35306.5	3912.29	.159744
IDxd	50302	17018.5	19115	-8249.93	103465	10330.7	6.62939

Wallonie

(Valeurs en euro des prix sur base de l'année)

xa = intrants liés à l'élevage ; xb = intrants liés aux cultures ; xc = autres intrants ; xd = capital non lié au sol

M_InpDemand[4,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
IDxa	35711	5810.37	6351.76	-5603.53	30501.5	3389.79	5.25751
IDxb	46805	15096.8	11549.1	661.175	57821.5	11128.1	0
IDxc	45841	3906.84	3645.32	-2744.13	17551.1	2585.63	1.09797
IDxd	46698	31278.2	28898.2	-2845.85	137413	21671.2	.337838

Fermes bovines

Belgique

(Valeurs en euro des prix sur base de l'année)

xa = intrants liés à l'élevage ; xb = intrants liés aux cultures ; xc = autres intrants ; xd = capital non lié au sol

M_InpDemand[4,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
IDxa	168564	26479.8	39289	-764.185	230638	7087.28	.167997
IDxb	163727	3398.46	4032.83	-94.825	22847.1	1809.77	.063721
IDxc	166227	3225.03	4069.63	-1153.84	25939.3	1747.36	.734985
IDxd	167779	11628.5	24417	-102396	119510	65.3303	41.2185

Flandre

(Valeurs en euro des prix sur base de l'année)

xa = intrants liés à l'élevage ; xb = intrants liés aux cultures ; xc = autres intrants ; xd = capital non lié au sol

M_InpDemand[4,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
IDxa	59478	17677.3	28968.5	-14960.7	141425	1114.5	30.711
IDxb	57784	4664.16	4686.64	0	25320	3170.82	0
IDxc	59001	4897.55	5355.03	-177.073	29615.2	3066.79	.075643
IDxd	58610	6792.85	14939.4	-37303.5	65940.6	60.8615	36.1364

Wallonie

(Valeurs en euro des prix sur base de l'année)

xa = intrants liés à l'élevage ; xb = intrants liés aux cultures ; xc = autres intrants ; xd = capital non lié au sol

M_InpDemand[4,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
IDxa	106391	15491.4	23420.8	-1998.41	140786	5497.44	5.86348
IDxb	103978	3262.78	4489.98	-176.513	25113.1	1460.87	4.02367
IDxc	105973	4833.47	6663	-646.527	39471.8	2193.8	.525088
IDxd	106217	9321.42	25975.5	-110122	124767	-1122.31	50.2917

Fermes laitières

Belgique

(Valeurs en euro des prix sur base de l'année)

xa = intrants liés à l'élevage ; xb = intrants liés aux cultures ; xc = autres intrants ; xd = capital non lié au sol

M_InpDemand[4,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
IDxa	185026	31163.4	19109.9	2278.92	109041	27495	0
IDxb	183209	5582.84	3307.8	56.2926	18631.5	4873.91	0
IDxc	185636	12381.9	7495.23	-371.869	43035.9	11040.6	.033179
IDxd	186917	31133.6	20655.8	-42386.4	108501	27265.5	2.88653

Flandre

(Valeurs en euro des prix sur base de l'année)

xa = intrants liés à l'élevage ; xb = intrants liés aux cultures ; xc = autres intrants ; xd = capital non lié au sol

M_InpDemand[4,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
IDxa	99539	37630.6	21582	3163.49	113461	34362.7	0
IDxb	100011	6101.98	3587.02	232.14	20000.9	5497.18	0
IDxc	100621	11354.5	6786.74	-843.796	37237.8	10497.3	.098652
IDxd	101309	26885.2	21652.6	-144265	96680.7	22674.4	6.14929

Wallonie

(Valeurs en euro des prix sur base de l'année)

xa = intrants liés à l'élevage ; xb = intrants liés aux cultures ; xc = autres intrants ; xd = capital non lié au sol

M_InpDemand[4,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
IDxa	83334	108008	69967.3	6740.52	401492	92834.9	0
IDxb	80181	3041.32	2322.24	-6195.01	13472.4	2539.65	1.28422
IDxc	82350	9630.32	7320.49	-844.911	42183.4	7782.57	.134183
IDxd	82442	51072.1	30738.1	4863.88	162652	44850.5	0

ANNEXE 4 : COUTS MARGINAUX PAR RAPPORT AUX INTRANTS FIXES

Source des données : UE-RICA - DG AGRI.

Fermes de grandes cultures

Belgique

(valeurs en euro/valeurs en euro aux prix basés sur l'année)

za = Travail non payé

M_dCdF[1,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
dCdza	98750	19749.6	20299.6	0	109587	12434.4	0

M_dCdFza[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	3285	8112.77	5574.47	1634.46	22384.8	6654.79	0
1990	3905	5946.09	5046.26	1477.94	25988.5	4253.8	0
1991	3897	7701.01	6265.62	1444.24	26159.2	5853.61	0
1992	4071	8471.8	6575.98	1930.09	29420.6	6078.81	0
1993	3547	10627	7714.2	2041.02	31327	8151.94	0
1994	3923	11175.9	9659.48	1949.31	37649.6	8212.66	0
1995	3700	10915.8	8750.41	1870.92	37159.1	7980.7	0
1996	4709	12130.4	10349.9	2368.93	44993.6	8125.73	0
1997	4822	13454.4	11057.7	2363.32	46448.4	9571.36	0
1998	4632	12330.2	12192.6	1072.78	51768.2	6232.3	0
1999	4353	17317.5	14630.6	2177.25	62542.3	10765.8	0
2000	4368	15055.4	13444.8	1296.24	53482.3	9568.98	0
2001	4023	17418.8	14957.1	1173.49	58130.6	12638.9	0
2002	3771	22137.7	19232	1214.65	82734	14948.5	0
2003	3925	24412	21659.3	1159.73	94746.4	16526.4	0
2004	4084	25392.1	21074.4	1287.74	85488.8	18703.7	0
2005	4111	26306.3	20675.3	2364.54	87116.4	22142.7	0
2006	3910	24459.5	22249.3	1707.51	99398.7	15263.7	0
2007	4014	26508	22661.4	793.805	99707.1	16607.6	0
2008	3708	30551.7	26103.1	0	104363	17525.3	0
2009	3470	36938.7	27168.9	0	108806	26645.3	0
2010	3408	34697.2	28003.5	8250.06	109587	23968.4	0
2011	3150	32929.6	24106.5	7179.64	99762.7	20953.2	0
2012	3667	39697.9	27135.6	12013.6	107742	25637.7	0
2013	4297	28263.5	24508.7	6831.09	100772	16467.7	0

Flandre

(valeurs en euro/valeurs en euro aux prix basés sur l'année)

za = Travail non payé

M_dCdF[1,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
dCdza	50654	11410.7	12044.1	0	72567.2	7313.35	0

M_dCdFza[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	1450	7115.33	3942.99	1962.34	17906.5	5876.31	0
1990	1755	5956.85	4456.81	1336.93	18215.1	3951.18	0
1991	2040	6474.19	4388.86	1316.46	18013.7	5148.64	0
1992	2699	6691.79	4884.61	2063.94	22128.4	5348.64	0
1993	2240	8494.7	6487.19	1571.45	25924.4	6400.02	0
1994	2342	6959.05	5351.53	1405.14	21351.6	5134.27	0
1995	2162	7386.09	5251.12	1367.25	21828.6	5328.66	0
1996	2972	8596.94	7299.51	2476.12	33031.4	5887.58	0
1997	2881	9187.87	7720.56	1869.68	30307.1	5509.34	0
1998	2900	5597.33	6026.37	685.218	23611.8	3029.59	0
1999	2484	12497.4	10392.9	2169.39	41542	8478.88	0
2000	2306	8293.31	6222.96	1290.12	25570.3	6839.55	0
2001	2055	10711.1	8441.84	1734.39	38614.6	7472.79	0
2002	1708	15291.4	14398	2126.88	65066.1	10294.7	0
2003	1559	13485.8	12795.7	1417.65	60842.2	9935.86	0
2004	1787	16439.4	14806.5	1130.65	63456.9	12190.9	0
2005	1848	14965.4	14008.3	1817.2	62945.1	9506.82	0
2006	1652	9755.72	9386.22	1287.79	48386.3	6514.32	0
2007	1656	15379.1	15342.4	1053.89	59524.3	9843.22	0
2008	1661	13079	14923.2	0	67413.8	9230.03	0
2009	1510	19283.6	16726.9	0	65413.7	12464.2	0
2010	1508	17047.6	14828.7	3568.8	66192.9	12543.6	0
2011	1500	18820.9	16365.7	2866.73	67884	11825.6	0
2012	1662	23178.7	17974.8	6946.3	72567.2	15515.7	0
2013	2317	19494	19430.7	2567.65	69238	8436.49	0

Wallonie

(valeurs en euro/valeurs en euro aux prix basés sur l'année)

za = Travail non payé

M_dCdF[1,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
dCdza	46204	11084.3	10081.5	-19475.1	48199.8	8706.71	3.20946

M_dCdFza[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	1879	8474.89	6473.53	1239.71	21963.2	6680.31	0
1990	2252	6929.49	5718.02	1199.73	20690.1	5608.59	0
1991	1856	8060.14	6139.98	1567.57	25225.9	6102.59	0
1992	1372	12144.9	7399.78	2723.16	30015.1	9991.88	0
1993	1338	12214.6	7154.77	2875.97	29397.2	11589.1	0
1994	1488	10723.8	6704.35	2174.68	24383.1	9261.06	0
1995	1499	11282.3	7365.43	351.623	27754.4	10070.4	0
1996	1560	11308.4	6778.84	560.111	28134.8	9866.66	0
1997	1786	12724.1	8190.47	464.24	33340.2	11199.1	0
1998	1602	12701.7	8136.28	364.431	33001	12409.8	0
1999	1830	16610.5	11424.7	470.505	44665.7	16400.7	0
2000	1837	14747.9	9145.64	1135.67	35494.7	14866.6	0
2001	1719	13663.8	9377.87	404.917	35390.8	11836.9	0
2002	1875	13887.1	10791.4	277.887	41798.8	11169.6	0
2003	2123	14551.3	10521.6	750.038	41811.1	11928.2	0
2004	2163	16583.4	12878.8	3028.96	47270.7	13825.4	0
2005	2099	15095.5	11518.5	1483.91	48199.8	12253.8	0
2006	1998	10886	9083.24	201.533	38457.3	10189.3	0
2007	2214	10591.2	9394.09	33.9373	38579.7	6619.65	0
2008	2214	6952.29	11930	-8119.75	41087.9	5307.71	10.6383
2009	1813	8419.2	7916.34	-3128.92	35545.6	5606.79	4.25532
2010	1935	12335	12027.9	218.061	45978.8	8046.34	0
2011	1695	10507.2	10570.8	-13985.4	40487.8	9028.46	12.2449
2012	2063	7628.13	9744.56	-18349.5	39270.3	6141.96	8.33333
2013	1994	164.383	9176.73	-19475.1	25394.1	1221.59	43.75

Fermes bovines

Belgique

(valeurs en euro/valeurs en euro aux prix basés sur l'année)

za = Travail non payé

M_dCdF[1,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
dCdza	169250	8021.57	12508.2	0	72995.6	2732.93	0

M_dCdFza[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	5924	1626.67	2124.46	31.8403	8966.61	407.384	0
1990	6187	1980.1	2764.45	0	10867.6	420.943	0
1991	5815	1726.3	2291.49	0	9185.45	454.209	0
1992	7873	2382.77	3304.12	10.677	13822.3	421.665	0
1993	8437	3257.06	3995.92	59.8437	16665.9	1072.21	0
1994	8710	3041.81	3957.08	0	15869.8	605.146	0
1995	8539	4166.89	5139.89	0	24643.5	1692.86	0
1996	7602	4420.33	5499.29	12.918	25934.4	1365.25	0
1997	8538	4529.43	6122.12	6.25391	29024.7	910.824	0
1998	9186	4960.96	6648.42	60.7704	33942.1	1025.73	0
1999	7041	6298.62	8179.27	0	39421.8	1707.71	0
2000	6808	6895.87	7826.18	98.7173	36204.5	3309.9	0
2001	6635	8141.72	9610.5	175.025	46342.1	3295.87	0
2002	6319	10278.1	11213	249.834	50706.4	5661.42	0
2003	6465	12791.4	14155.8	231.265	61724	7047.78	0
2004	5834	13262.4	14838.1	395.211	59870.5	6005.89	0
2005	6096	15232.3	18051.7	739.895	70446.3	5206.52	0
2006	5854	15369.6	17976.6	296.992	70683.2	6387.19	0
2007	6562	14683.2	17821.4	73.6588	71707.9	5495.75	0
2008	5751	14576.4	17461.1	111.507	70930.4	4794.28	0
2009	5737	15858	18873.3	0	72995.6	5747.34	0
2010	6166	13059.8	16505.1	0	72003.5	5588.62	0
2011	4553	14303.4	17818.1	86.4495	71686.5	5123.22	0
2012	6208	10391.3	14643.6	204.221	66467.4	3274.43	0
2013	6410	10153.5	16209.3	0	72736.6	2373.29	0

Flandre

(valeurs en euro/valeurs en euro aux prix basés sur l'année)

za = Travail non payé

M_dCdF[1,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
dCdza	59549	4402.23	5946.96	0	31581.4	2129.46	0

M_dCdFza[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	1261	627.698	639.479	13.0286	1881.37	443.604	0
1990	1605	699.309	796.077	0	2849.39	331.211	0
1991	1697	1066.78	1036.38	0	3586.38	638.842	0
1992	2122	1677.75	1666.23	4.42533	5973.15	1721.26	0
1993	2887	1995.23	1835.97	27.4271	7504.81	1142.2	0
1994	2662	1505.69	1629.88	0	6209.65	510.03	0
1995	2856	2190.78	1864.41	0	7565.36	2124.07	0
1996	2268	2008.21	2179.41	6.01852	7841.73	1159.37	0
1997	2876	1970.35	2570.51	12.5295	10494.7	676.836	0
1998	2975	2117.81	2316.93	28.2245	11035.7	575.061	0
1999	2063	3226.33	3515.62	0	12239.9	2893.01	0
2000	1929	3535.09	3781.8	42.1367	13785.9	2639.03	0
2001	2098	4140.39	4166.32	76.494	16764.4	2991.54	0
2002	1642	5570.15	5153.09	109.228	17978.7	5039.51	0
2003	1772	7099.26	6284.77	101.561	24576.5	5017.02	0
2004	2801	6982.14	6933.16	184.956	26896.5	4749.35	0
2005	2702	7901.39	8390.31	561.237	30407.6	5095.92	0
2006	2569	8763.5	8630.57	131.715	30610.9	6206.66	0
2007	3123	7524.63	7957.34	31.9479	30575.4	4169.16	0
2008	2507	7176.6	7983.14	48.2922	28905.9	2499.31	0
2009	2782	8163.66	8367.14	0	28506.4	3732.38	0
2010	2608	5681.79	5913.21	0	24566.6	3376.13	0
2011	1834	5117.84	5460.51	37.9431	22689.3	2558.89	0
2012	2839	5701.46	7052.71	95.8367	31581.4	3004.39	0
2013	3071	3391.72	4797.58	0	23074.2	1554.53	0

Wallonie

(valeurs en euro/valeurs en euro aux prix basés sur l'année)

za = Travail non payé

M_dCdF[1,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
dCdza	107503	4597.26	7053.49	-14895.3	44043.6	1726.64	1.40023

M_dCdFza[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	4773	1132.07	1579.83	-288.134	5465.34	415.408	1.23457
1990	4484	1126.7	1517.15	13.4117	5442.28	295.149	0
1991	4007	775.637	1146.73	-864.214	4469.01	229.953	2.1978
1992	5765	1262.64	1754.49	-259.82	7241.37	347.586	1.92308
1993	5584	1784.9	2393.66	-1824.7	9487.42	513.249	2.45902
1994	6048	1879.82	2596.07	-2855.46	9582.54	445.679	2.34375
1995	5576	2300.75	3151.69	-1487.82	13493.4	420.284	1.7094
1996	5286	2821.12	3481.93	-14.7583	14243.8	706.812	.689655
1997	5603	2994.56	3937.45	-832.916	19007.9	729.579	.719424
1998	6081	3296.46	4667.27	-9374.38	21328.7	794.792	1.31579
1999	4901	3903.32	5051.52	-4517.4	21996.9	1151.17	.729927
2000	4799	4950.21	4840.4	-2832.46	22050.4	3014.68	1.47059
2001	4458	5498.93	5954.33	-4985.59	28841.5	2696.79	1.98675
2002	4645	7270.94	7949.05	-12166.2	34754.6	4323.21	1.84049
2003	4627	8767.9	9511.11	-10584.4	41729.1	4647.86	1.84049
2004	2977	8274.23	9379.96	-10422.4	38225.5	4090.11	1.3986
2005	3253	9318.16	10525.7	-10464.3	44043.6	4085.01	1.3245
2006	3134	8336.03	9603.63	-661.094	41699.2	3765.63	.689655
2007	3315	8501.56	10850.9	-13202.9	42234.6	3763.33	2.06897
2008	3082	8091.97	9752.91	-6044.89	39670.6	3489.04	2.14286
2009	2753	7402.54	8836.98	-14895.3	36463.6	4137.02	1.6
2010	3348	8430.9	9897.08	-1862.89	40253.9	4191.74	.609756
2011	2513	9529.71	10486.8	505.094	40358.4	4283.68	0
2012	3339	6151.81	8310.32	-5115.89	35905.4	2355.34	1.12994
2013	3152	5852.13	8669.67	-6429.96	38504.4	1873.13	1.76471

Fermes laitières

Belgique

(valeurs en euro/valeurs en euro aux prix basés sur l'année)

za = Travail non payé

M_dCdF[1,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
dCdza	181611	2571.25	2562.53	42.9306	14424.6	1616.27	0

M_dCdFza[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	11874	1017.48	722.733	126.35	3563.94	762.971	0
1990	12432	794.329	563.401	141.323	2928.55	610.013	0
1991	14076	875.424	637.525	42.9306	3095.41	671.4	0
1992	9518	994.356	646.903	130.444	3161.97	833.935	0
1993	9750	1192.21	805.169	157.151	4217.37	923.563	0
1994	9013	1313.53	946.99	159.78	4357.2	1015.14	0
1995	9007	1284.77	921.921	95.5733	4771.55	1027.3	0
1996	8288	1323.01	899.359	169.288	4611.51	1045.59	0
1997	8314	1484.96	1003.75	259.129	4907.03	1214.25	0
1998	8397	1681.53	1119.84	240.134	5540.75	1276.97	0
1999	7536	1856.13	1252.39	210.543	5952.76	1532.07	0
2000	7295	3578.31	2324.11	791.263	11980.5	2868.26	0
2001	7028	3570.07	2121.12	559.861	10580.8	3074.63	0
2002	7115	3816.49	2484.73	589.583	12812.7	3282.61	0
2003	7044	4553.52	2717.93	349.387	13628	4047.54	0
2004	5945	4985.54	3133.54	450.534	14011.4	4444.89	0
2005	6077	4752.46	2852.12	365.242	13476.8	4156.67	0
2006	5350	4742.48	2916.87	802.43	13777.5	4115.91	0
2007	5136	4241.93	2627.3	612.57	12351.4	3654.92	0
2008	4516	4770.12	2714.17	776.196	13585.1	4353.41	0
2009	4700	4872.34	2822.2	755.476	13879.8	4315.13	0
2010	3850	5980.57	2978.65	1559.73	13896.2	5734.58	0
2011	3443	6196.05	3277.6	643.777	14424.6	5731.22	0
2012	2884	6201.91	3380.74	1164.46	14195.7	5279.51	0
2013	3023	4625.11	2934.84	588.436	13113.3	3840.68	0

Flandre

(valeurs en euro/valeurs en euro aux prix basés sur l'année)

za = Travail non payé

M_dCdF[1,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
dCdza	96792	1367.55	1923.3	-268.409	9895.45	397.822	12.5288

M_dCdFza[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	6320	-112.256	59.0906	-268.409	-18.1416	-99.208	99.1935
1990	6505	-59.5226	35.5138	-179.877	12.1287	-53.9947	95.8333
1991	8090	-29.4648	27.9653	-107.885	46.0472	-32.3359	80.5556
1992	4757	13.9388	26.6322	-38.6892	93.7398	9.77921	22.314
1993	4621	69.1319	52.3754	7.38391	251.33	54.5511	0
1994	4458	142.407	94.7658	20.0554	442.234	115.908	0
1995	4648	211.002	136.711	19.0152	664.677	174.155	0
1996	3971	261.703	142.279	54.4108	739.698	226.915	0
1997	3990	382.077	210.965	69.9835	995.464	315.996	0
1998	3986	474.997	277.342	74.7443	1337.17	382.894	0
1999	3942	603.561	361.534	99.0375	1703.86	515.872	0
2000	3953	1344.03	723.899	357.024	3752.93	1133.46	0
2001	3840	1451.17	789.368	314.726	3709.96	1271.95	0
2002	3516	1710.47	878.233	435.972	4179.91	1589.68	0
2003	3581	2174.43	1065.05	528.541	5285.5	2106.92	0
2004	3794	3040.9	1636.93	663.938	7420.41	2702.52	0
2005	3717	2673.01	1248.14	324.756	5877.04	2514.9	0
2006	3193	3035.3	1504.99	793.283	7271.01	2778.7	0
2007	3030	3271.27	1554.24	859.87	6936.2	3044.3	0
2008	2554	3858.97	1682.11	813.497	8793	3705.98	0
2009	2823	3829.92	1843.5	719.727	9019.98	3663.05	0
2010	2214	5072.64	1927.39	1474.56	9895.45	4938.84	0
2011	1960	5158.96	2077.3	1240.15	9666.78	5003.23	0
2012	1700	5397.75	2164.16	1916.76	9874.68	5092.96	0
2013	1629	4859.6	2283.54	1187.65	9647.65	4777.7	0

Wallonie

(valeurs en euro/valeurs en euro aux prix basés sur l'année)

za = Travail non payé

M_dCdF[1,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
dCdza	82380	13200.4	11615.1	486.579	65045.5	9481.85	0

M_dCdFza[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	5554	4625.59	2823.49	1095.68	12773.2	4114.17	0
1990	5965	3865.02	2530.81	684.717	11337.9	3245.67	0
1991	5567	3782.03	2028.01	532.346	10244.3	3439.9	0
1992	4408	5274.92	3157.49	486.579	13617.1	4563.92	0
1993	4979	7303.95	4547.14	1182.23	18972.1	6499.27	0
1994	4231	7524.94	4427.16	958.082	20090.2	6579.53	0
1995	4323	7597.37	4520.5	882.881	20978.2	6759.44	0
1996	4100	8486.07	4322.97	1306.65	21080.9	8175.38	0
1997	4218	10018.4	5288.04	1473.44	25388	9659.92	0
1998	4315	12560.8	6066.64	3275.76	29724.7	11821.3	0
1999	3529	14492.6	6613.63	2932.67	34799.1	13780.7	0
2000	3294	17170.4	8519.75	6462.95	44089.1	15155.2	0
2001	3158	18697.6	8305.5	6644.94	43409.1	17739.2	0
2002	3534	20709.2	11156.1	2504.09	52419.8	19584.1	0
2003	3428	25515.5	13073.5	5938.13	60023.2	23306.2	0
2004	2225	20227.3	11580.3	4029.68	56190.1	18206.3	0
2005	2228	26035.9	14139.7	5015.31	59338.6	23785.9	0
2006	2102	25028.9	12919	5244.66	58348	23246.5	0
2007	2230	20524	12230.7	4235.46	52139.9	17934.3	0
2008	1991	19765.4	9825.39	6506.71	44301.3	18473.9	0
2009	1929	25653.9	13449.2	7706.3	60459.8	22642	0
2010	1505	30126.4	14518.9	12034.8	64723.9	27396.9	0
2011	1176	27202.4	12927.3	5568.78	62474.2	26323.5	0
2012	1008	32450.5	15855.7	7865.88	65045.5	30317.3	0
2013	1383	24888.5	15064.9	3994.19	56549.1	21180.5	0

ANNEXE 5 : RESULTATS DES ESTIMATIONS DES INDICATEURS DE PRODUCTIVITE

Source des données : UE-RICA - DG AGRI.

Ferme de grandes cultures

Flandre

a. Retours d'échelle

M_ORTS_overall[1,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
ORTS	49348	.958279	.044845	.773774	1.02154	.970013	.159744

M_ORTS[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	1469	.979488	.019764	.931041	1.00915	.983314	0
1990	1932	.975322	.022528	.919928	1.00789	.978923	0
1991	2123	.98383	.017239	.933786	1.01677	.98489	0
1992	2781	.980261	.015917	.922636	1.0133	.981836	0
1993	2167	.97673	.014686	.941552	1.00595	.979606	0
1994	2387	.973352	.019016	.920582	1.00396	.968793	0
1995	2178	.97637	.017969	.946485	1.00361	.975624	0
1996	3041	.967631	.0219	.901967	1.00217	.968848	0
1997	2984	.96905	.029965	.888581	1.00611	.979782	0
1998	2902	.963383	.025128	.893321	1.0046	.967893	0
1999	2436	.964427	.024817	.89484	1.00347	.968052	0
2000	2469	.969853	.037299	.878755	1.02154	.979943	0
2001	2283	.965893	.032299	.884657	1.02129	.969125	0
2002	1907	.962028	.037037	.875531	1.01381	.963531	0
2003	1867	.953624	.040146	.860848	1.01648	.958715	0
2004	1867	.960787	.032938	.881193	1.01349	.957794	0
2005	1896	.938341	.054193	.803969	1.00991	.950534	0
2006	1650	.938217	.04834	.85042	1.01979	.951886	0
2007	1812	.926087	.062387	.790892	1.01163	.938516	0
2008	1556	.895281	.070708	.785946	1.00653	.900738	0
2009	1442	.923593	.065612	.784999	1.01105	.93544	0
2010	908	.950138	.061159	.783166	1.01947	.960794	0
2011	866	.946982	.042644	.85787	1.00283	.960284	0
2012	1221	.898831	.074516	.773774	1.01198	.91159	2.5641
2013	1204	.902416	.061101	.787779	1.01338	.921578	2.5

b. Retours d'échelle spécifique aux produits

M_PSRTS_overall[5,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
PSRTSya	20615	1.03242	.004721	1.01972	1.04547	1.03224	0
PSRTSyb	2875	.983218	.003907	.973635	.993739	.983144	0
PSRTSyc	47523	.977864	.016355	.914689	.999602	.98213	.079872
PSRTSyd	48359	.893292	.106802	.517801	.998903	.931384	.159744
PSRTSye	16655	1.00392	.004395	.984617	1.01718	1.00467	0

M_PSRTSya[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	1045	1.0285	.003301	1.02064	1.03349	1.02889	0
1990	1131	1.03064	.002514	1.02634	1.03503	1.03041	0
1991	1330	1.03102	.003002	1.02292	1.03655	1.03047	0
1992	1234	1.03133	.002965	1.0248	1.03668	1.03121	0
1993	1055	1.03211	.002959	1.02578	1.03644	1.03182	0
1994	853	1.03178	.003159	1.02578	1.03776	1.03182	0
1995	1054	1.03224	.002813	1.02792	1.03658	1.03207	0
1996	919	1.03116	.00266	1.0272	1.03575	1.03045	0
1997	1035	1.03068	.002914	1.025	1.03584	1.02999	0
1998	664	1.0308	.003176	1.02452	1.03572	1.03076	0
1999	918	1.03141	.003276	1.02574	1.03659	1.03147	0
2000	1037	1.03087	.004296	1.02407	1.03859	1.03064	0
2001	900	1.0337	.004652	1.02549	1.0426	1.03339	0
2002	685	1.03448	.005005	1.02309	1.04154	1.0351	0
2003	563	1.03033	.003885	1.02325	1.03532	1.0314	0
2004	692	1.03136	.005038	1.02151	1.03809	1.03186	0
2005	444	1.03175	.006089	1.02141	1.04052	1.03205	0
2006	470	1.03419	.004155	1.02627	1.03942	1.03635	0
2007	633	1.03306	.005336	1.02005	1.04072	1.03447	0
2008	467	1.03495	.004199	1.02631	1.0392	1.03629	0
2009	693	1.03374	.006039	1.01972	1.0432	1.03591	0
2010	518	1.03854	.003663	1.03322	1.04547	1.03902	0
2011	602	1.03834	.004644	1.02697	1.04497	1.03877	0
2012	709	1.03646	.006149	1.02288	1.0427	1.03954	0
2013	964	1.03615	.006643	1.0202	1.0419	1.03877	0

M_PSRTSyb[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	143	.988292	.001419	.985282	.98932	.989312	0
1990	246	.981344	.003834	.975126	.98762	.981859	0
1991	329	.980787	.001854	.976736	.983144	.980662	0
1992	374	.984514	.002764	.980734	.988868	.985377	0
1993	208	.987321	.001358	.985573	.989056	.987471	0
1994	288	.982037	.002358	.979057	.9853	.981609	0
1995	346	.981637	.00212	.978931	.985085	.981451	0
1996	237	.98498	.001655	.98318	.98739	.984727	0
1997	0	.	.	.	.	.	0
1998	266	.981764	.006001	.973807	.988951	.985056	0
1999	354	.982207	.003547	.973635	.986238	.981341	0
2000	0	.	.	.	.	.	0
2001	0	.	.	.	.	.	0
2002	0	.	.	.	.	.	0
2003	23	.980409	0	.980409	.980409	.980409	0
2004	0	.	.	.	.	.	0
2005	0	.	.	.	.	.	0
2006	0	.	.	.	.	.	0
2007	0	.	.	.	.	.	0
2008	29	.993739	0	.993739	.993739	.993739	0
2009	0	.	.	.	.	.	0
2010	0	.	.	.	.	.	0
2011	0	.	.	.	.	.	0
2012	32	.988561	0	.988561	.988561	.988561	0
2013	0	.	.	.	.	.	0

M_PSRTSyc[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	1276	.988095	.006259	.971894	.998017	.990145	0
1990	1647	.986212	.006849	.970687	.997593	.988424	0
1991	2002	.98551	.00849	.965699	.998074	.987881	0
1992	2793	.980984	.010104	.947556	.999602	.984815	0
1993	2198	.983673	.009549	.959471	.997594	.985644	0
1994	2031	.983527	.010842	.958438	.997908	.987134	0
1995	2030	.985788	.008983	.963348	.998039	.987793	0
1996	3074	.978394	.013722	.942172	.999523	.980931	0
1997	2786	.980815	.018091	.926433	.999001	.983883	0
1998	2497	.983919	.015472	.935448	.996968	.990961	0
1999	2415	.97449	.016531	.92942	.999325	.976239	0
2000	2309	.9767	.018543	.922248	.999319	.982876	0
2001	2148	.974144	.018609	.921996	.99845	.978315	0
2002	1807	.974344	.01984	.914907	.998361	.978671	0
2003	1677	.972998	.020901	.914689	.99848	.976318	0
2004	1819	.976016	.017855	.929249	.997821	.981722	0
2005	1728	.978575	.014322	.940678	.999314	.981503	0
2006	1596	.979179	.015505	.929962	.997335	.984728	0
2007	1623	.972714	.016498	.92006	.991517	.979217	0
2008	1278	.976754	.010668	.960368	.992602	.97839	0
2009	1372	.971189	.020152	.920751	.99477	.9758	0
2010	1356	.977479	.014622	.923871	.996189	.982775	0
2011	1312	.968644	.012306	.926012	.988982	.967538	0
2012	1284	.96921	.011432	.94621	.99107	.972824	0
2013	1465	.950501	.016297	.921522	.981551	.95521	2.5

M_PSRTSyd[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	1447	.958775	.021549	.908063	.990158	.961961	0
1990	1848	.962715	.024101	.904746	.998903	.965526	0
1991	2040	.964787	.021403	.910131	.997368	.967945	0
1992	2867	.966075	.024696	.890569	.997805	.975038	0
1993	2230	.957596	.027339	.893724	.997616	.961369	0
1994	1830	.952363	.025545	.898418	.997658	.955752	0
1995	2264	.95135	.031898	.882819	.997558	.955833	0
1996	2908	.949365	.032907	.867822	.996074	.958043	0
1997	2784	.943897	.032575	.862748	.997156	.960769	0
1998	2770	.940451	.03616	.840442	.995789	.951329	0
1999	2163	.937148	.039474	.862084	.99696	.938286	0
2000	2288	.931052	.045709	.822278	.996135	.9362	0
2001	2109	.922506	.041707	.819028	.997579	.921538	0
2002	1820	.906109	.053497	.782902	.995151	.926749	0
2003	1746	.889944	.057494	.746059	.978779	.898234	0
2004	1581	.91017	.038637	.827568	.984931	.910796	0
2005	1656	.868246	.057801	.729355	.989758	.866451	0
2006	1662	.859142	.057233	.710339	.961489	.859235	0
2007	1770	.843649	.067914	.684216	.990879	.840781	0
2008	1621	.818986	.071918	.653435	.968433	.814054	0
2009	1562	.746657	.096497	.554968	.95114	.7292	1.81818
2010	1423	.723909	.11687	.534044	.938016	.70117	0
2011	1311	.699712	.109235	.523125	.969556	.674003	0
2012	1187	.657334	.123275	.517801	.941199	.613881	2.5641
2013	1472	.640835	.103981	.522789	.931054	.594548	0

M_PSRTSye[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	586	1.00464	.001331	1.00167	1.00677	1.00493	0
1990	591	1.00588	.002061	1.00068	1.00961	1.00544	0
1991	1155	1.00541	.002016	1.00146	1.00936	1.00555	0
1992	973	1.00286	.003658	.99511	1.00921	1.00321	0
1993	926	1.00284	.00269	.997444	1.00787	1.00324	0
1994	940	1.00412	.002563	.99818	1.00792	1.0048	0
1995	1024	1.00297	.002547	.997633	1.00776	1.00385	0
1996	798	1.00241	.002141	.998711	1.00644	1.00285	0
1997	1349	1.00401	.001631	1.00049	1.00732	1.00422	0
1998	991	1.00578	.000824	1.00467	1.0075	1.00551	0
1999	843	1.00282	.003279	.995589	1.00787	1.00315	0
2000	961	1.00687	.001828	1.00336	1.01067	1.00654	0
2001	786	1.00553	.001997	1.00121	1.00941	1.0056	0
2002	605	1.00195	.004585	.993323	1.00987	1.00388	0
2003	635	1.00322	.005894	.986696	1.01032	1.00412	0
2004	540	1.00219	.003953	.994715	1.00806	1.00234	0
2005	684	1.00121	.008012	.986844	1.01078	1.00484	0
2006	292	1.00739	.003856	.998947	1.01372	1.00867	0
2007	381	1.00123	.008462	.984845	1.01017	1.00219	0
2008	289	1.00262	.00474	.991593	1.00763	1.00496	0
2009	794	1.00492	.009498	.984617	1.01718	1.00761	0
2010	202	1.00468	.00742	.996711	1.01436	1.00321	0
2011	250	1.00136	.005112	.98958	1.00869	1.00291	0
2012	0	.	.	.	.	.	0
2013	60	1.00388	.000487	1.0032	1.00423	1.00422	0

c. Economies de gamme

M_ESCP_overall[1,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
ESCP	51594	.99585	.004733	.974896	1.00908	.997077	0

M_ESCP[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	1469	.99729	.002462	.99236	1.00063	.997844	0
1990	1908	.99735	.002272	.991772	1.00003	.997896	0
1991	2204	.997631	.002153	.992572	1.00036	.998548	0
1992	2901	.996779	.002425	.990627	1.0004	.998117	0
1993	2333	.996059	.002992	.988255	1.00021	.997155	0
1994	2466	.996701	.002608	.990008	1.00054	.997421	0
1995	2376	.99655	.002616	.990865	1.00017	.997181	0
1996	3035	.99614	.002777	.987799	1.00013	.99687	0
1997	2922	.996092	.003027	.988086	1.00167	.9966	0
1998	2918	.997793	.001945	.991865	1.00152	.998199	0
1999	2403	.996136	.002967	.987953	1.00078	.997054	0
2000	2415	.99749	.002912	.990022	1.00346	.997876	0
2001	2202	.996315	.003698	.987523	1.00372	.996508	0
2002	1841	.99629	.004172	.984704	1.00491	.996347	0
2003	1775	.995895	.005034	.979481	1.00394	.996464	0
2004	1851	.995854	.004299	.982322	1.00225	.996194	0
2005	1896	.995162	.004877	.980242	1.00281	.99626	0
2006	1862	.99557	.00522	.980376	1.00382	.997587	0
2007	1779	.994272	.006406	.974896	1.00404	.995132	0
2008	1520	.995444	.00469	.986257	1.00421	.995858	0
2009	1509	.992181	.008149	.975724	1.00908	.993574	0
2010	1433	.994368	.006464	.978477	1.0089	.995207	0
2011	1424	.992242	.008315	.977234	1.0054	.99429	0
2012	1434	.991975	.008335	.975407	1.00596	.993671	0
2013	1718	.992308	.008427	.974899	1.00678	.994014	0

d. Taux de diminution du coût marginal

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M_rcMC[5,7]
           Obs      Mean    StdDev       Min       Max    Median      %neg
rcMCya   21453   1.09764   .197595    .65683   1.68585    1.0534         0
rcMCyb    3286   1.86083   .320864   1.23292   2.52069   1.92702         0
rcMCyc   45630   5.01662    1.8728   2.38084   12.0633   4.48418         0
rcMCyd   45507     7.269   3.92254   2.87723   21.4176   5.94992         0
rcMCye   17352   2.05341    .37903   1.14692   3.52248   2.07095         0
M_rcMCya[25,7]
           Obs      Mean    StdDev       Min       Max    Median      %neg
1989      1067   .940319   .106757   .745508   1.14162   .976744         0
1990      1203   .922128   .089279   .705994   1.08176   .947569         0
1991      1448   .944156   .100949   .714439   1.10369   .978739         0
1992      1290   .927145   .092532   .765066    1.1275   .964974         0
1993      1055   .994472    .09747   .811732   1.17354   1.02804         0
1994       853   .959372   .075739    .82019   1.05938   .991386         0
1995      1054   1.00914   .079562   .838011   1.16791    1.0092         0
1996       886   1.06198   .113634   .877362    1.2426   1.04817         0
1997       907   1.09712   .087322   .928814   1.22495   1.11268         0
1998       670   1.11943   .092835   .913826    1.2764   1.11781         0
1999       870   1.04966   .116171    .84258   1.21308    1.0662         0
2000      1151   1.05949   .124489   .835249     1.273   1.05717         0
2001       930   1.06809   .120974   .825093   1.26556   1.07939         0
2002       869   1.05895   .117333    .80292    1.2257   1.09126         0
2003       710   1.25169   .126056   .988894   1.44035   1.27495         0
2004       748   1.24848   .171611   .977676   1.44716   1.30903         0
2005       480   1.33919   .156653   1.08815   1.53149   1.41701         0
2006       496   1.26058   .142635    .98526   1.40161   1.33083         0
2007       663   1.27467   .162657   .920075   1.47841   1.35149         0
2008       550   1.17784   .170679   .881383    1.3956   1.23896         0
2009       786   1.24196   .187729   .965376   1.55185   1.25498         0
2010       527   1.41657   .109948   1.19604   1.54715   1.47244         0
2011       602   1.31998   .145089   .930041   1.44421   1.36914         0
2012       627   1.51496   .197333   1.07875   1.68585   1.57426         0
2013      1011   1.14517   .201393    .65683   1.29707   1.20984         0
```

M_rcMCyb[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	165	1.35351	.198439	1.23292	1.82792	1.26139	0
1990	222	1.90307	.161066	1.65845	2.06117	1.99275	0
1991	421	1.88415	.151116	1.66297	2.09921	1.95859	0
1992	452	1.75895	.296938	1.23988	2.1046	1.76011	0
1993	342	1.67023	.328495	1.24731	2.07584	1.64529	0
1994	288	1.86379	.231913	1.47888	2.11008	1.97533	0
1995	346	1.94141	.227029	1.60896	2.22989	1.86823	0
1996	270	1.95771	.23626	1.58321	2.30829	2.00186	0
1997	0	.	.	.	.	.	.
1998	266	2.00823	.433988	1.48723	2.52069	1.92702	0
1999	453	2.00603	.326089	1.46029	2.49403	1.928	0
2000	0	.	.	.	.	.	.
2001	0	.	.	.	.	.	.
2002	0	.	.	.	.	.	.
2003	0	.	.	.	.	.	.
2004	32	2.49073	0	2.49073	2.49073	2.49073	0
2005	0	.	.	.	.	.	.
2006	0	.	.	.	.	.	.
2007	0	.	.	.	.	.	.
2008	29	1.7132	0	1.7132	1.7132	1.7132	0
2009	0	.	.	.	.	.	.
2010	0	.	.	.	.	.	.
2011	0	.	.	.	.	.	.
2012	0	.	.	.	.	.	.
2013	0	.	.	.	.	.	.

M_rcMCyc[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	1527	3.22803	.453725	2.4264	4.13814	3.34909	0
1990	1875	3.48551	.456004	2.42637	4.3487	3.61443	0
1991	2259	3.60078	.532021	2.38084	4.81355	3.75124	0
1992	2270	3.62219	.499495	2.59185	4.71425	3.77681	0
1993	2272	3.75676	.583308	2.6437	4.87532	3.92283	0
1994	2052	3.89194	.585285	2.77211	5.12859	4.08751	0
1995	2209	4.26783	.593382	2.93582	5.52196	4.425	0
1996	2332	4.24552	.678763	2.80985	5.41166	4.41909	0
1997	2807	4.51112	.676072	2.84643	5.86714	4.8487	0
1998	2565	4.47558	.780122	2.7875	5.62652	4.78118	0
1999	2397	4.48754	.856693	2.98543	5.77411	4.34988	0
2000	2363	4.90339	.960914	3.01138	6.39685	5.12272	0
2001	2055	4.70412	.782313	3.19819	5.71988	4.6618	0
2002	1832	4.70166	.944969	2.99874	6.25536	4.9066	0
2003	1723	5.37588	1.13424	3.46455	7.06396	5.60885	0
2004	1852	5.378	1.27115	3.2499	7.36332	5.27759	0
2005	1704	5.86798	1.30916	3.42561	7.76896	6.00997	0
2006	1606	6.31023	1.53435	3.2093	8.78236	6.68386	0
2007	1677	7.07026	1.84094	3.58349	9.58216	7.70584	0
2008	1324	7.51388	2.22038	3.45991	10.3084	7.96266	0
2009	1404	7.46686	2.43507	3.49459	11.0816	7.41477	0
2010	1371	8.32243	2.23782	3.87856	11.6028	8.64431	0
2011	1013	8.53013	2.3202	3.73007	12.0633	9.28938	0
2012	744	8.4833	2.34889	4.33365	11.6679	10.0317	0
2013	397	6.20584	1.98271	4.08614	11.0485	5.69523	0

M_rcMCyd[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	1436	3.44701	.302565	2.87723	4.06944	3.40092	0
1990	1872	3.70817	.388981	2.91105	4.38106	3.7062	0
1991	2186	3.88325	.418013	3.0453	4.64726	3.79201	0
1992	2897	4.07132	.458255	2.90568	4.9116	4.06439	0
1993	2200	4.1372	.507354	3.06013	5.23341	4.08426	0
1994	1909	4.33829	.562656	3.33533	5.46977	4.23573	0
1995	2241	4.72212	.688018	3.30425	5.97811	4.65469	0
1996	2488	5.20761	.680482	3.84071	6.52946	5.25024	0
1997	2784	6.20754	1.0639	4.25353	7.70917	6.08356	0
1998	2838	6.6466	1.1179	4.14291	8.25595	6.82401	0
1999	2202	6.44738	1.13851	4.31785	8.64467	6.24167	0
2000	2213	6.83363	1.25068	4.46386	8.98411	6.84374	0
2001	1986	6.85728	1.13804	4.68475	8.73009	7.04882	0
2002	1629	6.75131	1.39411	4.13684	9.40476	6.57084	0
2003	1560	8.63581	2.14419	4.54447	12.1802	8.72427	0
2004	1393	9.31841	2.44443	5.01117	13.7449	9.37558	0
2005	1536	10.3822	3.05832	4.69369	14.9939	10.0057	0
2006	1484	10.2744	2.72791	4.86799	14.1156	10.1816	0
2007	1689	11.4563	3.6294	4.68184	17.3248	11.7951	0
2008	1675	11.9479	3.96775	4.34892	18.2111	12.5224	0
2009	1264	12.1751	4.62373	4.59466	21.0276	12.2511	0
2010	1072	14.2201	4.48548	4.94115	21.332	15.455	0
2011	1010	15.1027	4.41812	6.05793	21.4176	15.5827	0
2012	671	10.3754	3.29069	5.46483	15.3014	9.3609	0
2013	1272	13.9573	4.96744	5.21461	20.3547	14.3733	0

M_rcMCye[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	784	1.85648	.296933	1.34572	2.4197	1.87623	0
1990	606	1.96876	.19193	1.6186	2.272	2.02712	0
1991	1155	1.93288	.287318	1.3123	2.48267	2.04023	0
1992	973	1.93794	.268532	1.44397	2.51491	2.00548	0
1993	927	1.87907	.315119	1.42198	2.41503	1.99479	0
1994	975	1.88433	.341873	1.22533	2.45073	1.8665	0
1995	1059	1.98317	.321907	1.26894	2.5338	1.96304	0
1996	930	2.02745	.302041	1.53258	2.47667	2.02378	0
1997	1447	2.13803	.21469	1.68016	2.60007	2.12562	0
1998	1127	2.10227	.285122	1.57437	2.66907	2.18293	0
1999	921	2.03703	.345102	1.5104	2.6439	2.05868	0
2000	1031	2.10771	.386131	1.5123	2.70285	1.94794	0
2001	1008	2.11827	.354693	1.57928	2.72165	1.94816	0
2002	649	1.83302	.245614	1.36661	2.36795	1.81019	0
2003	547	2.14957	.212164	1.88992	2.55945	2.16677	0
2004	644	2.08273	.266925	1.54062	2.5822	2.00028	0
2005	612	2.55608	.589811	1.18896	3.52248	2.66471	0
2006	372	2.12444	.641789	1.14692	3.29507	1.93472	0
2007	360	2.23735	.635459	1.21435	3.27244	2.17506	0
2008	249	1.91068	.369718	1.39551	2.81364	1.79149	0
2009	460	2.27071	.413329	1.50491	3.08489	2.40073	0
2010	116	2.60643	.585391	1.55932	3.45047	2.4588	0
2011	142	2.30935	.512862	1.68342	3.3012	2.26007	0
2012	158	2.4862	.243625	2.11701	2.78859	2.54115	0
2013	100	2.41726	.164751	2.20236	2.6068	2.38679	0

e. Taux de diminution du coût

M_RCD_overall[1,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
RCD	48036	4.51897	2.50153	.966377	14.4844	3.85107	0

M_RCD[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	1560	2.65958	.594357	1.50507	3.93775	2.53355	0
1990	1932	2.96901	.683551	1.31081	4.326	2.98543	0
1991	2131	2.77853	.606352	1.26678	4.21764	2.7917	0
1992	2927	3.41471	1.03361	1.22865	4.84143	3.28732	0
1993	2303	3.31532	.927234	1.33887	4.87785	3.35307	0

1994	2172	3.38851	1.04469	1.43371	5.65456	3.13482	0
1995	2357	3.57012	1.19462	1.70789	5.87368	3.20262	0
1996	2887	4.1434	1.45653	1.42421	6.77687	4.19974	0
1997	3046	4.01842	1.42634	1.49782	7.54696	3.60674	0
1998	3022	5.34343	1.81304	1.6515	8.37326	5.77184	0
1999	2466	4.27075	1.59479	1.50533	7.49413	4.41132	0
2000	2508	4.45538	1.934	1.23209	7.97754	4.45359	0
2001	2238	4.32792	1.88443	1.19749	7.56774	4.29152	0
2002	1801	3.9331	1.82224	.966377	7.42694	4.04032	0
2003	1717	4.80761	2.41203	1.47071	9.65121	4.25074	0
2004	1686	4.8316	2.33816	1.56814	9.01001	4.76386	0
2005	1776	6.20251	3.26322	1.45342	12.1622	5.95997	0
2006	1750	7.68195	4.2214	1.36505	14.4844	7.21736	0
2007	1647	7.0038	3.97469	1.44798	13.6597	6.37077	0
2008	1306	7.69308	3.9172	1.04121	14.102	7.5237	0
2009	1226	5.25234	3.09175	1.11177	11.8204	4.4336	0
2010	881	5.29753	2.42598	1.60826	11.1872	4.57071	0
2011	849	5.9195	2.94409	2.13213	12.0658	5.26923	0
2012	893	5.68572	2.61121	1.58402	10.7208	5.2378	0
2013	955	5.63929	2.56085	1.29306	10.1421	5.36266	0

f. Taux de changement technique

```
M_RTC_overall[1,7]
         Obs      Mean    StdDev       Min       Max    Median      %neg
RTC    51487   .884959   .429907   .075399   2.22245   .829197         0

M_RTC[25,7]
          Obs      Mean    StdDev       Min       Max    Median      %neg
1989     1560   .500942   .230094   .099429   .914097   .533521         0
1990     1932   .576828    .25412   .075399   .983188    .60743         0
1991     2259   .559472   .272337   .106509   1.11052   .583278         0
1992     2927   .773366   .358681   .112694   1.28282   .754065         0
1993     2364   .696449   .265698   .143525   1.18328    .73846         0
1994     2172   .676688   .278796   .157573   1.20253   .666606         0
1995     2299   .684228   .283899   .156604    1.3285   .693848         0
1996     2434   .738416   .278533    .19025    1.1786   .739374         0
1997     3046   .852638   .301054   .201854   1.58934   .779778         0
1998     3022    .86286   .262278   .216796   1.41803   .889824         0
1999     2505   .845637   .382931   .219526   1.52074   .813317         0
2000     2477    .86369   .329213   .255647   1.40065   .887949         0
2001     2322   .858386   .336745   .253736   1.43533   .851375         0
2002     1854   .771145   .317908   .190971   1.37775   .767762         0
2003     1831    .92839   .426837   .226396   1.66044   .853553         0
2004     1860   .999503   .417033   .242579   1.69508   .910603         0
2005     1956   1.10268   .398529   .300229   1.83358   1.11453         0
2006     1750   1.07266   .424395   .267064   1.81519   1.14119         0
2007     1719   1.08806   .437819   .276518   1.83102   1.20979         0
2008     1686   1.23226   .437695   .234752   1.94292   1.26603         0
2009     1598   1.04247   .468101   .254352   1.98181   1.00541         0
2010     1437     1.136   .430126   .296236   1.84762   1.10397         0
2011     1477   1.28069   .488011   .247998   2.16237   1.28331         0
2012     1417   1.35206   .569827   .332947   2.20885   1.46544         0
2013     1583   1.34052   .626287   .280215   2.22245   1.58513         0
```

g. Changements techniques biaisés en facteur

M_FbTC[4,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
FbTCxa	14791	-10.4014	5.24813	-33.474	-2.56992	-9.56092	100
FbTCxb	49577	-.920424	.924482	-3.08266	2.00255	-1.11959	82.9868
FbTCxc	45852	-3.14049	2.1247	-9.81609	.43379	-2.87203	96.9154
FbTCxd	37132	-5.49289	2.99713	-17.8078	-1.50858	-4.66029	100

M_FbTCxa[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	935	-9.90229	6.85352	-27.2549	-3.41528	-7.54446	100
1990	789	-12.2671	4.80116	-25.4684	-4.39436	-12.2486	100
1991	1222	-10.3233	3.88008	-18.0591	-3.69817	-10.7528	100
1992	890	-13.6668	9.99829	-33.474	-3.93836	-10.1347	100
1993	730	-11.5526	5.50828	-25.5538	-4.21501	-9.68693	100
1994	754	-9.95269	3.55496	-17.9126	-5.64746	-8.40709	100
1995	806	-12.2245	4.14274	-22.7581	-6.1328	-10.5393	100
1996	787	-10.8291	3.41846	-17.0548	-6.05304	-10.7673	100
1997	801	-10.8185	3.84695	-17.9415	-4.65961	-11.6354	100
1998	688	-10.3429	4.52123	-18.1463	-4.53192	-9.13174	100
1999	918	-11.7066	5.64085	-30.4582	-4.27593	-9.921	100
2000	858	-8.63925	5.23603	-18.7129	-2.58523	-5.68272	100
2001	663	-8.24271	3.97666	-15.381	-2.56992	-7.83116	100
2002	507	-8.16385	3.81507	-15.6104	-3.51048	-7.43561	100
2003	412	-8.84405	3.86278	-14.1724	-3.49052	-7.95521	100
2004	501	-8.41009	2.62086	-14.4344	-3.75088	-9.1764	100
2005	288	-6.63563	1.16139	-8.87038	-5.17041	-6.80599	100
2006	318	-9.08834	4.05058	-16.5752	-3.73806	-7.16742	100
2007	303	-8.2344	2.98447	-14.7174	-5.32571	-6.78166	100
2008	174	-11.1988	3.0993	-15.5587	-8.37497	-9.64298	100
2009	351	-11.7004	3.32246	-19.5466	-7.93959	-10.7622	100
2010	453	-8.28586	2.58632	-12.7914	-4.551	-6.73119	100
2011	326	-11.583	3.87319	-18.4159	-4.85268	-10.3887	100
2012	283	-8.71269	2.10309	-11.3727	-5.47477	-8.63657	100
2013	34	-31.462	0	-31.462	-31.462	-31.462	100

M_FbTCxb[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	1447	-.319526	.840528	-1.63986	1.43096	-.439271	70.7317
1990	1767	-.537177	.964979	-1.72855	1.66972	-.879929	78.2609
1991	2056	-.38169	.917639	-1.86926	1.66681	-.494228	68
1992	2845	-.657121	.976861	-2.0895	2.00255	-1.13542	66.0377
1993	2157	-.614872	.868712	-1.91823	1.28093	-.739526	73.913
1994	2373	-.665578	.88764	-2.01801	1.44355	-.790776	79.1667
1995	2123	-.549336	1.03135	-2.11223	1.30638	-.665259	76.7442
1996	2969	-.899748	1.0529	-2.87808	1.63807	-1.22158	71.1538
1997	2840	-.635784	1.00296	-2.37067	1.1054	-.742787	84

1998	2736	-1.05193	.470968	-1.92973	.043969	-.988317	97.8723
1999	2484	-1.00175	1.01986	-2.82644	1.03017	-1.08058	85.4167
2000	2156	-1.15177	.720333	-2.65405	.248812	-1.29378	93.1818
2001	2145	-.997826	.907402	-2.59652	.736673	-1.13684	81.3953
2002	1752	-.900293	.948143	-2.3022	.973143	-1.24427	73.8095
2003	1641	-.916967	.927989	-2.62613	1.20225	-1.09594	78.9474
2004	1763	-.989035	1.09561	-2.55359	1.12531	-1.0077	76.4706
2005	1728	-1.21198	.742207	-2.44529	.350422	-1.30653	89.1892
2006	1644	-1.34494	.624561	-2.51454	.09592	-1.2941	96.9697
2007	1401	-1.33737	.579568	-2.57492	-.091584	-1.30103	100
2008	1527	-1.18788	.524774	-2.16263	-.017804	-1.22915	100
2009	1499	-.941946	.894295	-3.02583	1.20647	-1.0515	84.0909
2010	1517	-.927658	.716561	-2.5765	1.04531	-1.09606	85.7143
2011	1425	-1.19048	.6331	-2.71135	-.04912	-1.29844	100
2012	1630	-1.40578	.835817	-3.05964	.453568	-1.52027	87.5
2013	1952	-1.74251	.623729	-3.08266	.066911	-1.81972	96.6667

M_FbTCxc[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	1469	-1.64573	.910297	-3.24529	.215126	-1.61373	95.2381
1990	1800	-1.93036	1.11422	-3.55711	.43379	-2.14534	91.3043
1991	2121	-1.79196	1.03595	-3.82491	.079031	-1.82179	98.0392
1992	2815	-2.29478	1.19344	-3.78837	.41655	-2.65596	96.1538
1993	2260	-2.31568	1.30655	-5.1054	.189446	-2.76905	97.9167
1994	2000	-2.37634	1.34354	-4.80713	.175388	-2.32665	95.6522
1995	2267	-2.39166	1.61898	-5.73986	.066745	-2.23538	95.7447
1996	2936	-3.05747	1.64243	-5.61974	-.107157	-3.60774	100
1997	2876	-2.485	1.52539	-6.0868	.091097	-2.33062	94.1176
1998	2838	-3.81279	1.66381	-6.4629	-.326338	-4.00889	100
1999	2280	-2.78517	1.51992	-5.77571	.022411	-2.99802	97.7778
2000	2200	-3.27689	1.83389	-7.05637	.175182	-3.25077	97.7273
2001	1917	-3.01474	1.71561	-6.10305	.167244	-3.18077	94.8718
2002	1536	-2.98322	1.76376	-5.76818	-.037975	-3.121	100
2003	1422	-3.07842	1.81865	-6.55791	.168952	-2.91432	96.9697
2004	1565	-3.04004	1.98336	-5.9262	.187079	-3.31287	90.3226
2005	1632	-3.75752	2.1936	-8.14131	.255607	-4.34319	96.9697
2006	1404	-5.00961	2.32945	-8.86294	.179125	-5.284	96.5517
2007	1521	-4.72348	2.59947	-9.6211	.133898	-5.46759	97.2222
2008	1241	-4.80704	2.32239	-8.43261	-1.10067	-4.9698	100
2009	1297	-4.16782	2.61503	-9.40677	.197899	-3.60808	97.3684
2010	1421	-4.76544	3.10441	-9.58298	-.006367	-5.11183	100
2011	1140	-5.0018	3.24134	-9.81609	-.01899	-4.44938	100
2012	1106	-4.88226	2.81759	-9.13358	-.257925	-4.92064	100
2013	788	-3.60627	3.11819	-8.35472	.305832	-3.65302	87.5

M_FbTCxd[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	1381	-2.70143	.514401	-3.89886	-1.78096	-2.74477	100
1990	1674	-2.73562	.52205	-3.78338	-1.8239	-2.65223	100
1991	1867	-2.74288	.464238	-3.80504	-1.93347	-2.66799	100
1992	1986	-3.00535	.614778	-4.26247	-1.50858	-2.99133	100
1993	2168	-3.79891	1.09185	-5.49535	-1.76624	-3.69779	100
1994	1986	-3.748	1.08827	-5.70378	-1.71273	-3.63554	100
1995	2065	-4.03362	1.24584	-6.40828	-2.04059	-4.05049	100
1996	2545	-5.05229	1.68954	-7.78768	-2.21132	-4.96007	100
1997	2640	-4.6249	1.2342	-7.37109	-1.93408	-4.48757	100
1998	2110	-6.91502	3.12306	-12.8484	-2.13734	-6.30563	100
1999	2142	-5.44999	1.6935	-8.47287	-2.23893	-5.38741	100
2000	2042	-5.09748	2.04223	-10.6825	-1.87982	-4.81911	100
2001	1827	-7.06832	2.82671	-12.1546	-2.24075	-6.33361	100
2002	1405	-7.32056	3.15498	-13.8101	-2.7945	-6.15171	100
2003	1334	-7.92053	3.60322	-15.7113	-2.89374	-7.03077	100
2004	1478	-7.94806	3.97949	-17.4163	-2.96546	-7.09184	100
2005	924	-7.98275	2.57656	-13.4323	-2.91505	-7.82531	100
2006	744	-8.55619	2.76243	-15.8153	-3.54713	-8.69442	100
2007	828	-7.48137	2.15767	-11.7625	-3.07512	-7.06384	100
2008	586	-6.85503	1.92358	-12.509	-3.1348	-6.42861	100
2009	790	-7.37876	2.99381	-14.2057	-2.38018	-6.80357	100
2010	400	-9.859	3.64888	-17.8078	-3.62187	-9.72139	100
2011	456	-10.2592	2.88505	-14.9785	-4.5737	-10.7415	100
2012	528	-8.88444	3.18396	-14.9293	-2.6762	-8.84668	100
2013	1226	-8.32301	3.49275	-13.5561	-4.05354	-5.86658	100

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a. Retours d'échelle

```
M_ORTS_overall[1,7]
          Obs      Mean    StdDev       Min       Max    Median      %neg
ORTS    46870   .905083   .098675   .593787   1.05844   .929895         0

M_ORTS[25,7]
          Obs      Mean    StdDev       Min       Max    Median      %neg
1989     1951   .946657   .044623   .854748   1.01463   .954763         0
1990     1807   .966207   .031932   .895955   1.02126    .97262         0
1991     1912   .959687   .045817   .869238   1.03391     .9778         0
1992     1424   .954323   .043932   .865308   1.02188   .966809         0
1993     1414   .941307   .056318    .83076   1.04246   .952817         0
1994     1488   .965704   .036662   .893229    1.0325   .964228         0
1995     1503   .962071   .050744    .86129   1.03966   .981623         0
1996     1668   .955017   .046943   .858593   1.02043   .963452         0
1997     1781   .956474   .049938   .855582   1.03151   .955085         0
1998     1602   .953179   .054531   .825176   1.02993    .96772         0
1999     1713   .956505   .040758   .880819   1.02096    .96242         0
2000     1829   .903587   .096842   .687103   1.02303   .934106         0
2001     1665   .907339   .092598   .699958   1.04283   .932521         0
2002     1910   .890217   .101491   .670758   1.05844   .915735         0
2003     2111   .869102   .116128    .63549   1.05502   .899692         0
2004     2118   .841845    .12878   .593787   1.02134   .848346         0
2005     2048   .873163   .088542   .692366   1.04108   .872719         0
2006     1834   .890623   .090826   .704829   1.05605   .890495         0
2007     2384   .842862   .148269   .621384   1.05237   .848398         0
2008     2350   .864754   .110669   .630207   1.02127   .847469         0
2009     2079   .854762   .099712   .620367   1.03194   .850349         0
2010     2070   .881774   .085886   .700683   1.02299   .899484         0
2011     1863   .871556   .091134   .651304   1.02404   .883816         0
2012     2166   .874777   .111963   .629198   1.02646   .873737         0
2013     2180   .868433   .103119   .620707   1.00639   .906536         0
```

b. Retours d'échelle spécifique aux produits

```
M_PSRTS_overall[5,7]
            Obs      Mean    StdDev       Min       Max    Median      %neg
PSRTSya   19126   .238424   .304185  -.570919   .556958    .37632   8.27703
PSRTSyb    8158   1.07839   .018756   1.04973    1.1248   1.07402         0
PSRTSyc   40830   .988182   .011134   .942465   1.00698   .990034   .084459
PSRTSyd   45695   .911656   .103677   .540577   1.07977   .933747   .168919
PSRTSye    7979   .964731   .015579    .92028   .987817   .968075         0
```

M_PSRTSya[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	868	-.304035	.135729	-.570919	-.025164	-.332638	44
1990	1180	-.293349	.244867	-.568263	.240607	-.445877	42.3077
1991	1047	-.315257	.224354	-.535609	.165002	-.320234	34.0426
1992	687	-.113901	.172349	-.387203	.201851	-.176307	34.1463
1993	533	-.047056	.052232	-.137283	.037836	-.051611	28.9474
1994	404	-.047694	.032431	-.08963	.003561	-.042468	26.3158
1995	599	.125348	.144891	-.136833	.335718	.089926	7.89474
1996	650	.174546	.110719	.003989	.309978	.157798	0
1997	649	.225546	.082997	.095883	.341392	.219074	0
1998	552	.309294	.063839	.20938	.401895	.29798	0
1999	552	.317652	.034716	.268025	.36928	.31148	0
2000	619	.268017	.030268	.2217	.326493	.262828	0
2001	528	.305743	.024339	.274639	.34378	.309779	0
2002	842	.366855	.034725	.310008	.438895	.352568	0
2003	1002	.403788	.033843	.349245	.479871	.391759	0
2004	980	.4041	.02224	.363039	.453751	.397789	0
2005	987	.447301	.022839	.405339	.499433	.442579	0
2006	942	.442731	.01758	.415869	.478164	.437124	0
2007	1161	.434147	.020746	.410446	.466702	.437822	0
2008	1422	.445346	.009028	.435616	.46704	.438481	0
2009	828	.481683	.010201	.465734	.49881	.485932	0
2010	391	.524634	.01176	.509553	.545765	.521934	0
2011	539	.515196	.010993	.499198	.536834	.514652	0
2012	770	.535634	.009649	.522467	.556958	.535784	0
2013	394	.545754	.002015	.541329	.548967	.546707	0

M_PSRTSyb[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	267	1.05435	.001339	1.05198	1.05654	1.05455	0
1990	393	1.05957	.002944	1.05535	1.06404	1.05914	0
1991	537	1.06072	.004914	1.05088	1.06704	1.06203	0
1992	367	1.05927	.002912	1.05476	1.06457	1.05903	0
1993	381	1.06434	.00133	1.06282	1.06799	1.0643	0
1994	666	1.06569	.006374	1.05615	1.07577	1.06645	0
1995	591	1.06714	.006983	1.05453	1.07516	1.0687	0
1996	481	1.06573	.008759	1.04973	1.07671	1.06613	0
1997	334	1.07306	.002247	1.06889	1.07547	1.07362	0
1998	472	1.06884	.008957	1.05127	1.08027	1.07011	0

1999	393	1.07618	.003821	1.06865	1.08361	1.07657	0
2000	262	1.09901	.005045	1.09186	1.10587	1.10187	0
2001	0	.	.	.	.	.	0
2002	0	.	.	.	.	.	0
2003	0	.	.	.	.	.	0
2004	140	1.09463	.006346	1.08745	1.10293	1.09408	0
2005	0	.	.	.	.	.	0
2006	195	1.08829	.003495	1.08223	1.09474	1.08801	0
2007	416	1.09806	.011208	1.08037	1.11369	1.09673	0
2008	422	1.10676	.01163	1.09035	1.12413	1.1026	0
2009	411	1.09585	.012798	1.0808	1.1198	1.0873	0
2010	319	1.10587	.014881	1.07887	1.1248	1.10694	0
2011	247	1.09406	.006721	1.08789	1.10563	1.08941	0
2012	474	1.10283	.004968	1.08741	1.10832	1.10409	0
2013	390	1.08572	.010618	1.07724	1.11146	1.08261	0

M_PSRTSyc[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	1595	.995092	.006277	.980619	1.00205	.996502	0
1990	2252	.994959	.007128	.976138	1.00204	.996496	0
1991	1800	.994195	.006932	.97567	1.00245	.996405	0
1992	1320	.989535	.007478	.972197	1.00045	.989601	0
1993	1009	.98849	.007041	.972297	.999834	.987349	0
1994	1060	.991851	.00524	.979059	1.0003	.99219	0
1995	1231	.991762	.005482	.979328	1.00297	.991531	0
1996	1540	.988488	.006856	.973336	1.00092	.989127	0
1997	1596	.98912	.00756	.972756	1.00181	.989608	0
1998	1262	.990679	.006227	.977945	1.00107	.991962	0
1999	1380	.984064	.010328	.961933	1.0021	.982469	0
2000	1775	.983915	.01077	.963045	1.00151	.984625	0
2001	1551	.985122	.010555	.95948	1.00324	.985625	0
2002	1822	.985783	.014128	.947228	1.00449	.988343	0
2003	2179	.986252	.013393	.948534	1.00698	.98963	0
2004	2039	.984616	.012943	.954387	1.00029	.985446	0
2005	1955	.983709	.014616	.946761	1.00178	.987697	0
2006	1866	.986692	.014439	.947094	1.00251	.990482	0
2007	2174	.986528	.016108	.942465	1.0035	.99204	0
2008	1487	.989246	.007482	.963544	.999303	.990305	0
2009	1536	.990035	.008684	.966023	.998959	.994565	0
2010	1480	.987125	.011836	.952302	.999863	.991591	2.17391
2011	1449	.980623	.011565	.948642	.997782	.982233	0
2012	1701	.987855	.007357	.964056	.99889	.989463	0
2013	1771	.991004	.009412	.952845	.99959	.993672	0

M_PSRTSyd[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	1810	.973574	.042356	.873512	1.01733	.98634	0
1990	2228	.988171	.039154	.885322	1.02557	1.00399	0
1991	1828	.978942	.041498	.880171	1.02343	.993085	0
1992	1320	.969386	.034659	.891958	1.01591	.976091	0
1993	1422	.964425	.045395	.878429	1.03426	.981935	0
1994	1488	.964037	.048051	.858901	1.02396	.978	0
1995	1538	.960723	.046508	.858546	1.02538	.974976	0
1996	1668	.946903	.055911	.814432	1.02978	.969417	0
1997	1817	.952272	.055087	.827956	1.02997	.969199	0
1998	1680	.94341	.060979	.825455	1.06146	.949787	0
1999	1890	.945824	.066311	.794856	1.04917	.947197	0
2000	1868	.948708	.072655	.792418	1.05494	.96278	0
2001	1779	.94471	.083437	.7934	1.06833	.944456	0
2002	1897	.943783	.075955	.782075	1.06716	.945823	0
2003	2192	.94035	.081449	.721822	1.07977	.948687	0
2004	1948	.924745	.084861	.762585	1.05314	.930894	0
2005	1967	.918293	.066222	.790047	1.0233	.917679	0
2006	2088	.921821	.090363	.735996	1.06608	.92886	0
2007	1907	.889231	.092032	.706755	1.01642	.89537	0
2008	2316	.848787	.109572	.659684	1.01309	.850775	0
2009	1927	.815477	.097154	.662651	.990426	.803949	0
2010	1688	.82126	.088042	.656511	.966396	.819612	0
2011	1610	.813875	.105398	.627869	1.00009	.798777	2.04082
2012	2048	.811964	.121246	.592777	.981696	.799549	0
2013	1771	.694572	.078999	.540577	.798931	.703279	2.08333

M_PSRTSye[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	336	.981907	.0014	.979665	.984285	.981568	0
1990	429	.981582	.003722	.975199	.987817	.980799	0
1991	200	.976969	.000824	.976028	.977955	.976541	0
1992	291	.980337	.004083	.975002	.986419	.977398	0
1993	311	.979781	.002805	.976312	.983943	.981043	0
1994	257	.97954	.001359	.977755	.981041	.980658	0
1995	509	.979032	.003373	.97429	.983837	.979037	0
1996	105	.972518	.000494	.971837	.972878	.97287	0
1997	381	.975217	.004138	.969569	.981578	.97575	0
1998	146	.976496	.000734	.975427	.977774	.976376	0
1999	267	.971125	.003455	.965522	.976748	.970768	0
2000	394	.967207	.005424	.957741	.97467	.967695	0
2001	384	.970267	.003967	.963507	.977778	.97168	0
2002	304	.962229	.004442	.956785	.970019	.961164	0
2003	449	.964053	.005529	.953635	.971836	.963822	0
2004	329	.96283	.005431	.955319	.968762	.962026	0
2005	413	.963458	.004343	.956866	.970356	.963799	0
2006	395	.960159	.004106	.954574	.967136	.959165	0
2007	222	.954383	.003303	.949787	.95912	.954352	0
2008	308	.954165	.005099	.946465	.961866	.954593	0
2009	484	.942778	.011595	.924454	.961703	.94312	0
2010	405	.942674	.011816	.92028	.962188	.942446	0
2011	284	.947994	.00831	.933922	.958649	.945361	0
2012	140	.93265	.002262	.929912	.935773	.932458	0
2013	236	.9278	.001275	.925629	.928602	.928602	0

c. Economies de gamme

M_ESCP_overall[1,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
ESCP	42925	1.00083	.0015	.996538	1.00838	1.0001	0

M_ESCP[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	1783	1.00063	.000946	1.00001	1.00314	1.00005	0
1990	2240	1.0004	.000627	1.00001	1.00228	1.00004	0
1991	1829	1.00088	.001174	1.00001	1.00385	1.00006	0
1992	1424	1.00132	.001612	1.00003	1.00528	1.00052	0
1993	1360	1.00077	.00107	.999999	1.00369	1.00016	0
1994	1457	1.00212	.002751	.999997	1.00819	1.00078	0
1995	1538	1.00109	.001196	.999997	1.00392	1.00074	0
1996	1632	1.00094	.001359	.999994	1.0039	1.00009	0
1997	1660	1.00084	.001309	.999994	1.00454	1.00008	0
1998	1498	1.00114	.001699	.999994	1.00619	1.0001	0
1999	1662	1.00115	.001851	1	1.00654	1.00008	0
2000	1619	1.0006	.001068	1.00001	1.00401	1.0001	0
2001	1581	1.00058	.001043	1	1.00404	1.00009	0
2002	1683	1.00035	.001103	.996538	1.00527	1.00008	0
2003	2038	1.0008	.001858	.999592	1.0074	1.00008	0
2004	2020	1.00061	.001285	.999652	1.00493	1.0001	0
2005	1959	1.0005	.00109	.999993	1.00441	1.00008	0
2006	2023	1.00103	.00182	.999995	1.00615	1.00009	0
2007	2168	1.00137	.00233	.999995	1.00838	1.00011	0
2008	1968	1.00064	.001243	.999911	1.00568	1.00009	0
2009	1522	1.00079	.00129	.999985	1.00506	1.00015	0
2010	1611	1.0007	.001503	.999984	1.0063	1.00012	0
2011	1282	1.00048	.001018	.999985	1.00478	1.00016	0
2012	1700	1.00075	.001263	.999987	1.00594	1.00017	0
2013	1668	1.00045	.000926	.999986	1.00475	1.00016	0

d. Taux de diminution du coût marginal

M_rcMC[5,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
rcMCya	19832	-2.85583	.995643	-5.47594	.117661	-2.88766	99.384
rcMCyb	7632	4.19409	1.27037	.685285	5.2365	4.85607	0
rcMCyc	37392	3.19315	1.12365	-.714179	5.30797	3.60782	1.0352
rcMCyd	43351	7.70549	2.89549	3.55538	16.0868	6.85762	0
rcMCye	7850	4.38135	1.80027	-.280493	6.572	4.9015	1.32159

M_rcMCya[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	956	-2.37305	.984017	-4.37002	-.059186	-2.68724	100
1990	1652	-3.4459	1.55183	-5.47594	.117661	-3.82309	89.6552
1991	1047	-3.41161	1.27109	-5.14035	-.520206	-3.53984	100

1992	687	-2.79389	1.2142	-4.85993	-.599852	-3.06212	100
1993	502	-2.7641	.409655	-3.39224	-2.21952	-2.83411	100
1994	346	-3.33729	.240619	-3.70585	-3.02432	-3.30397	100
1995	599	-2.24784	1.2492	-4.53818	-.542666	-2.46903	100
1996	650	-2.21185	1.00269	-3.87537	-.961783	-2.33465	100
1997	649	-2.10841	.796904	-3.41048	-1.02299	-2.11339	100
1998	578	-1.63784	.631907	-2.7273	-.666974	-1.73805	100
1999	552	-1.91014	.360262	-2.44587	-1.36222	-1.95731	100
2000	619	-2.90202	.380368	-3.47036	-2.16924	-2.96689	100
2001	528	-2.8548	.325905	-3.27638	-2.33502	-2.79269	100
2002	842	-2.4292	.525826	-3.23849	-1.33641	-2.67144	100
2003	1002	-2.18218	.509075	-2.97611	-1.0307	-2.3706	100
2004	980	-2.59713	.378075	-3.22162	-1.71726	-2.74974	100
2005	987	-2.16236	.387295	-2.85278	-1.27315	-2.24406	100
2006	942	-2.73808	.37711	-3.28361	-1.91704	-2.82814	100
2007	1195	-3.38021	.488384	-3.9629	-2.56273	-3.37434	100
2008	1570	-3.83354	.369366	-4.33221	-2.906	-4.03873	100
2009	901	-3.22398	.341597	-3.76534	-2.62513	-3.12701	100
2010	391	-2.38671	.342045	-2.80673	-1.80525	-2.47965	100
2011	510	-3.24581	.518265	-3.96752	-2.34743	-3.28072	100
2012	770	-3.26819	.479498	-3.92989	-2.24694	-3.29396	100
2013	377	-4.3133	.153095	-4.62949	-3.89772	-4.35366	100

M_rcMCyb[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	344	4.97842	.104725	4.79989	5.14122	4.97157	0
1990	417	4.93788	.132275	4.72999	5.19342	4.9037	0
1991	537	4.97766	.126924	4.75524	5.2365	4.94218	0
1992	468	4.92439	.119662	4.76221	5.13486	4.89002	0
1993	516	4.91814	.116882	4.71567	5.11676	4.93333	0
1994	666	4.85818	.126055	4.61824	5.03644	4.86179	0
1995	630	4.79403	.131278	4.58157	4.96433	4.80336	0
1996	348	4.85659	.052899	4.74681	4.9336	4.86209	0
1997	268	4.93815	.044224	4.892	5.02553	4.92127	0
1998	360	5.08727	.05177	4.99711	5.1515	5.0924	0
1999	522	5.05992	.091492	4.92356	5.20916	5.04789	0
2000	262	4.31031	.1891	4.03533	4.55757	4.23617	0
2001	0	.	.	.	.	.	.
2002	0	.	.	.	.	.	.
2003	0	.	.	.	.	.	.
2004	0	.	.	.	.	.	.
2005	70	5.02514	.002115	5.02304	5.02724	5.02514	0
2006	200	4.03613	.100597	3.85736	4.16061	4.03284	0
2007	410	3.46041	.519404	2.81308	4.15631	3.47393	0
2008	376	2.11081	.788625	.817898	3.31563	1.73512	0
2009	449	2.26647	.913548	1.124	3.70167	2.32864	0
2010	182	3.371	.32787	2.92219	3.90669	3.35682	0
2011	209	.800791	.1539	.685285	1.12352	.707371	0
2012	381	1.75135	.589858	1.12461	2.42146	1.688	0
2013	17	.808617	0	.808617	.808617	.808617	0

M_rcMCyc[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	1316	4.04001	.247113	3.54317	4.40088	4.07009	0
1990	1819	3.71287	.425065	2.65465	4.28285	3.74422	0
1991	1402	3.82002	.455569	2.71519	4.53529	3.95797	0
1992	1170	3.84319	.384676	2.91548	4.32318	3.87785	0
1993	1031	4.01125	.299965	3.45778	4.58868	4.06346	0
1994	1156	3.93312	.294129	3.46708	4.50361	3.91458	0
1995	1271	3.71929	.415815	2.86643	4.28645	3.81218	0
1996	1484	3.89001	.559698	2.83819	5.11214	3.987	0
1997	1492	3.88727	.462443	2.85276	4.94235	4.04135	0
1998	1238	4.30379	.381805	3.41067	5.30797	4.38248	0
1999	1233	4.24059	.201776	3.74981	4.56145	4.28364	0
2000	1609	3.60961	.458887	2.54954	4.63558	3.70226	0
2001	1404	3.71537	.425776	2.66089	4.47621	3.87349	0
2002	1813	3.58098	.450025	2.48524	4.51613	3.70562	0
2003	2010	3.78404	.516586	2.5794	4.93417	3.87604	0
2004	1922	3.45609	.402135	2.43882	3.94905	3.6172	0
2005	1852	3.9541	.546611	2.59457	4.58162	4.19108	0
2006	1769	3.0607	.324775	2.26675	3.41862	3.21113	0
2007	1827	2.40951	.193566	2.04285	2.67961	2.41127	0
2008	1667	1.3939	.178402	1.05333	1.8026	1.36912	0
2009	1802	2.0407	.116627	1.78661	2.30127	2.0449	0
2010	1452	2.66699	.350626	1.94049	3.42125	2.69728	0
2011	1593	.879125	.46407	-.137867	1.62566	.868392	4.65116
2012	1533	1.2749	.264822	.670113	1.84038	1.17147	0
2013	527	-.371941	.337571	-.714179	.400761	-.407107	66.6667

M_rcMCyd[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	1810	4.55481	.429227	3.55538	5.23183	4.64303	0
1990	1801	4.76912	.312282	4.01806	5.23442	4.88379	0
1991	1856	4.94937	.49111	3.85285	5.62005	5.01569	0
1992	1294	4.99886	.356672	4.15649	5.63451	4.97601	0
1993	1422	5.12949	.484819	4.28628	5.87099	5.16917	0
1994	1488	5.3732	.553289	4.36898	6.15941	5.54943	0
1995	1538	5.52927	.554664	4.25849	6.34365	5.74194	0
1996	1668	5.60985	.688436	4.01552	6.60212	5.81884	0
1997	1817	5.96007	.707597	4.36931	6.98093	6.18042	0
1998	1732	6.05252	.853954	4.46841	7.67497	6.22169	0
1999	1920	6.46169	.967833	4.21831	7.89238	6.61732	0
2000	1868	6.9461	1.09842	4.40084	8.55025	7.16485	0
2001	1779	7.25908	1.33631	4.84299	9.3925	7.24963	0
2002	1863	7.79453	1.26022	4.91171	9.79082	7.80941	0
2003	2215	8.26679	1.43953	5.6335	11.0543	8.25557	0
2004	1948	8.70034	1.70314	5.24421	11.2931	8.81511	0
2005	1996	9.15079	1.48914	6.1942	11.2394	9.23778	0
2006	1931	9.59899	1.87678	6.05944	12.6372	9.65804	0
2007	1941	10.1538	2.30064	5.90941	12.8154	10.1911	0
2008	2384	9.86468	2.96473	4.65054	14.7844	9.77466	0

2009	2003	10.2606	3.117	5.21655	15.5383	9.80419	0
2010	1547	11.0362	2.72792	5.52935	16.0868	11.2548	0
2011	1399	12.1528	3.10069	5.45773	15.9015	12.5587	0
2012	1202	11.7637	3.32857	5.05478	16.0808	13.019	0
2013	929	11.0012	3.17881	4.91378	16.0414	11.5947	0

M_rcMCye[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	267	5.89851	.215495	5.53042	6.12492	5.96863	0
1990	429	6.09232	.253871	5.65788	6.52946	6.10065	0
1991	254	6.16345	.237114	5.75867	6.572	6.1282	0
1992	239	5.98091	.150369	5.78665	6.15652	5.93383	0
1993	311	5.95028	.217306	5.6513	6.17342	6.09248	0
1994	240	5.64338	.091053	5.53191	5.76176	5.66281	0
1995	509	5.81411	.21665	5.54774	6.20776	5.85163	0
1996	105	6.06409	.043464	6.00252	6.10627	6.07835	0
1997	319	5.67259	.184528	5.49242	5.97044	5.70854	0
1998	206	5.64808	.237964	5.32819	5.96729	5.55103	0
1999	189	5.60465	.102822	5.41695	5.74263	5.62542	0
2000	293	4.84755	.15497	4.70332	5.24645	4.77611	0
2001	384	4.90677	.327835	4.5292	5.50758	4.8022	0
2002	270	4.4845	.157359	4.21222	4.7545	4.44501	0
2003	541	4.95997	.546662	4.14773	5.9893	4.77549	0
2004	383	4.66503	.637839	3.64412	5.6547	4.61574	0
2005	471	4.94201	.555747	3.97792	5.8459	4.7675	0
2006	365	3.67012	.379223	2.89023	4.3547	3.62502	0
2007	256	2.86813	.312712	2.29649	3.34666	2.76312	0
2008	342	1.54022	.276172	1.10716	1.90581	1.67413	0
2009	446	1.95499	.40931	1.36486	2.56302	1.749	0
2010	432	2.97596	1.53749	1.23581	5.99172	2.64088	0
2011	355	.520255	.501321	-.280493	1.5153	.457074	11.1111
2012	244	.495266	.526047	-.228369	1.53097	.401148	25
2013	0	.	.	.	.	.	.

e. Taux de diminution du coût

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M_RCD_overall[1,7]
         Obs      Mean    StdDev       Min       Max    Median      %neg
RCD    42036   4.76344   1.50881   .311107   8.68099   4.72224         0

M_RCD[25,7]
          Obs      Mean    StdDev       Min       Max    Median      %neg
1989     1556   4.43569   .233904   3.92764   4.89302    4.4542         0
1990     1852   4.36704   .258189   3.64764   4.81805   4.40701         0
1991     1410   4.49795   .301436   3.83309    5.0811   4.49321         0
1992     1271   4.52949   .332463   3.74437   5.25637   4.58422         0
1993     1383   4.46479   .427794   3.54365   5.07704   4.47906         0
1994     1368   4.75793   .279036   4.29173   5.20263   4.75894         0
1995     1441   4.74022   .433612   3.93843   5.61663   4.80294         0
1996     1676   4.91542   .551686   3.74191   5.90151   4.96033         0
1997     1815   4.96686   .654799   3.52822    6.3297   5.10463         0
1998     1610   5.22955    .71228   3.60721   6.71816   5.30034         0
1999     1716   5.20892   .658783   3.48946   6.29017   5.35064         0
2000     1648    4.7389   .916368   2.50778   6.05368    4.9405         0
2001     1581    5.0004   1.15264   2.59169   7.17683   5.08264         0
2002     1651   4.82058   1.19028   1.90563   6.75794   5.07408         0
2003     2111   5.30685   1.84958   2.06098   8.64199   5.42557         0
2004     1957   4.34261   1.79437   .899107   6.91243   4.99123         0
2005     1858   5.64147   1.54558   1.84246   7.73613   5.81652         0
2006     1834   4.45411   1.94328   1.43149   8.12397   4.13018         0
2007     2384   4.53059   2.22816   .512579    7.9932   4.60586         0
2008     2276    4.6122   2.11793   .871102    8.3734   4.47938         0
2009     1794   5.41022   1.80255   2.43313   8.68099   5.02536         0
2010     1138   5.13082   1.65043   2.29954   8.54946   4.33182         0
2011     1425   3.94293   1.79203    .90169   7.10471   3.80896         0
2012     1708   4.78891   2.06009   1.10162   8.58356   4.73424         0
2013     1573   4.03972   2.66563   .311107   8.03903   4.04605         0
```

f. Taux de changement technique

M_RTC_overall[1,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
RTC	45008	.88433	.358504	-.218675	1.94744	.880864	.899281

M_RTC[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	1664	.932854	.17861	.6172	1.27721	.887563	0
1990	1900	.848906	.132464	.534334	1.10555	.808265	0
1991	1493	.908391	.170536	.598873	1.29311	.862151	0
1992	1222	.834928	.148001	.513148	1.1735	.824059	0
1993	1445	.837289	.211285	.438296	1.25135	.808829	0
1994	1437	.907165	.16453	.588141	1.32067	.903549	0
1995	1519	.925109	.201896	.586741	1.34614	.899094	0
1996	1612	.999702	.209145	.666835	1.45209	.948796	0
1997	1751	.963769	.221741	.47538	1.42738	.922174	0
1998	1506	1.02916	.250205	.607626	1.46905	1.03623	0
1999	1677	.965754	.179979	.545983	1.32061	.967178	0
2000	1930	.868492	.312438	.136285	1.37358	.918556	0
2001	1779	1.01024	.400358	.137407	1.6985	.929774	0
2002	1685	.902448	.322102	.195625	1.49161	.910223	0
2003	2209	.911652	.500918	-.138416	1.87819	.858568	3.27869
2004	2236	.773166	.445145	-.044094	1.66756	.812306	1.85185
2005	1858	1.01101	.326243	.268551	1.66461	1.05797	0
2006	1834	.790244	.383494	.228631	1.63707	.738705	0
2007	2384	.74486	.368251	.081691	1.49215	.80932	0
2008	2350	.765972	.422801	-.218675	1.7293	.715768	4.44444
2009	1884	.955525	.347486	.469015	1.61382	.865932	0
2010	2070	1.24181	.488911	.39753	1.94744	1.3333	0
2011	1717	.732044	.358268	.160322	1.34756	.665455	0
2012	1902	.794297	.316955	.167757	1.40174	.850274	0
2013	1944	.562896	.432563	-.201907	1.27555	.635887	11.3636

g. Changements techniques biaisés en facteur

M_FbTC[4,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
FbTCxa	25524	-4.24904	1.48255	-9.30296	-.670422	-4.1031	100
FbTCxb	42902	-1.39692	2.40526	-5.27126	5.77977	-2.23254	74.3284
FbTCxc	39636	-.410516	6.81695	-16.319	18.6683	-2.84765	63.2951
FbTCxd	39092	-9.15619	4.65832	-27.2436	-3.9109	-7.75206	100

M_FbTCxa[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	1215	-5.03439	1.08948	-6.77747	-2.68408	-5.0318	100
1990	1095	-4.42582	.980542	-6.05707	-2.6574	-4.40073	100
1991	1185	-4.48767	1.32185	-7.15882	-2.45444	-4.40723	100
1992	964	-4.13344	1.06304	-6.19552	-2.51698	-3.96584	100
1993	884	-4.69905	1.5058	-7.17501	-2.30155	-4.52341	100
1994	933	-3.92394	.833903	-5.56893	-2.72514	-3.65774	100
1995	967	-4.00242	1.08411	-6.12806	-2.56663	-4.02334	100
1996	910	-4.72461	1.3506	-7.35421	-2.86497	-4.71248	100
1997	849	-3.75979	.821353	-5.7377	-2.47954	-4.03254	100
1998	880	-4.46466	1.32189	-6.68976	-2.72618	-4.31122	100
1999	981	-4.26105	.853176	-5.51411	-2.87477	-4.18421	100
2000	958	-4.82722	1.2389	-7.05851	-2.52055	-4.86469	100
2001	894	-4.66186	1.34982	-6.95468	-2.38626	-4.32982	100
2002	960	-4.44814	1.2479	-7.787	-1.40713	-4.54493	100
2003	1028	-4.77514	1.70216	-7.78975	-1.714	-4.37125	100
2004	1050	-3.89433	1.03953	-5.98406	-2.13069	-3.83884	100
2005	1092	-4.29584	1.26833	-6.68579	-2.15079	-4.17321	100
2006	920	-4.48759	2.44541	-9.30296	-.670422	-3.54211	100
2007	1110	-4.03117	1.82342	-8.06569	-1.12842	-3.41155	100
2008	1347	-3.56466	1.6279	-8.1469	-1.20171	-3.37614	100
2009	1094	-3.73909	1.48005	-6.12741	-1.65514	-3.12063	100
2010	911	-3.60248	1.59275	-6.66322	-1.60384	-2.87868	100
2011	1122	-3.50157	1.54161	-6.88576	-1.0561	-3.20937	100
2012	1151	-4.11717	1.84042	-8.04917	-1.49709	-3.20009	100
2013	1024	-4.59466	1.70311	-7.72128	-1.40975	-4.55986	100

M_FbTCxb[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	1857	-3.51928	.398448	-4.26721	-2.75084	-3.54728	100
1990	2135	-3.50971	.485914	-4.55869	-2.85447	-3.40567	100
1991	1801	-3.60951	.448788	-4.43481	-2.7875	-3.61372	100
1992	1264	-3.4691	.420845	-4.27682	-2.67497	-3.45482	100
1993	1112	-3.24553	.259985	-3.7817	-2.77256	-3.25645	100
1994	1228	-3.43457	.298082	-4.0403	-2.91287	-3.33193	100
1995	1328	-3.45519	.438696	-4.35784	-2.50941	-3.45009	100
1996	1607	-3.2401	.400266	-4.04786	-2.53464	-3.20332	100
1997	1557	-2.92519	.525765	-3.84337	-1.83487	-2.94847	100
1998	1316	-3.12984	.55616	-4.40915	-1.97075	-3.17292	100
1999	1518	-2.53621	.483455	-3.57201	-1.29951	-2.58225	100
2000	1674	-1.73026	1.0884	-3.74368	.864353	-2.24795	86.8421
2001	1497	-1.95572	1.21196	-3.96733	.931997	-2.47483	88.2353
2002	1832	-1.58946	1.88161	-5.26926	2.61137	-1.72437	75
2003	1767	-1.3545	1.86443	-4.72153	2.65971	-1.67427	72.9167
2004	1607	-.856407	1.46718	-3.51306	1.98249	-1.20967	71.4286

2005	1897	-1.07869	1.98088	-4.72177	3.16814	-1.24247	61.3636
2006	2028	-.156289	3.13376	-5.27126	4.99529	-.764807	55.814
2007	2344	.840589	2.12653	-3.46948	5.16898	.471222	51.1111
2008	2344	.920925	2.68778	-5.0203	5.59516	.409853	46.6667
2009	1927	.160376	2.43352	-4.54787	5.51006	-.270963	43.9024
2010	1766	-.568459	1.51195	-3.99061	3.36556	-.667712	48.6486
2011	1566	.477852	1.47616	-2.51633	2.91357	.625444	34.1463
2012	1979	1.71505	1.82983	-1.83931	5.273	1.45318	27.907
2013	1951	1.2411	2.22713	-2.35265	5.77977	.54221	29.2683

M_FbTCxc[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	1556	-5.93055	.655076	-7.18325	-4.58651	-6.09337	100
1990	1801	-5.72558	.684841	-7.372	-4.50354	-5.51963	100
1991	1474	-5.88476	.802801	-7.52873	-4.36627	-5.82369	100
1992	1212	-5.84929	.797368	-7.23655	-3.91671	-5.88149	100
1993	1227	-5.61842	1.09531	-7.88625	-3.62183	-5.67351	100
1994	1108	-6.21135	1.10266	-8.17767	-3.90177	-6.34072	100
1995	1344	-5.6366	1.56908	-8.03404	-2.35512	-5.86241	100
1996	1399	-6.08364	1.35965	-8.89589	-3.57055	-5.79121	100
1997	1434	-5.81419	2.0867	-9.73802	-2.10937	-5.69008	100
1998	1402	-5.69585	3.09623	-12.0781	1.13759	-5.54	94.8718
1999	1605	-4.58494	2.78165	-9.41184	.823931	-4.76418	94.5946
2000	1612	-2.29842	4.30469	-8.27625	6.4435	-3.47088	72.2222
2001	1413	-2.91117	4.53933	-8.61117	7.50754	-4.00372	69.697
2002	1604	-1.09999	5.94309	-9.20859	11.1482	-2.00967	59.5745
2003	1973	1.16185	9.07981	-16.319	18.6683	.036776	45.283
2004	2047	3.34167	7.84422	-13.0251	17.2445	2.05139	44.6809
2005	1903	2.13439	6.69293	-11.218	13.8347	.006072	43.1818
2006	1629	4.05747	6.96756	-11.5118	17.3117	4.74739	42.5
2007	2276	5.21651	5.34588	-7.9813	16.8238	6.79043	30.2326
2008	2276	4.41211	6.16405	-9.80376	14.993	3.93907	30.2326
2009	1531	3.99695	4.35506	-3.84403	12.2897	3.32627	14.2857
2010	1453	2.87691	4.89623	-7.3261	11.3754	3.91531	25.8065
2011	1406	4.93289	3.09983	-1.81775	9.71868	5.29034	8.57143
2012	1541	7.9951	3.99086	-3.86364	13.5502	9.29071	11.4286
2013	1410	7.7199	4.62123	-3.10458	15.0114	8.66686	14.2857

M_FbTCxd[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	1642	-4.80806	.215231	-5.23472	-4.34588	-4.81544	100
1990	2003	-4.99712	.308564	-5.61109	-4.43878	-4.95357	100
1991	1535	-5.18255	.274914	-5.65371	-4.51559	-5.21372	100
1992	1044	-5.3284	.271524	-5.74341	-4.70634	-5.34541	100
1993	1039	-5.45071	.303375	-5.93993	-4.8223	-5.37951	100
1994	1176	-5.72883	.375545	-6.61447	-5.09956	-5.61703	100
1995	1367	-5.73886	.628766	-6.97948	-4.44998	-5.83733	100
1996	1327	-6.32861	.551294	-7.3329	-5.06022	-6.21036	100
1997	1724	-6.5947	.875274	-8.23589	-4.55031	-6.52992	100
1998	1498	-6.90556	.771154	-8.30029	-5.23178	-6.95976	100
1999	1656	-7.29992	1.07143	-9.17715	-5.04392	-7.42635	100
2000	1656	-7.21347	1.41469	-9.99765	-4.45305	-7.4645	100
2001	1581	-7.66033	1.55062	-10.3543	-4.36914	-8.04144	100
2002	1844	-7.85879	1.57971	-10.4814	-3.9109	-7.98372	100
2003	2087	-8.61354	2.10151	-12.9682	-4.67248	-8.60588	100
2004	1983	-9.40683	2.43494	-14.3134	-5.42039	-8.4827	100
2005	2157	-10.4368	2.5362	-14.9124	-4.22898	-9.87471	100
2006	2058	-10.7535	2.42776	-15.8763	-6.37212	-10.492	100
2007	1793	-11.0399	2.48908	-17.0409	-6.35633	-10.9433	100
2008	1821	-12.934	3.76232	-19.2203	-7.09045	-11.7935	100
2009	1933	-15.2984	4.50551	-23.9642	-7.88749	-14.206	100
2010	1374	-16.5103	5.87229	-25.9046	-6.04214	-17.6906	100
2011	1214	-16.5118	5.8756	-27.0745	-7.26097	-15.8844	100
2012	732	-18.6403	5.57527	-27.2436	-8.68767	-21.2033	100
2013	848	-17.6299	4.46665	-25.2956	-7.90108	-18.5678	100

Fermes bovines

Flandre

a. Retours d'échelle

M_ORTS_overall[1,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
ORTS	60661	1.06435	.40377	-.002121	2.47535	.993729	.453858

M_ORTS[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	1358	1.05646	.309791	.568211	1.47735	1.03764	0
1990	1460	1.14161	.324499	.581686	1.49016	1.36211	0
1991	1892	1.14311	.284128	.660187	1.50903	1.1034	0
1992	2184	1.12999	.302976	.664564	1.51265	1.09601	0
1993	2961	1.16963	.286939	.673407	1.55266	1.04181	0
1994	2721	1.07789	.339543	.66786	1.54965	1.01434	0
1995	2907	1.16627	.322544	.672863	1.60389	1.04869	0
1996	2280	1.05397	.347296	.621508	1.60248	1.01947	0
1997	2888	1.03217	.351216	.599761	1.59873	.946331	0
1998	3074	1.05901	.41344	.53718	1.65558	.973034	0
1999	1980	1.09862	.364608	.668328	1.65576	1.02679	0
2000	1962	1.06119	.382981	.530354	1.659	.940342	0
2001	2167	1.07622	.389492	.247229	1.68645	.924311	0
2002	1697	1.09126	.339918	.505545	1.72229	.996816	0
2003	1853	1.08579	.445078	.18788	1.76843	.996487	0
2004	3053	.985744	.395304	.369955	1.78734	.93567	0
2005	2885	.997155	.400016	.248063	1.8791	.954741	0
2006	2638	1.04492	.393406	.314257	1.89357	.961317	1.66667
2007	3254	1.05485	.46314	.161211	2.09429	.982686	0
2008	2499	1.0776	.392239	.215594	2.08168	.963676	0
2009	2873	1.06041	.445584	.113672	2.25456	.994316	0
2010	2566	1.10843	.644039	.274631	2.47535	.995	1.5873
2011	1860	1.09488	.439415	.039729	2.09138	1.00181	1.96078
2012	2702	.92849	.528065	-.002121	2.30481	.855261	3.37079
2013	2947	.932795	.357649	.281856	2.04785	.905691	0

b. Retours d'échelle spécifique aux produits

M_PSRTS_overall[4,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
PSRTSya	20889	1.65737	.18764	1.34605	2.30363	1.614	0
PSRTSyb	55990	.712981	.075601	.471174	.849423	.722156	.151286
PSRTSyc	3677	.000586	.223321	-.440517	.425722	.078227	3.78215
PSRTSyd	38105	1.07268	.024779	.995905	1.14047	1.07128	0

M_PSRTSya[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	413	1.46862	.023099	1.43024	1.5079	1.46375	0
1990	781	1.47893	.041491	1.39083	1.53503	1.48089	0
1991	791	1.478	.031993	1.40725	1.51597	1.49106	0
1992	932	1.48673	.04335	1.39299	1.53301	1.50829	0
1993	1327	1.51028	.04692	1.39256	1.57267	1.52782	0
1994	1172	1.53227	.060298	1.38586	1.614	1.53746	0
1995	1357	1.53724	.077931	1.35229	1.65555	1.56597	0
1996	735	1.56461	.047846	1.44783	1.63839	1.57548	0
1997	911	1.56826	.067434	1.3756	1.65554	1.58765	0
1998	1171	1.61626	.064237	1.39765	1.68474	1.64253	0
1999	755	1.60412	.069976	1.44633	1.70101	1.62409	0
2000	840	1.64329	.072718	1.4409	1.74234	1.64876	0
2001	902	1.66269	.08087	1.45889	1.7992	1.68854	0
2002	505	1.66731	.103095	1.49557	1.85957	1.6635	0
2003	820	1.7529	.140408	1.49358	1.91516	1.75546	0
2004	1108	1.73217	.133229	1.4754	1.93686	1.7382	0
2005	960	1.79424	.155318	1.58079	2.0725	1.77369	0
2006	1019	1.76884	.188822	1.35923	2.11659	1.79539	0
2007	1263	1.8066	.227519	1.34605	2.16501	1.82517	0
2008	779	1.85356	.198527	1.56752	2.23203	1.80868	0
2009	822	1.85109	.199576	1.4964	2.25359	1.81865	0
2010	348	1.85947	.141152	1.6323	2.13851	1.83421	0
2011	348	1.85289	.143506	1.65673	2.11224	1.84307	0
2012	409	1.99746	.199071	1.60799	2.29924	1.97512	0
2013	421	1.84382	.277192	1.35388	2.30363	1.83459	0

M_PSRTSyb[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	1191	.736753	.029228	.699572	.784278	.723131	0
1990	1433	.746428	.035215	.69924	.810709	.744607	0
1991	1740	.759059	.033404	.711353	.818872	.764463	0
1992	2099	.761042	.033682	.714141	.841184	.759173	0
1993	2904	.761716	.032294	.720161	.843368	.763262	0
1994	2663	.755893	.034671	.712851	.828396	.747056	0
1995	2893	.730921	.037616	.669506	.828255	.725297	0
1996	2082	.726462	.038258	.666316	.809235	.722741	0
1997	2814	.700445	.053567	.599761	.80873	.692602	0
1998	2802	.713209	.05316	.603759	.830085	.707443	0
1999	1885	.736348	.049736	.661232	.817522	.730472	0
2000	1816	.743343	.040985	.683105	.816819	.7264	0

2001	2019	.753089	.044932	.691425	.83665	.746082	0
2002	1608	.749417	.044104	.678547	.838223	.759397	0
2003	1707	.670267	.06525	.524965	.796254	.680905	0
2004	2790	.658809	.088587	.524019	.821137	.650291	0
2005	2648	.64017	.107384	.471174	.815747	.656354	0
2006	2662	.714292	.075167	.58702	.842731	.718422	0
2007	3151	.70672	.065289	.604401	.833328	.691931	0
2008	2409	.744878	.050293	.668464	.839442	.744193	0
2009	2837	.647057	.111871	.481695	.842461	.651792	0
2010	1522	.661315	.090119	.475677	.817216	.677717	1.5873
2011	1776	.653493	.096027	.534548	.831019	.62978	0
2012	1496	.642144	.088227	.472309	.798912	.670248	1.1236
2013	3043	.724923	.049843	.649703	.849423	.706452	0

M_PSRTSyc[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	0	.	.	.	.	.	17.3913
1990	0	.	.	.	.	.	0
1991	76	-.226636	0	-.226636	-.226636	-.226636	2.77778
1992	0	.	.	.	.	.	0
1993	0	.	.	.	.	.	0
1994	91	.103005	.023622	.074551	.128975	.092504	6.81818
1995	176	.01663	.054321	-.051285	.098549	.019524	3.84615
1996	96	-.003488	.003328	-.007908	-.000171	-.002273	6
1997	0	.	.	.	.	.	4
1998	0	.	.	.	.	.	0
1999	63	.064261	.014027	.05253	.089884	.058704	6.38298
2000	0	.	.	.	.	.	2.32558
2001	143	.103845	.027571	.078684	.136293	.078902	4
2002	250	.125092	.155067	-.102534	.425722	.115965	6.12245
2003	178	-.097037	.069327	-.183298	.006786	-.146997	10
2004	736	.01069	.250994	-.295394	.36542	.092789	8.16327
2005	484	.008095	.255472	-.440517	.377412	.081826	5.88235
2006	586	-.069882	.273629	-.390851	.416163	-.084592	8.33333
2007	625	-.04135	.228233	-.314406	.314348	-.087716	5.88235
2008	107	.201675	.00967	.188763	.211123	.205877	0
2009	66	.120392	.001567	.118837	.121947	.120392	1.25
2010	0	.	.	.	.	.	0
2011	0	.	.	.	.	.	0
2012	0	.	.	.	.	.	2.24719
2013	0	.	.	.	.	.	2.46914

M_PSRTSyd[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	560	1.10853	.021149	1.0776	1.14047	1.10934	0
1990	782	1.08899	.022246	1.04604	1.12642	1.08742	0
1991	997	1.08093	.01924	1.04022	1.1129	1.07617	0
1992	1428	1.08229	.023887	1.02444	1.12108	1.09138	0
1993	2131	1.08478	.024756	1.03176	1.11711	1.08784	0
1994	1390	1.06697	.022458	1.02219	1.10598	1.06598	0
1995	2106	1.071	.026218	1.02652	1.1028	1.07774	0
1996	1334	1.07227	.020209	1.03272	1.09978	1.07228	0
1997	1399	1.07452	.018794	1.03091	1.09638	1.0811	0
1998	1547	1.0786	.017631	1.0377	1.09926	1.09029	0
1999	1108	1.06498	.017814	1.02303	1.09293	1.06329	0
2000	1022	1.07217	.016376	1.0355	1.09139	1.07712	0
2001	1288	1.06958	.016889	1.02142	1.09913	1.06521	0
2002	947	1.06332	.015025	1.03251	1.08657	1.06812	0
2003	1188	1.07515	.01874	1.02298	1.10526	1.0809	0
2004	2188	1.07525	.026141	1.0114	1.12233	1.08039	0
2005	2201	1.07921	.034065	.995905	1.13584	1.0804	0
2006	1869	1.06759	.025697	1.00428	1.10583	1.06514	0
2007	2305	1.06413	.020596	1.00788	1.10386	1.06562	0
2008	1595	1.05437	.018158	1.0115	1.08315	1.05292	0
2009	2051	1.0705	.02606	1.00949	1.11869	1.07311	0
2010	1729	1.08157	.027731	1.02721	1.13488	1.08161	0
2011	1231	1.06802	.019361	1.01818	1.09214	1.07705	0
2012	1841	1.07818	.024258	1.01684	1.1111	1.08263	0
2013	1868	1.05215	.013471	1.0102	1.0701	1.05631	0

c. Economies de gamme

M_ESCP_overall[1,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
ESCP	57483	.999128	.001463	.992244	1.00304	.999765	0

M_ESCP[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	1272	.999718	.000316	.998904	1	.9999	0
1990	1268	.999704	.00027	.999198	1	.999684	0
1991	1785	.99963	.00041	.998713	1	.999824	0
1992	2160	.999642	.000387	.99882	1	.999838	0
1993	2771	.999646	.000376	.998383	1	.999827	0
1994	2617	.999674	.000429	.9985	1	.999895	0
1995	2754	.999688	.000319	.99896	1	.999752	0
1996	2211	.99975	.000365	.99877	1.0007	.999918	0
1997	2829	.99971	.000412	.998308	1	.999893	0
1998	2983	.99969	.000388	.998733	1	.99995	0
1999	1966	.999562	.000601	.997827	1	.999848	0
2000	1815	.999318	.000861	.997019	1	.999761	0
2001	2092	.998789	.001554	.993998	1	.999614	0
2002	1614	.99862	.00168	.993766	1	.999571	0
2003	1669	.998582	.001613	.993446	1	.998673	0
2004	2676	.998786	.001559	.994122	1.00026	.999629	0
2005	2620	.998654	.001703	.994084	1	.999544	0
2006	2271	.998468	.001924	.993047	1.00195	.999533	0
2007	2806	.998332	.002071	.992244	1	.999393	0
2008	2367	.998555	.002057	.9927	1	.999805	0
2009	2629	.998342	.001939	.992592	1.00054	.999476	0
2010	2573	.998556	.002152	.992696	1.0013	.999677	0
2011	1878	.998738	.001994	.993082	1.00226	.999692	0
2012	2805	.99907	.001771	.992949	1.00304	.999692	0
2013	3052	.999244	.001338	.993737	1.00122	.999854	0

d. Taux de diminution du coût marginal

M_rcMC[4,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
rcMCya	21291	3.8244	1.29755	2.00604	8.06431	3.54002	0
rcMCyb	57337	1.51825	1.38932	-.511797	5.97602	1.22976	9.56739
rcMCyc	4133	1.19922	1.01749	-1.23645	3.42653	1.20375	14.8148
rcMCyd	38556	-2.02421	1.0943	-5.09359	-.219715	-1.68213	100

M_rcMCya[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	342	2.26292	.033541	2.20852	2.31774	2.26443	0
1990	781	2.25629	.118747	2.00604	2.41534	2.23113	0
1991	828	2.3033	.10337	2.07652	2.43509	2.33524	0
1992	970	2.43243	.159974	2.08159	2.68911	2.48915	0
1993	1327	2.61649	.161032	2.30753	2.87057	2.62109	0
1994	1237	2.6932	.223465	2.21831	2.9704	2.69289	0
1995	1371	2.77213	.250483	2.19705	3.19182	2.88304	0
1996	780	2.93449	.199652	2.44396	3.20932	2.974	0
1997	911	3.09478	.238255	2.49531	3.39138	3.12572	0
1998	1171	3.4759	.257457	2.7732	3.78076	3.52334	0
1999	755	3.49419	.258877	2.90914	3.95787	3.50958	0
2000	840	3.54406	.273865	2.84861	3.95862	3.53378	0
2001	902	3.81846	.310715	3.12183	4.44401	3.84755	0
2002	715	4.2333	.539623	3.1431	4.8514	4.26164	0
2003	820	4.57927	.588079	3.48109	5.24182	4.63263	0
2004	1108	4.5983	.625263	3.58318	5.62144	4.6732	0
2005	960	5.0724	.7487	3.94435	6.42971	5.0732	0
2006	1019	4.90769	.864142	3.30837	6.66701	4.93525	0
2007	1263	4.94626	.976563	3.12709	6.46454	4.9665	0
2008	744	4.83246	.688596	3.77829	6.30924	4.83285	0
2009	771	5.4133	.816658	4.01577	6.75847	5.42196	0
2010	374	6.06338	.72404	4.93504	7.63725	5.87351	0
2011	426	5.82938	.88878	4.47252	7.46658	5.7733	0
2012	409	6.6885	.946349	4.88082	8.06431	6.59407	0
2013	467	5.41881	1.24834	3.13741	7.50909	5.4478	0

M_rcMCyb[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	1140	-.060643	.011958	-.084463	-.041004	-.059301	100
1990	1433	-.426083	.062114	-.511797	-.300554	-.431319	100
1991	1740	-.203764	.027748	-.248489	-.145561	-.202451	100
1992	2033	-.025041	.00886	-.041829	-.007948	-.025467	100
1993	2961	.225133	.037362	.149014	.278216	.221006	0
1994	2747	.281745	.045317	.183287	.350621	.281664	0
1995	2907	.29136	.042373	.199132	.36687	.288967	0
1996	2217	.523413	.087128	.341682	.697222	.52309	0
1997	2814	.973518	.173549	.617761	1.28827	1.02541	0

1998	2802	1.51645	.285119	.88549	2.0602	1.51879	0
1999	1885	1.48766	.283127	1.03452	1.90272	1.49786	0
2000	1893	.905646	.1479	.640678	1.10564	.959046	0
2001	2114	1.31339	.250421	.825062	1.83489	1.33849	0
2002	1630	1.43121	.255071	.906597	1.84233	1.36967	0
2003	1707	2.72333	.532422	1.61441	3.81126	2.63281	0
2004	2790	3.02528	.787142	1.57661	4.216	3.11814	0
2005	2819	3.71821	1.16693	1.78759	5.77485	3.66579	0
2006	2708	2.43287	.651335	1.31104	3.79154	2.38955	0
2007	3208	1.86859	.411725	1.04593	2.50126	1.96122	0
2008	2506	1.27386	.258373	.798229	1.65576	1.2995	0
2009	2887	3.13996	1.00191	1.42476	4.85365	3.10287	0
2010	1568	3.87497	1.02826	2.04595	5.90954	3.7618	0
2011	1828	2.6777	.757578	1.30879	3.59483	2.93042	0
2012	1957	3.78296	1.24174	1.78376	5.97602	3.89252	0
2013	3043	.423104	.07639	.232546	.538231	.453942	0

M_rcMCyc[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	0	.	.	.	.	.	.
1990	0	.	.	.	.	.	.
1991	76	-1.23645	0	-1.23645	-1.23645	-1.23645	100
1992	0	.	.	.	.	.	.
1993	0	.	.	.	.	.	.
1994	211	-.4549	.021165	-.47059	-.422697	-.47059	100
1995	162	-.474133	.017596	-.490933	-.442304	-.482982	100
1996	174	-.227254	.010802	-.242415	-.208433	-.228354	100
1997	117	.211768	.013908	.196926	.228454	.204419	0
1998	0	.	.	.	.	.	.
1999	63	.867886	.030394	.829966	.894729	.894729	0
2000	108	.254169	.023859	.206311	.276427	.256165	0
2001	153	.715397	.036821	.655059	.748716	.723483	0
2002	272	.827113	.195432	.501061	1.15553	.81753	0
2003	238	1.84684	.260653	1.43934	2.20638	1.86585	0
2004	736	1.88679	.626431	1.00959	2.62553	1.8527	0
2005	484	2.15544	.725538	1.42323	3.42653	1.77357	0
2006	586	1.91541	.641826	1.05773	2.61287	2.04389	0
2007	365	.889501	.12335	.739964	1.16347	.852371	0
2008	151	.672811	.022913	.637219	.702961	.676837	0
2009	237	1.69275	.198257	1.4003	1.96815	1.62602	0
2010	0	.	.	.	.	.	.
2011	0	.	.	.	.	.	.
2012	0	.	.	.	.	.	.
2013	0	.	.	.	.	.	.

M_rcMCyd[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	266	-4.01658	.268046	-4.28914	-3.61015	-4.18575	100
1990	562	-4.28506	.439133	-4.79364	-3.40276	-4.29307	100
1991	949	-3.96987	.56366	-4.97722	-3.00775	-3.87076	100
1992	1428	-3.98883	.649047	-5.09359	-2.63087	-4.06775	100
1993	2208	-3.6596	.699646	-4.7953	-2.30982	-3.71082	100
1994	1300	-2.97993	.510827	-3.8579	-1.98914	-2.92308	100
1995	2157	-3.31494	.539723	-4.24874	-2.2848	-3.57391	100
1996	1396	-2.9576	.504844	-3.80696	-2.04025	-2.86262	100
1997	1292	-2.56423	.39891	-3.16527	-1.83884	-2.53317	100
1998	1527	-2.04251	.319856	-2.43036	-1.41288	-2.16126	100
1999	1078	-1.74078	.288453	-2.27623	-1.32164	-1.66003	100
2000	1125	-2.3285	.361541	-2.90717	-1.62762	-2.33932	100
2001	1426	-1.79756	.347172	-2.38467	-1.13432	-1.79514	100
2002	1160	-1.71289	.321145	-2.34963	-1.07078	-1.74447	100
2003	1369	-1.28854	.254917	-1.78925	-.813551	-1.31262	100
2004	2162	-1.18613	.216453	-1.60796	-.721326	-1.21767	100
2005	2039	-.964142	.223492	-1.38958	-.51345	-.974343	100
2006	1935	-1.23784	.272539	-1.78416	-.735216	-1.23708	100
2007	2255	-1.61738	.239574	-2.09569	-1.08333	-1.62073	100
2008	1739	-1.69592	.305877	-2.26293	-1.12484	-1.63343	100
2009	2108	-1.17165	.274083	-1.71495	-.601159	-1.1128	100
2010	1947	-.563978	.19108	-.926683	-.219715	-.510463	100
2011	1327	-1.33084	.285477	-1.7739	-.828315	-1.50397	100
2012	1879	-.950408	.241176	-1.28716	-.484482	-.889906	100
2013	1922	-2.07496	.308593	-2.44802	-1.38632	-2.21666	100

e. Taux de diminution du coût

```
M_RCD_overall[1,7]
          Obs      Mean    StdDev       Min       Max    Median      %neg
RCD     55640   1.15468   1.73053  -4.16117    5.9657   1.40548   22.3597

M_RCD[25,7]
           Obs      Mean    StdDev       Min       Max    Median      %neg
1989      1115   .605993   .710558  -1.00103   1.56294   .933627   44.4444
1990      1250   .476609   .886286  -1.20839   1.52735   .746165      37.5
1991      1605   .132677    1.5622  -3.83356   1.59851   .983252    46.875
1992      2184  -.277629    1.9939  -4.16117   1.65522  -.020045      47.5
1993      2076   .940467   .830029   -2.1461   1.76671   1.20154   7.31707
1994      2394   .857667   .510334  -.157352   1.82794   .711068   2.77778
1995      2907  -.020689   1.86365  -3.60099   1.89267     .5084        22
1996      2280   .185933   1.73121  -3.42946   1.93595   .893105        28
1997      2888   .515078    1.6981  -2.94989   2.14797   1.55497        26
1998      3074   1.79417   1.56992  -1.69228   4.63557   2.04293   20.4082
1999      1980   1.26506   1.61842   -2.3496   2.84698   2.00363   22.2222
2000      1962   1.11176   1.17735  -1.55144   2.29804   1.54392   19.5122
2001      1971   1.77459    .84242  -.599621   2.86115   2.12559   9.09091
2002      1719   1.25374   1.40291  -1.62503   3.37129   1.76939   22.9167
2003      1635   1.76053   1.71062   -.86167    5.7034   1.92574   21.7391
2004      2434   1.52342   1.37674  -1.19391   4.33966   1.93144   16.2791
2005      2239   1.59898   1.42296  -.839271   4.15465   1.96124   15.5556
2006      2592   2.04713   1.72647    -1.174   5.26477   2.24369   15.5172
2007      3132   1.46727   1.71418  -1.58968   5.40752    2.1142   24.2424
2008      2499   1.01505   1.46652  -1.57591   3.01255   1.74847   22.7273
2009      2669   2.01669   1.74644  -.943767   5.71898   2.39315   16.4384
2010      1975   2.70501   1.73616  -.146886    5.9657   3.31021   4.16667
2011      1825    1.7678   1.97568  -1.01213   5.88702   1.74884   27.6596
2012      2078    2.1769   1.79769  -.873283   5.48718   2.59657   16.6667
2013      3157   .183003   1.55798  -2.00591   3.28073   .221966        40
```

f. Taux de changement technique

M_RTC_overall[1,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
RTC	59551	.458209	.658235	-.722718	2.89196	.290552	23.8854

M_RTC[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	1388	.248953	.497542	-.530191	1.28258	-.006071	54.5455
1990	1460	.354788	.55148	-.540257	1.48306	.363033	46.4286
1991	1816	.196801	.544933	-.609065	1.0548	-.02569	52.9412
1992	2184	.327766	.668303	-.555786	1.62211	-.002296	47.5
1993	2961	.347738	.711177	-.499999	1.7199	.03753	20.8333
1994	2721	.36295	.557321	-.464575	1.62602	.046203	16.6667
1995	2907	.391338	.724142	-.558444	1.60671	.045207	22
1996	2280	.325751	.693997	-.545173	1.67195	.080132	28
1997	2888	.363994	.680031	-.473803	1.77062	.141458	26
1998	3074	.635014	.712066	-.271263	1.89737	.252808	20.4082
1999	1980	.538157	.693983	-.429108	1.82634	.263677	22.2222
2000	1597	.250277	.413679	-.301532	1.19888	.162616	21.0526
2001	2167	.57971	.604501	-.247226	1.66335	.26363	18.3673
2002	1690	.397677	.48123	-.323608	1.40236	.30654	23.4043
2003	1853	.668987	.666166	-.191179	2.144	.478494	20
2004	2949	.5112	.500451	-.279114	1.7576	.522751	15.2174
2005	2885	.632128	.60415	-.190741	2.25542	.600575	13.7255
2006	2690	.554849	.564256	-.302468	2.0194	.475658	15.5172
2007	2974	.372009	.546217	-.430272	1.9584	.310545	25
2008	2413	.332877	.572659	-.41149	1.73879	.255095	23.8095
2009	2741	.587128	.627731	-.271515	2.1485	.534025	16.2162
2010	2401	.979365	.800174	-.04851	2.8186	.854879	3.77358
2011	1810	.456533	.604291	-.34006	2.42292	.366379	28.8889
2012	2729	.716063	.690569	-.329426	2.89196	.630909	14.8148
2013	2993	.114085	.688991	-.722718	2.26568	-.013449	40.5063

g. Changements techniques biaisés en facteur

M_FbTC[4,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
FbTCxa	27828	.575111	2.64964	-1.95556	8.44988	-.902365	74.8457
FbTCxb	54972	.347618	1.06405	-3.65	2.65876	.574234	35.8786
FbTCxc	54048	1.43368	1.71546	-4.91702	7.57013	1.429	23.7489
FbTCxd	25202	-7.27835	3.97822	-22.6958	-2.70344	-6.27441	100

M_FbTCxa[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	327	-.921066	.117005	-1.08598	-.79165	-.917303	100
1990	451	-.939981	.09997	-1.08869	-.756948	-.931753	100
1991	567	-.869788	.124844	-1.08831	-.661018	-.849245	100
1992	718	-.972168	.146842	-1.25439	-.777321	-.982072	100
1993	1191	-.919232	.163066	-1.14385	-.653951	-.919067	100
1994	1065	-.83834	.286267	-1.20729	-.32572	-.879986	100
1995	1260	-.968177	.222469	-1.3905	-.550348	-1.08041	100
1996	657	-1.07984	.193058	-1.3906	-.552908	-1.02741	100
1997	793	-1.06739	.199898	-1.40909	-.461649	-1.1353	100
1998	1238	-.47243	1.73134	-1.38557	4.86767	-1.06841	85.7143
1999	1124	1.5849	3.60729	-1.39831	8.30136	-.851974	66.6667
2000	719	-1.08058	.293827	-1.53684	-.110013	-1.11215	100
2001	794	-1.12259	.121771	-1.2794	-.837727	-1.2056	100
2002	902	.080076	1.85934	-1.95556	4.67599	-.866792	84.6154
2003	999	.218115	2.16336	-1.5926	6.92068	-.916393	80.7692
2004	1621	1.60571	3.11974	-1.60908	6.83993	-.526906	67.7419
2005	1871	1.93211	2.8393	-1.29893	6.72893	2.71389	61.5385
2006	1526	1.12929	2.73523	-1.63428	6.50376	-.688843	70.7317
2007	1956	1.86003	3.54507	-1.64302	8.44988	-.430862	66.6667
2008	1271	1.17292	3.19235	-1.72487	7.20964	-.958051	76.1905
2009	1849	1.6671	2.61803	-1.70028	6.39948	2.58448	63.4615
2010	1381	.68648	1.95034	-1.61923	3.34122	.009044	57.5758
2011	1208	1.67219	2.3609	-1.67476	6.50505	1.0985	46.6667
2012	1219	.916475	2.3774	-1.78818	4.26207	2.09138	59.0909
2013	1121	2.34405	3.94899	-1.94049	7.58903	2.99252	57.5758

M_FbTCxb[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	1097	.422816	.677362	-1.14492	1.57581	.599861	17.6471
1990	1229	.426426	.733284	-1.07454	1.88725	.614671	27.2727
1991	1524	.768066	.808488	-.603069	2.25508	.609916	18.5185
1992	2084	.293304	1.28985	-2.6208	2.05354	.602358	40.5405
1993	2830	.283756	1.28141	-2.48912	1.89366	.57276	40.9091
1994	2458	.427191	.861591	-1.78824	1.85937	.584883	24.3243
1995	2768	.33516	1.29654	-2.41975	1.99275	.585231	40
1996	2071	.320188	1.23443	-2.32536	1.98857	.576522	23.8095
1997	2720	.273192	1.17482	-2.55131	1.84088	.574234	34.0909
1998	2986	-.036136	1.14415	-2.68944	1.53797	.559769	44.4444
1999	1850	.06082	1.23617	-2.36958	1.87572	.553092	41.4634
2000	1664	.224888	.850099	-1.61593	1.43646	.556069	33.3333
2001	2023	-.036691	.999041	-1.67099	1.405	.54577	41.8605
2002	1473	.367237	.758027	-1.51464	1.71905	.552932	43.5897
2003	1640	.287908	.97191	-1.46494	1.85492	.534165	40.4762
2004	2640	.499246	.68257	-1.05978	1.56689	.569854	38.4615
2005	2678	.486276	.810302	-1.68191	1.87061	.591921	40
2006	2477	.471637	1.10551	-2.46644	2.65876	.611871	45.098
2007	2728	.609481	.968168	-2.13417	1.90255	.677082	35.1852
2008	2245	.275469	1.10604	-2.7686	1.77127	.553764	40.7407
2009	2457	.340703	1.07257	-2.61738	2.02078	.710477	38.7097
2010	2352	.393764	.913244	-2.0553	1.58554	.537247	28.2609
2011	1715	.517789	1.02738	-2.51927	1.79765	1.03083	30
2012	2608	.232974	1.27167	-3.65	1.7831	.586814	37.8378
2013	2655	.567397	.929208	-3.19869	1.74596	.710453	26.2295

M_FbTCxc[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	945	1.30831	.678568	-.31156	2.08999	1.58833	13.3333
1990	1151	1.61624	1.22769	-.658869	3.90281	1.57486	15
1991	1150	1.34151	.963833	-.903326	3.36932	1.56878	9.09091
1992	1498	1.04199	1.36693	-1.60582	4.34362	1.54584	26.9231
1993	1927	1.20753	1.70358	-1.14122	5.64105	1.53237	20
1994	2234	1.3596	1.16867	-1.12394	3.29343	1.50282	21.875
1995	2212	1.3253	1.92221	-1.76809	6.074	1.47313	31.7073
1996	2181	2.13671	2.68032	-1.99198	7.57013	1.47445	20

1997	2758	1.94457	2.21738	-1.67833	6.57489	1.46057	23.2558
1998	3030	1.21773	1.79265	-1.86637	5.15841	1.39971	31.1111
1999	1966	1.58913	2.27873	-1.50204	6.18289	1.38759	27.2727
2000	1858	1.1105	1.3296	-1.22562	4.25182	1.39347	10.2564
2001	2013	.936988	1.34307	-1.20786	3.71319	1.35867	22.7273
2002	1636	1.82139	1.42583	-.766193	4.74816	1.38821	11.3636
2003	1721	1.61604	1.6236	-1.71832	4.82694	1.32915	15.5556
2004	2833	1.71731	1.25123	-1.39463	4.48757	1.39302	9.30233
2005	2711	1.78298	1.26244	-1.27651	4.78117	1.62632	6.52174
2006	2416	1.54095	1.46254	-2.18083	4.86951	1.44245	23.0769
2007	3042	1.6296	1.91886	-2.79358	4.51348	1.60769	19.2982
2008	2316	1.2356	1.56677	-2.76786	3.83858	1.30852	36.8421
2009	2694	1.32801	1.57057	-2.9111	4.58783	1.58628	31.8841
2010	2530	1.19075	1.4604	-2.93526	3.52649	1.23311	32.0755
2011	1786	1.45198	1.66574	-3.35888	3.9784	2.19987	30.2326
2012	2656	.932459	1.97755	-4.78271	4.01855	1.30208	34.7222
2013	2784	1.27269	1.79723	-4.91702	3.59342	1.43967	31.3433

M_FbTCxd[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	1188	-6.27937	2.63298	-10.1573	-2.70344	-6.31566	100
1990	1305	-4.78477	2.28696	-8.9287	-2.70863	-3.27979	100
1991	1577	-5.45953	3.06962	-11.5887	-2.86257	-4.25786	100
1992	1847	-6.71782	4.53234	-15.7299	-2.92146	-4.49458	100
1993	2309	-5.52905	2.57628	-13.27	-3.15789	-3.7501	100
1994	1516	-5.44874	3.37637	-14.6963	-3.17584	-3.86355	100
1995	1999	-5.11585	1.96124	-11.2029	-3.18208	-4.14317	100
1996	1264	-6.84676	3.82364	-16.883	-3.43648	-4.83026	100
1997	1176	-7.43004	5.20697	-20.1432	-3.70715	-4.79327	100
1998	1150	-4.96297	.679931	-7.56277	-4.1629	-5.0198	100
1999	826	-5.64311	2.09711	-12.2902	-4.38044	-4.99623	100
2000	749	-5.50224	.76217	-8.73164	-4.42599	-5.59032	100
2001	863	-6.16867	1.22515	-8.80853	-4.53147	-6.40783	100
2002	539	-7.50126	1.57868	-10.6071	-4.49114	-7.26984	100
2003	685	-9.86337	1.79733	-12.9994	-5.74604	-9.45361	100
2004	840	-10.7135	2.97617	-15.0777	-6.75356	-10.5197	100
2005	735	-12.8829	4.43698	-22.2237	-7.58857	-12.2912	100
2006	767	-11.0413	3.65042	-18.8796	-6.38083	-10.4221	100
2007	975	-10.0782	2.6198	-16.5123	-5.91215	-9.49167	100
2008	691	-8.65857	1.96921	-13.6861	-5.45837	-7.93701	100
2009	681	-12.0122	3.37643	-19.2793	-6.53863	-11.1725	100
2010	304	-13.962	3.00103	-18.3878	-7.81943	-13.9169	100
2011	296	-12.4996	3.63818	-20.2288	-5.96062	-11.9407	100
2012	475	-14.1774	4.16209	-22.6958	-7.98664	-13.6441	100
2013	445	-8.63788	1.08449	-11.3422	-6.3827	-8.71658	100

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a. Retours d'échelle

M_ORTS_overall[1,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
ORTS	102199	.493685	.45944	-.879325	.999295	.638352	13.4481

M_ORTS[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	4217	.625937	.434197	-.632557	.980167	.772125	30.8642
1990	3140	.774585	.322132	-.29294	.998478	.922013	28.866
1991	3155	.691375	.390514	-.390045	.987808	.877586	31.8681
1992	4130	.51171	.552728	-.803206	.999286	.840458	32.6923
1993	4601	.47262	.583986	-.879325	.970569	.816929	31.1475
1994	5069	.584232	.503514	-.69964	.99902	.868216	21.875
1995	4762	.609455	.491406	-.642575	.9891	.908792	20.5128
1996	4664	.610788	.467785	-.519594	.999295	.902442	19.3103
1997	5428	.393895	.642501	-.784295	.986978	.84214	25.1799
1998	6110	.283221	.656287	-.849544	.975595	.61152	24.3421
1999	5076	.410763	.583376	-.765265	.966924	.743385	21.8978
2000	4944	.371775	.431966	-.435148	.934484	.376198	18.3824
2001	4557	.353187	.418674	-.479754	.936301	.295349	16.5563
2002	4770	.451835	.383363	-.353215	.922919	.482961	11.6564
2003	4747	.384679	.42007	-.375638	.94519	.36025	14.1104
2004	3043	.444718	.363115	-.185332	.924513	.41199	6.99301
2005	3378	.369957	.394671	-.319233	.922156	.286623	13.9073
2006	3264	.442975	.306366	-.051029	.932775	.353502	1.37931
2007	3419	.513742	.253342	.135104	.920082	.428331	0
2008	3185	.583101	.218532	.299734	.932249	.524239	0
2009	2991	.537315	.249442	.015518	.909037	.486816	0
2010	3742	.526983	.259817	.049768	.918404	.490112	0
2011	2731	.609133	.19917	.296591	.913166	.557543	0
2012	3706	.484269	.229442	.194525	.916844	.386245	0
2013	3370	.62862	.147768	.445611	.904306	.582172	0

b. Retours d'échelle spécifique aux produits

M_PSRTS_overall[4,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
PSRTSya	38050	.969799	.01978	.888648	.999452	.97422	0
PSRTSyb	100165	-.178558	.580096	-2.36772	.636065	-.034904	39.3524
PSRTSyc	1664	.992969	.00704	.974038	.999828	.997281	0
PSRTSyd	58559	.992441	.010427	.945172	1.00039	.997132	0

M_PSRTSya[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	1667	.982042	.008403	.963277	.997796	.980202	0
1990	1649	.981326	.009351	.956901	.998381	.980965	0
1991	1477	.983134	.009507	.961402	.9984	.981717	0
1992	1830	.978755	.011563	.952509	.998544	.978229	0
1993	1698	.979896	.01001	.962226	.994892	.979742	0
1994	2050	.978416	.010188	.952752	.995704	.979465	0
1995	2018	.974086	.011749	.947537	.996003	.976658	0
1996	2157	.975315	.012143	.944876	.996492	.978042	0
1997	2045	.974835	.012325	.943789	.996807	.975851	0
1998	1956	.974481	.013212	.935033	.995822	.977928	0
1999	1948	.973907	.014272	.933309	.997302	.979954	0
2000	1914	.972132	.015469	.929667	.996931	.976469	0
2001	1692	.968454	.018818	.916056	.997474	.972456	0
2002	1996	.966001	.017439	.922551	.998127	.970077	0
2003	1917	.962766	.020294	.914499	.99941	.964983	0
2004	1151	.961685	.019034	.916381	.999436	.962549	0
2005	1326	.963996	.022327	.90774	.999347	.965988	0
2006	990	.960382	.020094	.919487	.994593	.961624	0
2007	1090	.956053	.024537	.905225	.999107	.960592	0
2008	1008	.951051	.0216	.907302	.996005	.952448	0
2009	975	.960121	.024827	.904468	.999382	.960552	0
2010	1178	.955252	.027863	.889201	.999452	.957626	0
2011	919	.951462	.026912	.896824	.998653	.953235	0
2012	686	.945533	.026355	.888648	.990398	.953891	0
2013	713	.942983	.029127	.888939	.99871	.947493	0

M_PSRTSyb[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	1969	-1.18454	.700669	-2.36772	-.15114	-1.12244	100
1990	2542	-1.03979	.642751	-2.36552	-.052236	-.996356	97.9381
1991	2854	-1.00654	.633347	-2.25141	.029166	-.963302	96.7033
1992	4932	-1.00724	.723721	-2.23015	.204917	-.864488	91.3462
1993	4938	-.714366	.55659	-1.91136	.192396	-.627438	88.5246
1994	5004	-.449755	.38614	-1.27609	.21127	-.375585	78.9063
1995	5041	-.461634	.424097	-1.24432	.296142	-.392651	75.2137
1996	5035	-.338267	.367687	-1.10647	.348004	-.320566	67.5862
1997	5412	-.375604	.378445	-1.07098	.372496	-.352014	70.5036
1998	6099	-.426745	.387862	-1.16234	.331254	-.480104	69.0789
1999	5076	-.192422	.275753	-.765265	.394371	-.181967	61.3139
2000	4944	.004899	.200938	-.435148	.425957	.006034	38.9706
2001	4468	.032251	.173396	-.327677	.407541	.035276	35.7616
2002	4709	.073512	.165478	-.353215	.449491	.034012	30.6748
2003	4666	.022454	.190083	-.375638	.435949	-.004793	39.8773
2004	3029	.134014	.157197	-.185332	.463763	.096226	17.4825
2005	3365	.050127	.181871	-.34244	.441714	.019519	35.0993
2006	3251	.199469	.129847	-.133628	.492423	.180605	4.13793
2007	3374	.309948	.097757	.135104	.523323	.292816	0
2008	3139	.375958	.076837	.241434	.555291	.36746	0
2009	2895	.332503	.090632	.140667	.524474	.310435	.8
2010	3724	.305364	.116254	.038734	.570498	.313413	.609756
2011	2690	.438416	.071895	.271089	.592876	.43475	0
2012	3680	.345871	.090632	.119885	.569786	.343026	0
2013	3329	.519985	.045104	.414266	.636065	.517386	0

M_PSRTSyc[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	0	.	.	.	.	.	0
1990	32	.999828	0	.999828	.999828	.999828	0
1991	0	.	.	.	.	.	0
1992	132	.9997	7.6e-06	.999693	.999708	.9997	0
1993	171	.998641	.000277	.998494	.999195	.998494	0
1994	0	.	.	.	.	.	0
1995	0	.	.	.	.	.	0
1996	33	.997667	0	.997667	.997667	.997667	0
1997	0	.	.	.	.	.	0
1998	0	.	.	.	.	.	0
1999	0	.	.	.	.	.	0
2000	317	.993067	.007814	.977022	.998519	.997281	0
2001	52	.987216	.000817	.986407	.988025	.987216	0
2002	95	.991175	.002688	.988103	.995016	.990242	0
2003	357	.99202	.00856	.974038	.998272	.997989	0
2004	74	.997392	.002291	.993478	.999496	.998276	0
2005	51	.990488	.002953	.986758	.994019	.98951	0
2006	37	.992333	.000034	.992308	.992378	.992308	0
2007	25	.99589	0	.99589	.99589	.99589	0
2008	62	.990679	.000535	.990366	.991579	.990366	0
2009	0	.	.	.	.	.	0
2010	88	.984835	.007187	.97876	.995263	.982821	0
2011	0	.	.	.	.	.	0
2012	99	.987897	.003065	.982415	.990266	.990266	0
2013	39	.984097	.002484	.981973	.987532	.982786	0

M_PSRTSyd[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	2705	.997429	.003684	.985437	.999963	.999083	0
1990	2507	.996273	.004912	.981951	1.00015	.998637	0
1991	2219	.997459	.003138	.988563	.999942	.998931	0
1992	2644	.997839	.002611	.990425	.999957	.999175	0
1993	2906	.997218	.002967	.98901	.999949	.998478	0
1994	3265	.996533	.004386	.982693	.999946	.998511	0
1995	3288	.994804	.006786	.974043	.999924	.998514	0
1996	3265	.995063	.005968	.976395	1.00005	.997828	0
1997	3148	.994112	.007469	.968617	.999976	.997667	0
1998	3386	.994212	.007588	.96982	.999973	.998317	0
1999	2530	.992634	.008151	.968711	.99995	.996195	0
2000	2524	.994029	.007664	.971622	.999877	.997838	0
2001	2282	.993719	.007771	.968583	.999943	.997144	0
2002	2515	.991832	.009675	.962981	.999896	.996259	0
2003	2550	.992415	.009734	.962319	1.00002	.996859	0
2004	1598	.988994	.012142	.956066	.999929	.99513	0
2005	1657	.988073	.013423	.950315	1.00039	.993888	0
2006	1805	.987661	.013035	.951271	.999763	.994891	0
2007	1968	.98823	.012236	.955573	.999726	.994163	0
2008	1832	.984355	.01429	.945404	.999789	.988863	0
2009	1573	.982137	.016556	.945172	.999539	.987911	0
2010	1954	.984078	.014576	.945997	.999643	.990153	0
2011	1287	.983378	.016778	.946549	.999842	.991562	0
2012	1540	.986896	.013866	.951143	.999647	.994435	0
2013	1611	.98504	.014521	.945573	1.00006	.99035	0

c. Economies de gamme

M_ESCP_overall[1,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
ESCP	100524	1.00215	.005229	.985465	1.03024	1	0

M_ESCP[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	4176	1.00033	.001955	.993088	1.00528	1.00022	0
1990	4247	1.00034	.001396	.996836	1.00468	1	0
1991	3909	1.00035	.001237	.996646	1.00378	1	0
1992	5525	1.00032	.001578	.995252	1.00561	1	0
1993	5362	1.00066	.002471	.993262	1.00927	1	0
1994	5614	1.00053	.001612	.995815	1.00481	1	0
1995	5092	1.00003	.001469	.995149	1.00465	1	0
1996	4994	1.00023	.00167	.995292	1.00584	1	0
1997	5242	1.00052	.001851	.993441	1.00786	1	0
1998	5772	1.00078	.002362	.993162	1.00819	1	0
1999	4706	1.00082	.002067	.993934	1.00684	1.00005	0
2000	4340	1.00304	.005411	.995824	1.0235	1.00074	0
2001	3927	1.0029	.004956	.989083	1.02155	1.00061	0
2002	4262	1.00492	.00763	.995527	1.0282	1.00148	0
2003	3939	1.00347	.006369	.991093	1.02697	1.0009	0
2004	2739	1.00447	.006983	.991772	1.0269	1.00148	0
2005	2847	1.00269	.006122	.990284	1.02393	1.00076	0
2006	2978	1.00528	.007595	.995311	1.02514	1.00174	0
2007	3126	1.00468	.00693	.989398	1.02758	1.00166	0
2008	2946	1.00575	.008473	.985465	1.02854	1.00209	0
2009	2669	1.00583	.008587	.987586	1.03024	1.00198	0
2010	3355	1.00574	.008348	.986678	1.02863	1.0015	0
2011	2420	1.00352	.005997	.987457	1.02201	1.00131	0
2012	3202	1.00269	.0051	.989323	1.0233	1	0
2013	3135	1.00403	.006963	.986811	1.02736	1.00096	0

d. Taux de diminution du coût marginal

M_rcMC[4,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
rcMCya	38438	1.13333	.399756	.425902	2.44752	1.06733	0
rcMCyb	100973	-9.66565	5.20616	-29.3028	-2.89439	-8.23844	100
rcMCyc	2120	1.49825	.71028	.305341	3.38803	1.45776	0
rcMCyd	59938	5.28342	2.98494	2.05804	17.7466	4.3054	0

M_rcMCya[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	1866	.720855	.14607	.503344	1.02462	.731987	0
1990	1762	.618684	.110026	.425902	.80751	.617202	0
1991	1399	.670828	.092217	.485661	.831515	.664264	0

1992	1754	.738826	.11149	.544255	.944737	.727287	0
1993	1792	.832364	.114745	.604352	1.05132	.821022	0
1994	2089	.811042	.135055	.559314	1.0577	.780907	0
1995	1869	.869161	.160454	.587211	1.14998	.847835	0
1996	2205	.967377	.186637	.580779	1.33257	.9403	0
1997	2058	1.09915	.224928	.649149	1.4483	1.05261	0
1998	1989	1.26721	.257166	.775563	1.83814	1.2065	0
1999	2025	1.2732	.236639	.776614	1.61829	1.25027	0
2000	1968	1.16248	.231822	.709158	1.52647	1.07933	0
2001	1712	1.23183	.24106	.777925	1.714	1.17813	0
2002	2073	1.29348	.266775	.791524	1.83901	1.22794	0
2003	1932	1.50032	.306646	.938698	2.16612	1.43884	0
2004	1165	1.4281	.30136	.905283	2.12061	1.39483	0
2005	1339	1.75505	.385255	1.07477	2.44752	1.71105	0
2006	1029	1.53977	.342686	.978366	2.29582	1.45964	0
2007	1105	1.40845	.367446	.852536	2.18608	1.38045	0
2008	890	1.22997	.247361	.798485	1.67189	1.21278	0
2009	868	1.46152	.332262	.902462	2.04454	1.39814	0
2010	1042	1.66	.324005	1.09347	2.33862	1.60889	0
2011	995	1.4427	.361459	.827535	2.20361	1.33475	0
2012	682	1.5905	.369794	.984542	2.2565	1.48135	0
2013	830	1.01795	.297422	.537279	1.65535	.911086	0

M_rcMCyb[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	2050	-19.2011	6.22717	-29.3028	-9.75346	-19.0772	100
1990	2471	-17.6189	5.38608	-27.676	-9.14484	-17.6781	100
1991	2891	-17.7106	5.68483	-29.2949	-8.43506	-17.1929	100
1992	4932	-17.3719	6.31057	-28.0497	-6.79083	-16.0456	100
1993	4938	-14.5053	4.70785	-24.7304	-6.84708	-13.8136	100
1994	5004	-12.3668	3.30743	-19.5939	-6.75055	-11.7045	100
1995	5421	-12.9377	3.9908	-20.1721	-5.893	-12.0749	100
1996	5035	-11.1935	3.08711	-17.5277	-5.38872	-11.0967	100
1997	5412	-11.2661	3.09646	-16.891	-5.16061	-10.9394	100
1998	6110	-11.2454	3.06166	-16.9262	-5.1957	-11.7509	100
1999	5076	-9.47448	2.19498	-14.0128	-4.86265	-9.4849	100
2000	4944	-7.97723	1.66976	-11.5992	-4.5512	-8.02845	100
2001	4478	-7.64808	1.43239	-10.761	-4.50971	-7.8065	100
2002	4709	-7.28208	1.36785	-10.7453	-4.23184	-7.57692	100
2003	4702	-7.43153	1.53517	-10.8831	-4.19616	-7.63115	100
2004	3047	-6.66631	1.26534	-9.29313	-4.06866	-6.94305	100
2005	3378	-6.9918	1.4062	-9.8702	-4.0587	-7.15595	100
2006	3285	-6.02955	1.05496	-8.59355	-3.77636	-6.10454	100
2007	3390	-5.387	.820647	-6.89115	-3.59023	-5.49951	100
2008	3186	-4.94752	.668603	-6.13192	-3.37532	-5.08275	100
2009	2980	-5.02254	.755925	-6.87753	-3.4346	-5.18929	100
2010	3745	-5.07428	.909736	-7.12997	-3.04676	-5.0256	100
2011	2741	-4.34302	.611706	-5.63931	-3.0579	-4.32453	100
2012	3706	-4.9652	.755118	-6.70593	-3.13705	-4.99683	100
2013	3342	-4.02543	.426759	-4.88952	-2.89439	-4.08296	100

M_rcMCyc[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	0	.	.	.	.	.	.
1990	32	.305341	0	.305341	.305341	.305341	0
1991	0	.	.	.	.	.	.
1992	104	.416881	.000368	.416604	.417363	.416604	0
1993	323	.589478	.041486	.535688	.657907	.586114	0
1994	0	.	.	.	.	.	.
1995	0	.	.	.	.	.	.
1996	33	.720284	0	.720284	.720284	.720284	0
1997	124	1.05863	.01481	1.04102	1.07746	1.05802	0
1998	0	.	.	.	.	.	.
1999	0	.	.	.	.	.	.
2000	246	1.2327	.017778	1.19974	1.24378	1.24378	0
2001	153	1.4743	.039572	1.42644	1.51428	1.45776	0
2002	178	1.51335	.088133	1.39766	1.64295	1.50138	0
2003	297	2.09433	.045722	1.98645	2.1543	2.09388	0
2004	144	1.8746	.113373	1.70338	2.00534	1.94552	0
2005	110	2.53078	.160364	2.30685	2.72382	2.5822	0
2006	37	2.09085	.008318	2.0797	2.09689	2.09689	0
2007	73	1.81815	.067434	1.72159	1.89656	1.86008	0
2008	102	1.55075	.147434	1.33101	1.7414	1.60587	0
2009	0	.	.	.	.	.	.
2010	0	.	.	.	.	.	.
2011	0	.	.	.	.	.	.
2012	138	2.94499	.271722	2.39166	3.38803	3.00528	0
2013	26	1.32763	.007764	1.32002	1.33525	1.32763	0

M_rcMCyd[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	3070	2.60318	.244362	2.06451	3.14046	2.6076	0
1990	2570	2.57553	.237553	2.05804	3.02332	2.60083	0
1991	2359	2.72654	.228234	2.20168	3.13349	2.77796	0
1992	2930	2.84897	.272631	2.21875	3.42522	2.83101	0
1993	3110	3.02171	.268301	2.41666	3.54643	3.00025	0
1994	3492	3.11303	.353182	2.30561	3.81559	3.1004	0
1995	3263	3.41743	.422076	2.39317	4.03528	3.49528	0
1996	3325	3.62773	.462259	2.65247	4.44654	3.69493	0
1997	3148	4.04688	.576428	2.85152	5.00778	4.12106	0
1998	3419	4.57554	.728681	3.10847	5.80618	4.70165	0
1999	2544	4.5509	.672217	3.18868	5.78698	4.61898	0
2000	2563	4.59324	.753562	3.23886	6.26601	4.53911	0
2001	2322	4.93767	.761754	3.27107	6.43677	4.90794	0
2002	2563	5.51133	1.00324	3.44124	7.29875	5.48025	0
2003	2631	6.46332	1.36981	3.79717	9.19256	6.49362	0
2004	1644	6.67142	1.47033	4.06308	9.42501	6.61199	0
2005	1719	8.23221	2.08587	4.68621	11.8156	7.9887	0
2006	1878	8.13311	2.06507	4.34899	11.4428	8.11654	0

2007	2091	8.14806	2.18869	4.3459	12.1685	8.23628	0
2008	1901	7.9133	1.99926	4.25637	11.4087	7.7719	0
2009	1796	10.2716	3.41418	4.74035	17.3375	10.0875	0
2010	1645	10.9396	3.08443	5.80502	16.9549	11.3079	0
2011	1334	9.85466	3.0693	5.34346	17.7466	9.42081	0
2012	1132	11.1345	3.5682	5.00229	17.6406	10.9577	0
2013	1489	9.94556	3.40383	4.57818	16.6601	9.7662	0

e. Taux de diminution du coût

M_RCD_overall[1,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
RCD	95771	1.00765	12.3288	-48.3961	49.7814	.909032	38.6636

M_RCD[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	4469	2.92963	7.68826	-22.024	27.2123	.851023	24.2857
1990	4216	4.64572	5.89549	-14.422	21.1244	1.80564	13.9535
1991	3927	4.01293	8.6212	-20.7787	31.6239	1.79189	18.5185
1992	5482	6.23944	10.0013	-25.1686	38.5181	2.20711	25
1993	5099	5.5916	9.54806	-20.4274	26.6849	1.88288	21.9048
1994	5597	5.46147	9.96749	-19.2307	35.6811	1.53875	23.0088
1995	5011	4.82103	9.97655	-24.5973	33.7888	2.16721	17.8218
1996	4708	5.03543	10.7647	-25.039	35.5806	1.6675	14.4
1997	4973	7.1027	11.6404	-22.744	42.6195	2.62374	13.4454
1998	5585	8.42784	12.4233	-35.8764	46.6043	2.66495	11.2782
1999	4351	6.95366	13.3199	-32.521	34.7536	2.17353	10.9244
2000	3644	1.92284	19.9984	-48.3961	49.7814	-.087134	48.1481
2001	2942	-2.80798	15.7749	-42.3869	43.7192	-.322758	48.2759
2002	3180	-2.35886	8.65264	-39.0387	30.4213	-.097542	46.0938
2003	3293	-3.66594	15.8599	-46.51	45.7614	.244322	41.0853
2004	2063	-4.35619	8.8962	-35.2916	5.95811	.014214	45.6897
2005	2240	-4.90146	12.2821	-39.7469	30.9185	.331927	37.6068
2006	2624	-9.27785	13.0867	-45.116	5.11842	-2.40155	46.7742
2007	3302	-9.02177	10.3035	-30.2547	6.11212	-7.02023	58.156
2008	3185	-5.65909	7.5385	-19.0776	7.22886	-4.87856	55.8824
2009	2928	-7.08125	10.2058	-26.8544	8.09457	-4.24499	57.1429
2010	3310	-4.0645	9.01294	-29.4773	17.4635	-.254075	46
2011	2731	-4.3681	6.52022	-18.9797	11.264	-2.38422	56.8345
2012	3588	-9.16417	9.40464	-28.9825	9.95591	-10.0389	59.5376
2013	3323	-4.14679	4.3013	-10.7061	4.88769	-4.46072	68.4524

f. Taux de changement technique

M_RTC_overall[1,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
RTC	111635	-.857402	1.29709	-3.47605	1.89563	-.489247	53.2353

M_RTC[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	5015	-.563888	1.03777	-2.80157	.961169	-.258294	58.0247
1990	4668	-.768542	1.37481	-2.90522	1.26872	-.008964	45.3608
1991	4303	-.699128	1.30828	-2.81736	1.28776	-.262576	51.6484
1992	5985	-1.12257	1.38867	-3.18213	1.42899	-1.21749	58.6538
1993	5752	-.894865	1.31279	-3.09705	.996364	-.492752	55.7377
1994	6120	-.72566	1.339	-3.07109	1.33728	-.137505	48.4127
1995	5597	-.554583	1.36802	-2.95828	1.53295	.096913	41.7391
1996	5394	-.550028	1.33278	-2.99563	1.69609	.086128	37.931
1997	5687	-.639379	1.42205	-2.91804	1.46476	-.029753	41.0072
1998	6191	-.701669	1.33913	-2.75353	1.75098	-.053846	39.0728
1999	5076	-.601438	1.32467	-2.62415	1.40917	.168062	37.2263
2000	4944	-1.07192	1.10422	-2.67168	.729194	-1.09024	66.1765
2001	4557	-1.13964	1.12101	-2.83821	.814648	-1.34424	62.6667
2002	4770	-.924948	1.12	-3.06758	.758754	-.499104	58.2822
2003	4747	-1.00347	1.19402	-2.96925	1.07847	-1.02193	55.2147
2004	3043	-.989009	1.22632	-2.9571	1.14136	-1.04082	55.6338
2005	3378	-1.06113	1.28773	-3.09784	1.1275	-1.42452	51.6779
2006	3264	-1.07315	1.22728	-3.00008	.967754	-1.25693	53.8462
2007	3419	-1.0652	1.17217	-2.93229	1.05957	-1.16738	59.0278
2008	3185	-.848027	1.16537	-2.59626	1.1885	-.72032	55.8824
2009	2991	-.909079	1.32734	-3.47605	1.12304	-.778468	57.8512
2010	3742	-.772063	1.34715	-3.40463	1.89563	-.719058	50
2011	2731	-.884959	1.23578	-3.07246	1.5358	-.49328	56.8345
2012	3706	-1.32427	1.4091	-3.44547	1.81095	-1.71669	59.4286
2013	3370	-1.13967	1.20031	-3.00535	1.00412	-1.10746	68.0473

g. Changements techniques biaisés en facteur

M_FbTC[4,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
FbTCxa	82194	4.14195	5.38252	-3.89106	25.7485	2.09597	17.4497
FbTCxb	86377	1.5986	5.20207	-9.98228	19.136	-.710734	56.4441
FbTCxc	96339	6.82269	5.12875	-.666601	26.3727	5.53979	.976102
FbTCxd	36964	-4.71099	2.53128	-15.1056	-.466334	-4.02382	100

M_FbTCxa[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	2739	2.49021	2.62017	-2.02123	9.40606	2.01232	21.6216
1990	2230	-.042529	1.40799	-2.82426	2.38573	.285336	36
1991	2132	1.10786	3.09491	-2.69358	9.91217	.527876	40
1992	2456	1.47582	3.50683	-2.80217	11.6546	.67105	34
1993	2866	1.70547	3.90067	-1.96463	16.8829	.556359	32.8125
1994	3540	1.19774	2.92526	-3.15236	13.2613	.645705	32.0513
1995	3550	.574009	3.2455	-3.61124	12.7123	-.032657	48.0519
1996	3578	1.4239	4.24781	-3.54515	16.5775	.731979	38.2353
1997	3367	.848683	3.52003	-2.98766	13.607	.387449	44.9438
1998	4095	3.76445	6.58105	-2.97235	22.9635	1.12623	30
1999	3654	3.39434	6.05486	-2.64389	18.6905	.811309	34.6154
2000	3865	7.95578	7.97728	-.923642	25.7485	4.2595	9.17431
2001	4333	9.78602	8.28515	-.986583	25.4974	7.84858	10.6383
2002	4512	7.38415	6.4506	-.516302	19.601	5.23984	7.28477
2003	4567	6.88546	5.48533	-1.60437	18.9762	6.54312	6.62252
2004	2935	6.25351	5.10492	-2.23921	16.6943	6.19861	11.9403
2005	3227	5.61151	4.06063	-1.09673	12.8628	6.2347	10.8696
2006	3186	5.32547	3.76962	-.923955	12.0492	6.05455	8.75912
2007	3209	5.3386	3.63072	-2.56318	11.4571	6.37402	10
2008	3081	4.27955	3.53182	-3.89106	9.30034	4.68312	15.5039
2009	2770	4.10449	3.175	-1.2375	10.3726	4.7656	12.037
2010	3402	3.41675	2.66948	-3.2698	7.96046	3.85525	10.3704
2011	2495	3.62983	2.63474	-1.87433	7.87636	4.15348	8.33333
2012	3353	4.36822	2.25543	-1.49349	7.1153	5.47437	5.40541
2013	3052	4.07508	2.44807	-2.08457	7.29654	4.88334	6.2069

M_FbTCxb[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	2304	-1.59072	1.7668	-4.34414	3.35297	-1.94333	86.0465
1990	2313	-2.52186	1.28623	-5.28473	1.27624	-2.46896	96.0784
1991	2208	-2.09597	1.73062	-5.73549	2.39425	-2.13209	91.4894
1992	2598	-1.83503	2.06764	-5.07703	5.90075	-2.11756	86.7925
1993	2802	-1.54941	2.03522	-4.49513	5.75993	-2.09513	83.871
1994	3326	-2.08354	1.72616	-5.07104	3.53976	-2.16721	87.6712
1995	3582	-1.86205	2.43541	-4.50113	9.79494	-2.36433	86.8421
1996	3952	.128622	5.60522	-4.66477	17.7582	-2.25116	79.2793
1997	4607	2.76999	7.75749	-4.32775	19.136	-2.0198	67.7966
1998	6081	4.42537	7.56437	-9.76221	17.1104	-.096571	62.4113
1999	4733	3.06605	6.79821	-3.84403	15.3927	-1.43936	64.8
2000	4491	4.44761	6.18757	-4.1529	14.279	2.51114	46.2185
2001	4102	4.16009	5.47229	-4.61935	12.7635	4.7721	50
2002	4502	2.95992	4.81581	-4.04181	11.5095	1.11336	53.3333
2003	4254	2.48618	4.0112	-3.48093	8.87134	2.14828	50.3448
2004	2771	2.52713	3.97372	-4.36108	8.51287	2.33982	50
2005	3130	2.38981	3.49293	-3.55213	7.13783	3.45155	48.1752
2006	2972	2.37488	3.617	-5.03043	7.50551	2.70245	47.6923
2007	3101	2.39426	3.70007	-4.46941	7.47209	2.92387	40.3101
2008	3003	1.874	4.73558	-7.28281	8.07824	1.42642	47.619
2009	2741	1.90266	3.49543	-4.56522	6.11226	2.39082	37.963
2010	3596	1.07654	3.283	-5.6491	5.47016	1.21547	51.3158
2011	2650	1.27209	3.98346	-6.90573	6.06958	1.94808	44.697
2012	3435	2.14056	3.22497	-7.23307	5.499	3.66618	39.2405
2013	3123	1.56297	4.05115	-9.98228	5.99472	2.54632	44.4444

M_FbTCxc[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	2893	8.93423	6.22664	.282531	26.0805	7.4017	0
1990	1967	5.50994	5.23629	-.366336	20.2215	3.11064	4.54545
1991	2204	9.54113	8.57784	-.166894	26.3727	6.68692	4.08163
1992	3462	12.4786	8.57685	-.04572	25.2631	14.5297	1.44928
1993	4278	10.7704	7.32722	.40413	25.8031	10.2502	0
1994	4582	9.49802	7.08576	-.666601	26.3605	8.72423	2.9703
1995	5462	8.94587	7.2102	-.463631	23.7736	7.17178	5.60748
1996	5241	8.48473	6.14898	-.273038	20.2502	8.91203	3.73134
1997	5520	7.9135	5.45185	-.201264	16.579	8.30136	1.5748
1998	6092	6.62939	4.14063	-.195958	13.619	7.17195	2.11268
1999	4922	6.4069	3.77731	-.272048	12.7361	6.96037	2.38095
2000	4840	7.49392	2.69734	.940964	11.572	8.06258	0
2001	4467	6.89669	2.37175	.990477	11.6173	7.51348	0
2002	4642	6.32566	2.20581	1.37767	10.7235	6.80865	0
2003	4567	5.77729	1.79208	1.10085	8.74907	6.29276	0
2004	2949	5.37444	1.94055	.329842	8.359	5.89283	0
2005	3253	5.06261	1.69549	.915239	7.3848	5.59832	0
2006	3173	4.74142	1.60274	.998831	6.98442	5.08134	0
2007	3284	4.5732	1.55113	.202091	6.67238	5.06634	0

2008	3095	4.12311	1.63576	-.061892	6.60762	4.50947	.769231
2009	2804	3.89258	1.54569	.636982	5.80145	4.29573	0
2010	3539	3.62707	1.40827	-.104361	5.59139	3.95311	.684932
2011	2529	3.79589	1.30114	.660476	5.79742	4.25688	0
2012	3443	4.11128	1.16476	.610503	5.46765	4.58654	0
2013	3131	3.95162	1.19187	.846289	5.57301	4.4183	0

M_FbTCxd[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	2355	-2.85071	.997922	-5.88892	-1.55346	-2.88527	100
1990	2166	-3.38971	1.53833	-6.55111	-1.59957	-2.83692	100
1991	2068	-3.78605	1.99117	-9.43547	-.705184	-3.27521	100
1992	2154	-3.48526	1.92042	-7.30322	-.466334	-2.56074	100
1993	2306	-3.91808	2.0019	-8.8453	-1.64987	-3.08098	100
1994	2890	-4.27864	2.49395	-10.875	-1.57563	-3.17191	100
1995	2468	-4.15443	2.19023	-9.18997	-1.7505	-3.31311	100
1996	2686	-4.95062	3.17962	-11.9658	-1.55661	-3.52572	100
1997	2000	-4.0051	1.57514	-9.22146	-1.60497	-3.31621	100
1998	1788	-4.35379	1.55415	-8.60963	-2.27529	-3.93989	100
1999	1850	-4.36885	1.52909	-10.0133	-2.36118	-3.8436	100
2000	1676	-4.54072	1.64356	-8.67918	-2.18913	-4.24856	100
2001	1247	-4.50361	1.1788	-7.91896	-2.30826	-4.68089	100
2002	1756	-5.28094	1.86808	-10.6565	-2.41722	-5.08579	100
2003	1520	-6.3178	2.30889	-12.5106	-2.77465	-5.74493	100
2004	854	-6.50627	2.65531	-12.7734	-2.75163	-5.63149	100
2005	766	-7.25092	2.23336	-13.2863	-3.18711	-6.91283	100
2006	595	-6.90595	2.12519	-12.8139	-3.32307	-6.80298	100
2007	699	-7.66102	3.51882	-15.1056	-3.02966	-6.62597	100
2008	723	-7.31784	3.31303	-15.0063	-2.80321	-7.55948	100
2009	352	-7.66634	3.03775	-13.6167	-3.79147	-7.21234	100
2010	625	-8.29846	2.99161	-14.447	-3.45047	-8.15582	100
2011	558	-6.83802	2.05448	-10.689	-3.31887	-6.30652	100
2012	360	-8.54935	2.80299	-14.2821	-4.82393	-7.77831	100
2013	502	-6.31477	2.10309	-10.0084	-3.34869	-6.19626	100

Fermes laitières

Flandre

a. Retours d'échelle

M_ORTS_overall[1,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
ORTS	98074	1.05227	.066376	.790687	1.30848	1.04341	0

M_ORTS[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	6448	1.05738	.045035	.960836	1.17605	1.04381	0
1990	6415	1.05287	.04091	.959305	1.17401	1.04223	0
1991	7824	1.055	.037707	.936287	1.16914	1.04648	0
1992	4704	1.0501	.045506	.945313	1.15943	1.04268	0
1993	4777	1.05896	.066401	.893572	1.21904	1.04303	0
1994	4505	1.05422	.056424	.89756	1.21033	1.04209	0
1995	4678	1.06918	.055989	.952035	1.21681	1.05181	0
1996	3931	1.05941	.047063	.937647	1.18808	1.0508	0
1997	3847	1.05023	.044028	.935206	1.18275	1.04448	0
1998	3829	1.0466	.042071	.931594	1.17407	1.04947	0
1999	3863	1.05322	.051182	.899198	1.19874	1.05277	0
2000	3943	1.0366	.053389	.888076	1.19382	1.0299	0
2001	3868	1.03357	.051811	.883604	1.17975	1.02831	0
2002	3565	1.03567	.056121	.893822	1.20261	1.03321	0
2003	3701	1.03262	.060347	.890196	1.19582	1.02607	0
2004	3874	1.06793	.078535	.925107	1.25641	1.04889	0
2005	3879	1.07668	.085771	.939013	1.26692	1.0569	0
2006	3341	1.07622	.093154	.912644	1.30613	1.05343	0
2007	3145	1.05426	.093144	.845215	1.28106	1.03629	0
2008	2597	1.03931	.073301	.883364	1.21566	1.02712	0
2009	2893	1.06085	.096539	.814685	1.26023	1.04467	0
2010	2585	1.04405	.108508	.810809	1.30798	1.03439	0
2011	2188	1.04459	.099704	.844361	1.30848	1.03225	0
2012	1910	1.02016	.097199	.814293	1.25392	1.02745	0
2013	1764	1.03129	.112775	.790687	1.29212	1.05115	0

b. Retours d'échelle spécifique aux produits

M_PSRTS_overall[4,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
PSRTSya	95172	1.04856	.033068	.910933	1.13681	1.05408	0
PSRTSyb	89787	.582753	.124654	.096159	.887202	.601535	2.92667
PSRTSyc	6881	1.15209	.028356	1.05451	1.24376	1.14915	0
PSRTSyd	50729	2.30885	.351591	1.56158	3.63575	2.26207	0

M_PSRTSya[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	6156	1.04581	.011824	1.01232	1.05893	1.05172	0
1990	6428	1.04599	.012466	1.01165	1.05922	1.05154	0
1991	8023	1.04801	.01373	1.00915	1.06119	1.0542	0
1992	4631	1.04605	.014996	1.00348	1.06263	1.05267	0
1993	4468	1.04639	.017624	.997938	1.06448	1.05341	0
1994	4460	1.04393	.020864	.985837	1.06667	1.0514	0
1995	4530	1.04738	.019209	.990339	1.06805	1.05552	0
1996	3982	1.04627	.02197	.98607	1.06898	1.05126	0
1997	3820	1.04881	.020659	.984436	1.07165	1.05324	0
1998	3931	1.04729	.026424	.968083	1.07546	1.05393	0
1999	3807	1.04736	.028891	.961373	1.07892	1.05352	0
2000	3901	1.05109	.030173	.954302	1.08163	1.05923	0
2001	3855	1.05284	.032568	.960292	1.09149	1.06428	0
2002	3620	1.04622	.039525	.939019	1.09009	1.05734	0
2003	3707	1.0432	.043153	.938075	1.09284	1.05224	0
2004	3748	1.05683	.033306	.968767	1.09771	1.06162	0
2005	3872	1.05514	.042804	.946075	1.10316	1.06471	0
2006	3257	1.05393	.047955	.932648	1.10777	1.06464	0
2007	2914	1.04843	.047724	.933081	1.10856	1.05427	0
2008	2588	1.05017	.052043	.913271	1.1233	1.05535	0
2009	2861	1.05689	.055005	.917441	1.12053	1.06337	0
2010	2270	1.05251	.057007	.913381	1.12828	1.06023	0
2011	2009	1.05697	.059985	.922767	1.13681	1.06461	0
2012	1560	1.04676	.057763	.924984	1.12634	1.06116	0
2013	774	1.02279	.053832	.910933	1.12999	1.03468	0

M_PSRTSyb[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	6083	.53976	.128422	.201445	.790713	.541963	1.6129
1990	5798	.54038	.103682	.305314	.757814	.547384	0
1991	7535	.559919	.103769	.289507	.778876	.553944	2.08333
1992	4259	.607569	.068267	.435445	.764387	.605869	0
1993	4223	.613576	.063215	.435949	.761841	.616798	0
1994	4319	.628116	.07613	.434311	.780821	.6352	0
1995	4202	.65602	.059944	.516253	.789911	.655643	0
1996	3772	.64755	.0683	.482679	.778864	.660563	0
1997	3858	.650199	.069233	.477689	.786951	.657986	0
1998	3989	.594369	.087211	.387597	.755952	.604369	0
1999	3756	.572036	.087706	.347203	.747852	.578946	0
2000	3682	.621844	.07281	.444287	.822243	.622813	0
2001	3722	.575958	.087099	.376063	.783975	.5794	0
2002	3262	.546411	.09707	.278913	.802516	.546994	.719424
2003	3163	.441709	.130484	.109574	.743823	.449272	5.26316
2004	2924	.41648	.159181	.10515	.764992	.432851	18.254
2005	3512	.525537	.143887	.175413	.853126	.549927	2.43902
2006	3128	.585597	.115016	.331567	.859506	.602178	1.85185
2007	2972	.710889	.067991	.570932	.887202	.716606	0
2008	2213	.736502	.057179	.602067	.850006	.752794	0
2009	2804	.611635	.1292	.290627	.828521	.655647	0
2010	1946	.465397	.153268	.125077	.819215	.449656	17.5439
2011	2036	.588885	.136639	.235807	.832549	.62172	3.125
2012	1211	.372963	.137664	.096159	.611399	.374429	29.4118
2013	1418	.738637	.045796	.63213	.819577	.76086	0

M_PSRTSyc[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	1054	1.15989	.0159	1.13058	1.18306	1.15876	0
1990	1035	1.14919	.018662	1.12031	1.18363	1.14746	0
1991	1113	1.13898	.01298	1.11336	1.15952	1.14164	0
1992	90	1.15287	.003883	1.1476	1.15673	1.15429	0
1993	207	1.14453	.010185	1.1311	1.16032	1.14513	0
1994	213	1.14379	.003858	1.13996	1.15051	1.14381	0
1995	364	1.13093	.008357	1.11769	1.14376	1.13183	0
1996	174	1.13089	.005256	1.1226	1.13791	1.13298	0
1997	259	1.13388	.00876	1.12401	1.14603	1.1285	0
1998	0	.	.	.	.	.	0
1999	304	1.16268	.009275	1.14584	1.18322	1.16125	0
2000	567	1.13665	.031963	1.05451	1.17496	1.14665	0
2001	556	1.15364	.037513	1.06992	1.23209	1.16443	0
2002	316	1.18158	.027329	1.13189	1.2316	1.17672	0
2003	26	1.24376	0	1.24376	1.24376	1.24376	0
2004	156	1.23048	.005503	1.22105	1.23873	1.23026	0
2005	358	1.18846	.018062	1.16849	1.20823	1.19413	0
2006	46	1.12656	.009718	1.11695	1.13617	1.12656	0
2007	20	1.07297	0	1.07297	1.07297	1.07297	0
2008	23	1.11771	0	1.11771	1.11771	1.11771	0
2009	0	.	.	.	.	.	0
2010	0	.	.	.	.	.	0
2011	0	.	.	.	.	.	0
2012	0	.	.	.	.	.	0
2013	0	.	.	.	.	.	0

M_PSRTSyd[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	3083	2.40614	.274885	1.89171	3.01214	2.38571	0
1990	2912	2.35506	.259007	1.83472	2.89084	2.3751	0
1991	4638	2.32025	.253433	1.79959	2.8653	2.33696	0
1992	1814	2.17395	.148209	1.86724	2.49986	2.16917	0
1993	2224	2.24667	.26772	1.72682	2.84628	2.23437	0
1994	1878	2.19041	.225922	1.79278	2.71106	2.13994	0
1995	2560	2.11699	.174215	1.80205	2.48997	2.0871	0
1996	1799	2.10978	.169825	1.77992	2.46617	2.07666	0
1997	1803	2.17277	.220079	1.74928	2.65303	2.10679	0
1998	1856	2.26618	.212695	1.87134	2.67251	2.23855	0
1999	1729	2.31545	.203064	1.91873	2.7886	2.30033	0
2000	1945	2.2937	.19392	1.87466	2.63644	2.27148	0
2001	1789	2.41775	.256304	1.85519	3.04255	2.40968	0
2002	1601	2.47936	.293695	1.92735	3.27003	2.48077	0
2003	2006	2.71174	.408369	1.99388	3.57017	2.68106	0
2004	1598	2.82092	.419874	2.10905	3.61847	2.83534	0

2005	2681	2.52398	.397582	1.90094	3.45354	2.42627	0
2006	2479	2.29133	.283699	1.77029	2.95486	2.29089	0
2007	2251	1.95966	.191764	1.56158	2.39733	1.94236	0
2008	1567	1.85328	.153295	1.60513	2.20367	1.81787	0
2009	2015	2.15669	.279821	1.63284	2.67676	2.10368	0
2010	1686	2.61926	.423649	1.90955	3.58572	2.54077	0
2011	1398	2.23848	.363976	1.60229	3.16081	2.16521	0
2012	915	2.68288	.467254	1.74541	3.63575	2.64722	0
2013	502	1.75405	.08702	1.64096	1.92509	1.73308	0

c. Economies de gamme

M_ESCP_overall[1,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
ESCP	92306	1.00182	.003205	.989823	1.01737	1.00069	0

M_ESCP[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	5991	1.00055	.00096	.997156	1.00433	1.00033	0
1990	6222	1.0004	.00065	.998479	1.00234	1.00018	0
1991	7826	1.00068	.001211	.996367	1.00557	1.00045	0
1992	4697	1.00053	.000649	.998558	1.00216	1.00038	0
1993	4462	1.00048	.000887	.997541	1.00311	1.00033	0
1994	4409	1.00051	.000975	.997383	1.00401	1.00029	0
1995	4440	1.00029	.001423	.995479	1.00529	1.00017	0
1996	3925	1.00021	.001229	.995413	1.0043	1.00021	0
1997	3841	1.00041	.00105	.996993	1.00382	1.00029	0
1998	3753	1.00036	.001004	.997021	1.00365	1.00023	0
1999	3799	1.00049	.001237	.996801	1.00529	1.00024	0
2000	3521	1.00318	.003174	.996549	1.01345	1.0022	0
2001	3464	1.00271	.002864	.995987	1.01223	1.00187	0
2002	3329	1.00315	.003323	.994076	1.01369	1.00221	0
2003	3404	1.00273	.00299	.996381	1.01229	1.00202	0
2004	3304	1.0033	.004101	.99274	1.01369	1.00217	0
2005	3387	1.00384	.00371	.993991	1.0131	1.00313	0
2006	2998	1.00466	.003935	.997766	1.01416	1.00338	0
2007	2903	1.00335	.004343	.991607	1.0149	1.00268	0
2008	2375	1.00354	.003466	.994672	1.01361	1.00306	0
2009	2667	1.00363	.004471	.991812	1.01511	1.00298	0
2010	2284	1.00491	.005681	.989823	1.01635	1.00454	0
2011	2014	1.00446	.005532	.990272	1.01507	1.00419	0
2012	1724	1.00533	.004947	.994499	1.01737	1.0048	0
2013	1567	1.00493	.005055	.991833	1.01691	1.0038	0

d. Taux de diminution du coût marginal

M_rcMC[4,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
rcMCya	96913	3.33066	.92807	2.18925	6.80746	3.08995	0
rcMCyb	90377	-4.2379	2.67301	-12.0557	1.9797	-3.31301	97.8194
rcMCyc	7608	-2.72767	1.04927	-4.74196	.081173	-2.96976	99.4872
rcMCyd	52023	-3.25711	1.81185	-8.09481	.88629	-2.75593	98.2816

M_rcMCya[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	6244	2.35151	.066053	2.20482	2.49515	2.35283	0
1990	6518	2.3731	.07315	2.18925	2.52423	2.38275	0
1991	8023	2.44776	.069922	2.27354	2.60362	2.45576	0
1992	4713	2.48687	.08843	2.28324	2.70069	2.48957	0
1993	4557	2.58395	.088939	2.35911	2.74763	2.58223	0
1994	4482	2.64223	.111999	2.32121	2.87632	2.63955	0
1995	4530	2.72083	.095857	2.50284	2.98237	2.72255	0
1996	3942	2.85573	.099718	2.59999	3.01497	2.86483	0
1997	3846	2.98008	.102464	2.69088	3.17338	2.99675	0
1998	4016	3.12878	.139615	2.70225	3.32268	3.16823	0
1999	3825	3.25826	.146883	2.84241	3.47587	3.30254	0
2000	3904	3.35262	.161643	2.87114	3.72021	3.38696	0
2001	3907	3.5238	.195827	2.97027	3.99877	3.55618	0
2002	3607	3.64771	.226791	3.0663	4.1858	3.69536	0
2003	3687	3.7948	.259289	3.17568	4.39862	3.84116	0
2004	3730	4.0145	.216706	3.44256	4.41006	4.04754	0
2005	3921	4.13002	.271938	3.48841	4.54543	4.17221	0
2006	3285	4.30015	.332388	3.47691	5.01557	4.33217	0
2007	2942	4.31599	.332977	3.50266	5.07734	4.36103	0
2008	2654	4.48582	.417863	3.52929	5.45992	4.5049	0
2009	2983	4.80434	.451576	3.59175	5.57433	4.82793	0
2010	2571	4.98505	.562721	3.77133	5.80139	5.09804	0
2011	2285	5.17476	.630266	3.81669	6.12212	5.23033	0
2012	1639	5.23543	.500141	4.20223	6.35033	5.34611	0
2013	1102	5.56246	.791425	3.76096	6.80746	5.68036	0

M_rcMCyb[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	5893	-7.28275	1.35105	-10.693	-4.64851	-7.38908	100
1990	5753	-8.50448	1.54269	-11.8073	-5.08195	-8.55173	100
1991	7660	-8.01223	1.62774	-12.0557	-4.90034	-8.21415	100
1992	4406	-6.99092	1.04497	-9.51938	-5.03284	-7.00001	100
1993	4261	-5.95433	.750203	-7.71446	-4.36163	-5.92263	100
1994	4260	-5.8136	.792418	-7.81258	-4.00809	-5.76918	100
1995	4134	-5.15683	.613767	-6.4948	-3.88165	-5.15372	100
1996	3681	-4.54567	.529291	-5.79846	-3.56021	-4.44353	100
1997	3808	-3.64358	.345082	-4.47386	-3.02901	-3.55729	100
1998	3848	-2.61422	.150877	-3.03293	-2.34278	-2.5677	100
1999	3737	-2.44724	.163491	-2.87518	-2.12886	-2.42521	100
2000	3490	-3.2612	.268369	-3.96554	-2.76989	-3.21826	100
2001	3734	-2.67204	.191106	-3.24682	-2.32596	-2.63571	100
2002	3288	-2.38303	.174904	-2.83572	-1.9579	-2.36682	100
2003	3507	-.903329	.445909	-1.91086	.158004	-.93651	95.8333
2004	3298	-.518561	.646475	-1.68665	1.70764	-.562069	83.8095
2005	3564	-1.82438	.195721	-2.37529	-1.32618	-1.82924	100
2006	3105	-2.47296	.166976	-2.98734	-2.20218	-2.44776	100
2007	2964	-3.0236	.290081	-3.81172	-2.53888	-3.00345	100
2008	2155	-2.99414	.234094	-3.57769	-2.57086	-2.96843	100
2009	2809	-1.93582	.14631	-2.38669	-1.70927	-1.90719	100
2010	2086	-.793537	.537287	-2.42174	.622667	-.83358	91.6667
2011	2040	-1.66959	.186069	-2.09922	-1.19864	-1.67119	100
2012	1511	-.001752	.807102	-2.36623	1.9797	-.01763	54.8387
2013	1385	-2.56489	.217467	-2.9894	-2.25068	-2.54024	100

M_rcMCyc[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	1054	-3.53754	.394208	-4.26542	-3.01384	-3.47809	100
1990	1035	-3.90315	.478136	-4.74196	-3.39377	-3.84108	100
1991	1201	-3.57825	.343771	-4.23028	-2.92262	-3.64725	100
1992	195	-3.52624	.306728	-4.03408	-3.14713	-3.43085	100
1993	135	-3.0503	.05921	-3.14448	-2.96698	-3.0425	100
1994	213	-2.94337	.217308	-3.28702	-2.49877	-3.00147	100
1995	478	-2.61603	.349834	-3.40027	-2.12527	-2.62149	100
1996	210	-2.53772	.395462	-3.22	-2.06746	-2.55526	100
1997	173	-2.27766	.17981	-2.59917	-2.07577	-2.22261	100
1998	0	.	.	.	.	.	.
1999	267	-1.56279	.138529	-1.93298	-1.27742	-1.54148	100
2000	568	-2.07747	.339226	-2.96976	-1.68319	-2.11433	100
2001	612	-1.90646	.47585	-3.12804	-1.41517	-1.69552	100
2002	313	-1.6724	.252386	-2.24534	-1.4455	-1.53911	100
2003	189	-.941383	.808045	-2.31235	.081173	-.700031	87.5
2004	194	-.521292	.330719	-.976322	-.07313	-.430955	100
2005	404	-1.18094	.145618	-1.50313	-1.0486	-1.21032	100
2006	228	-1.7078	.238965	-2.19515	-1.57763	-1.59063	100
2007	119	-2.47391	.189511	-2.65088	-2.21202	-2.54439	100
2008	20	-2.75719	0	-2.75719	-2.75719	-2.75719	100
2009	0	.	.	.	.	.	.
2010	0	.	.	.	.	.	.
2011	0	.	.	.	.	.	.
2012	0	.	.	.	.	.	.
2013	0	.	.	.	.	.	.

M_rcMCyd[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	2966	-5.47301	.613352	-6.88019	-4.375	-5.41339	100
1990	3002	-6.20432	.880908	-8.09481	-4.60397	-6.17612	100
1991	4638	-5.76537	.731718	-7.32687	-4.2717	-5.8807	100
1992	1988	-5.21701	.583282	-6.65008	-4.12812	-5.09685	100
1993	2291	-4.61676	.661561	-6.00251	-3.08202	-4.56961	100
1994	1904	-4.6345	.535924	-5.90588	-3.61528	-4.52445	100
1995	2560	-4.2054	.400363	-5.05018	-3.60062	-4.13211	100
1996	1859	-3.79151	.313374	-4.50888	-3.16886	-3.76078	100
1997	1791	-3.16817	.23384	-3.6586	-2.75593	-3.12238	100
1998	1898	-2.27623	.113022	-2.59914	-2.05144	-2.25256	100
1999	1739	-2.14267	.106458	-2.46562	-1.91906	-2.12765	100
2000	1922	-2.99843	.218692	-3.49414	-2.46255	-2.98698	100
2001	1718	-2.40554	.162429	-2.90503	-1.98251	-2.39185	100
2002	1709	-2.21476	.221337	-2.83002	-1.77473	-2.1904	100
2003	2097	-1.03801	.357809	-1.88851	-.288495	-1.07475	100
2004	2400	-.6983	.706105	-2.1133	.81157	-.833509	84.507
2005	2644	-1.76477	.208588	-2.24515	-1.3882	-1.73665	100
2006	2377	-2.18671	.168922	-2.59152	-1.85353	-2.18482	100
2007	2210	-2.71819	.256206	-3.37309	-2.19764	-2.65521	100
2008	1567	-2.67653	.220164	-3.22511	-2.28982	-2.63453	100
2009	2073	-1.75056	.21478	-2.35836	-1.39689	-1.73005	100
2010	1791	-.866876	.503272	-2.08484	.434997	-.774973	95.8333
2011	1464	-1.54324	.21908	-1.94749	-1.07724	-1.55403	100
2012	935	-.282386	.518533	-1.34587	.88629	-.339266	70
2013	480	-2.57497	.133092	-2.86455	-2.35516	-2.57976	100

e. Taux de diminution du coût

M_RCD_overall[1,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
RCD	98716	2.57753	.852354	-.009705	5.80157	2.43809	.034423

M_RCD[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	6488	1.78267	.394507	.790991	2.271	1.93424	0
1990	6447	1.88469	.341927	.952966	2.35735	2.01377	0
1991	7995	1.84532	.376307	.931362	2.42336	1.9392	0
1992	4694	1.98158	.362895	1.02648	2.44262	2.10149	0
1993	4576	2.03929	.382961	.998803	2.52686	2.19081	0
1994	4513	2.09063	.405764	.912829	2.67673	2.21839	0
1995	4620	2.11713	.458911	1.02693	2.6805	2.30893	0
1996	4003	2.33067	.379251	1.24673	2.83632	2.46911	0
1997	3959	2.50167	.293161	1.71589	2.89119	2.56757	0
1998	3918	2.74861	.251862	2.05125	3.05475	2.83236	0
1999	3896	2.82735	.274936	1.9939	3.14119	2.89972	0
2000	3821	2.35923	.476504	.978802	3.03901	2.49049	0
2001	3813	2.67315	.442436	1.52318	3.2344	2.80677	0
2002	3599	2.86554	.424496	1.6606	3.43641	2.96188	0
2003	3618	3.26645	.308531	2.33016	3.67994	3.34556	0
2004	3786	3.30311	.502189	2.1537	3.99386	3.46327	0
2005	3869	3.04045	.583325	1.72362	3.93097	3.20203	0
2006	3166	3.02896	.598416	1.59703	4.03418	3.14593	0
2007	3146	2.75345	.74192	.826902	3.91547	2.8857	0
2008	2778	2.57253	.957875	-.009705	4.16105	2.7516	1
2009	3028	3.38879	.890653	1.12372	4.54833	3.68225	0
2010	2661	3.97662	.854901	2.03933	5.75209	4.19446	0
2011	2322	3.77668	.947226	1.39949	5.14009	3.95122	0
2012	2048	4.42987	.654204	2.90251	5.75298	4.53722	0
2013	1952	3.79882	1.30877	.714107	5.80157	4.11698	0

f. Taux de changement technique

```
M_RTC_overall[1,7]
          Obs      Mean     StdDev       Min       Max    Median      %neg
RTC    102542   .884619      .5409  -.074665   2.79113   .817516   .565724

M_RTC[25,7]
           Obs      Mean     StdDev       Min       Max    Median      %neg
1989      6635   .718115   .469539  -.042355   2.02692   .643551   1.62602
1990      6884   .857518   .546193  -.050424   2.25277   .805918   1.68067
1991      8423   .784903   .575271   -.03777   2.32713   .645615   1.38889
1992      5066   .871797   .538018  -.026855   2.23604   .864471   1.66667
1993      4833   .883203   .541374  -.010742   2.16401    .80626   .854701
1994      4718   .924525   .536846   .019062   2.12335   .872821         0
1995      4580   .938809   .540463  -.074665   2.10732   .991894    1.8018
1996      4154   1.13532   .608222   .129971   2.53927   1.13161         0
1997      4193   1.14559   .542863   .136919   2.32973   1.11575         0
1998      4153   1.36516    .64894   .141049   2.79113   1.30615         0
1999      3925   1.30727   .586353   .198544     2.623    1.1829         0
2000      4087   .547021   .324793   .014386   1.41223   .509811         0
2001      4073   .676442   .385296  -.026282   1.52923   .674295   .694444
2002      3682   .752563    .38099  -.059525   1.60171   .753203   .724638
2003      3841    .83758   .404786   .000772   1.94787   .806563         0
2004      3890   .743205   .412797   .086922   1.70262   .698551         0
2005      4001   .715323   .389524  -.004039   1.79186   .622378   .826446
2006      3313    .70506   .388149  -.008262   1.64667   .629466   .943396
2007      3166   .740236   .371795   .003442   1.62051   .715426         0
2008      2766   .680773   .406934  -.045202   1.68823   .623059         2
2009      3061   .967342   .511044   .087808   1.92961   .936605         0
2010      2802    1.0139   .600573   .129404   2.44764   .881522         0
2011      2292   .957745   .523786   .103216   2.16486   .919418         0
2012      2052   1.17693   .416421   .217543   2.00862   1.17165         0
2013      1952   1.05434    .54717    .13304   2.26323   .989338         0
```

g. Changements techniques biaisés en facteur

M_FbTC[4,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
FbTCxa	95215	-1.44359	.655378	-3.98478	.880151	-1.56427	97.2826
FbTCxb	95476	-1.58517	1.77043	-8.34878	4.32451	-1.91695	81.1709
FbTCxc	93834	-.791952	1.9075	-8.22716	6.07667	-1.27798	72.3851
FbTCxd	86956	-5.8625	3.46429	-22.6043	-2.65962	-4.34111	100

M_FbTCxa[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	6280	-1.27788	.459386	-1.9317	-.16664	-1.42367	100
1990	6338	-1.45037	.37165	-2.0275	-.512367	-1.54457	100
1991	7838	-1.35442	.415335	-2.0684	-.446307	-1.42686	100
1992	4620	-1.42805	.436543	-2.06888	-.373737	-1.5403	100
1993	4495	-1.39389	.454584	-2.10382	-.249858	-1.5187	100
1994	4486	-1.42884	.522995	-2.28466	.055081	-1.57682	99.2
1995	4558	-1.50381	.516529	-2.23572	-.21643	-1.6722	100
1996	3999	-1.65975	.467629	-2.40377	-.363356	-1.78012	100
1997	3843	-1.7538	.37153	-2.35726	-.687433	-1.77674	100
1998	3790	-1.84904	.366588	-2.63636	-.816128	-1.90368	100
1999	3783	-1.8513	.384128	-2.47176	-.741793	-1.90255	100
2000	3720	-1.13561	.616631	-2.19254	.393335	-1.26108	94.2029
2001	3670	-1.26837	.60708	-2.22361	.097956	-1.46128	97.6563
2002	3581	-1.28903	.637658	-2.30988	.483367	-1.50845	94.6565
2003	3691	-1.32437	.618595	-2.39325	.174013	-1.44328	98.4
2004	3838	-1.04009	.820579	-2.56999	.880151	-1.12672	91.6667
2005	3763	-1.14484	.716539	-2.46721	.406466	-1.11768	96.4602
2006	3133	-1.24375	.740878	-2.65245	.307381	-1.41689	94
2007	2966	-1.45973	.713088	-2.65316	.302437	-1.62923	93.1373
2008	2574	-1.37829	.802884	-2.93211	.751641	-1.57185	91.2088
2009	2888	-1.49379	.872236	-2.7984	.652839	-1.74973	93.75
2010	2403	-1.34719	.957046	-3.01168	.8023	-1.40548	89.6907
2011	2151	-1.52876	.846092	-3.42149	.262847	-1.62639	96.3855
2012	1656	-2.50839	1.02153	-3.98478	-.042163	-2.57123	100
2013	1151	-2.30361	1.09343	-3.94992	-.201977	-2.35168	100

M_FbTCxb[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	6258	-1.29103	1.17349	-2.96686	1.70786	-1.70084	83.4783
1990	6595	-1.6029	1.07002	-3.15477	1.05055	-1.94502	88.4956
1991	7676	-1.37215	1.16954	-3.26292	1.23315	-1.71225	86.8217
1992	4583	-1.69076	1.17094	-3.3377	1.28796	-2.04322	88.9908
1993	4468	-1.58583	1.24443	-3.38144	1.55365	-2.01375	83.6364
1994	4446	-1.66266	1.34609	-3.77494	1.64536	-2.04107	82.9268
1995	4558	-1.79652	1.36061	-3.82552	1.45008	-2.16552	84.1121
1996	4032	-2.1477	1.31715	-4.10212	1.1884	-2.57869	89.3805
1997	3741	-2.45128	1.03472	-4.01002	.317321	-2.5594	99.2
1998	3816	-2.68112	1.0339	-4.69324	.214564	-2.78992	98.4127
1999	3764	-2.70832	1.05014	-4.51833	.038351	-2.77856	99.2958
2000	3883	-.499863	2.06113	-3.88321	4.32451	-1.07225	70.4225
2001	3810	-.874357	1.95026	-3.8278	4.06573	-1.45437	73.6842
2002	3575	-1.1726	1.76704	-3.99436	3.12804	-1.59969	74.2424
2003	3636	-1.25447	1.67953	-4.1073	2.54831	-1.47291	77.4194
2004	3842	-.618598	2.09137	-4.76623	3.87423	-.793728	67.7686
2005	3796	-.835518	1.8543	-4.39681	2.84582	-.618614	69.2982
2006	3211	-.978785	2.07638	-5.06233	3.52095	-1.07303	67.6471
2007	3070	-1.62279	1.93383	-5.33931	3.26634	-1.58689	71.6981
2008	2585	-1.44552	2.31512	-6.17539	3.59553	-1.72908	69.5652
2009	2913	-1.90496	2.30231	-6.41371	3.02953	-2.67929	76.2887
2010	2480	-1.68693	2.43927	-6.32532	3.76916	-1.49708	78.7879
2011	2241	-1.87234	2.46907	-7.67489	4.0294	-1.66522	72.4138
2012	1450	-3.70882	2.72834	-8.34878	1.65232	-3.53779	90.1639
2013	1047	-2.62777	3.15424	-8.15812	1.7277	-1.72439	77.7778

M_FbTCxc[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	5655	-.78091	1.15607	-2.28833	2.43977	-1.13431	73.7864
1990	6036	-1.02336	1.05491	-2.57285	1.85069	-1.35808	81.5534
1991	7558	-.632075	1.3753	-2.64665	2.56786	-1.12076	81.1024
1992	4345	-1.19896	1.10274	-2.65989	1.65978	-1.56508	84.9057
1993	4361	-.965844	1.31961	-2.70965	2.62327	-1.45719	78.5047
1994	4173	-1.10786	1.31243	-3.00618	3.06033	-1.55698	80
1995	4438	-1.12636	1.42862	-2.98361	2.70095	-1.63069	74.5283
1996	3765	-1.63842	1.0676	-3.13796	1.48947	-1.88086	88.8889
1997	3793	-1.73232	.923608	-3.05967	.804173	-1.85294	93.7008
1998	3713	-2.02324	.80423	-3.59224	.316598	-2.11867	98.4
1999	3739	-1.96102	.885942	-3.40307	.632096	-2.03491	95.7447
2000	3683	.402961	2.18666	-2.67526	6.07667	-.358104	57.6642
2001	3716	.071184	2.12852	-2.81975	5.4143	-.872801	62.5954

2002	3588	-.1094	2.02595	-2.84323	5.69996	-.827892	60.1504
2003	3653	-.3366	1.73928	-3.00082	4.23336	-.68342	65.0794
2004	3870	.460337	2.34093	-3.50902	5.84784	.00108	54.0984
2005	3908	.320422	2.02965	-3.00578	5.11151	.202659	52.5424
2006	3263	.156801	2.12554	-3.37744	5.51939	-.359805	57.1429
2007	3014	-.424471	1.87387	-3.42816	4.88693	-.832255	59.6154
2008	2677	-.13059	2.25771	-3.86575	5.21941	-.699922	58.3333
2009	2958	-.646814	2.25481	-4.57522	4.69253	-1.40324	65
2010	2564	-.376703	2.35181	-5.17791	5.2533	-.59843	58.6538
2011	2187	-.641764	2.17444	-6.18965	3.92006	-.751265	65.8824
2012	1750	-3.51585	2.7956	-7.69755	2.6508	-4.11018	83.0986
2013	1427	-2.74837	3.47795	-8.22716	2.78477	-2.52106	77.7778

M_FbTCxd[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	6134	-3.37136	.344842	-4.24215	-2.67183	-3.36963	100
1990	6685	-3.3487	.327332	-4.12499	-2.65962	-3.35317	100
1991	7898	-3.61021	.421673	-4.46733	-2.75107	-3.53357	100
1992	4866	-3.67018	.462029	-4.75481	-2.78234	-3.61602	100
1993	4401	-3.86445	.492435	-5.11852	-2.94499	-3.83667	100
1994	4559	-4.05285	.655203	-5.73204	-2.92019	-3.96728	100
1995	4390	-4.0468	.581322	-5.64208	-3.03675	-3.96116	100
1996	3939	-4.07236	.603551	-5.69321	-3.1292	-4.01765	100
1997	3843	-4.27787	.612	-5.7669	-3.30162	-4.21904	100
1998	3765	-4.46402	.691297	-6.27598	-3.06517	-4.36725	100
1999	3702	-4.73668	.784924	-6.87645	-3.30828	-4.61027	100
2000	3571	-7.78591	3.24572	-17.4248	-4.08306	-6.67493	100
2001	3336	-7.81174	2.92834	-17.472	-4.08547	-6.64166	100
2002	3082	-7.96526	2.80262	-19.3523	-4.48308	-7.23443	100
2003	2983	-8.70027	3.40829	-18.7178	-4.69775	-7.50703	100
2004	2612	-9.77877	3.77517	-20.8854	-4.53138	-8.61869	100
2005	2736	-10.5252	4.00407	-20.4637	-5.33434	-9.231	100
2006	2261	-10.0869	3.7791	-22.4001	-5.24984	-8.6942	100
2007	2610	-9.95495	3.70995	-21.4848	-5.42858	-8.7786	100
2008	2018	-9.59779	2.89717	-17.7407	-4.88638	-8.69144	100
2009	1957	-10.298	3.00747	-21.2155	-5.0523	-9.71756	100
2010	1403	-11.4352	3.93978	-22.6043	-4.47785	-10.3737	100
2011	1274	-12.6125	3.74913	-21.7841	-4.34305	-12.0894	100
2012	1460	-7.46871	3.21875	-16.9411	-3.85642	-6.42519	100
2013	1471	-6.9596	3.55017	-16.7966	-3.52369	-5.46444	100

Wallonie

a. Retours d'échelle

M_ORTS_overall[1,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
ORTS	83952	1.5082	.118455	1.06622	1.91217	1.51175	0

M_ORTS[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	5546	1.45343	.070679	1.28156	1.57406	1.46655	0
1990	5901	1.46211	.063812	1.28644	1.57662	1.46792	0
1991	5900	1.46333	.085268	1.22353	1.57853	1.48282	0
1992	4399	1.47859	.066228	1.26135	1.58814	1.4873	0
1993	4813	1.48281	.078254	1.24826	1.6109	1.48976	0
1994	4347	1.46689	.089497	1.21084	1.60654	1.48824	0
1995	4347	1.46121	.087134	1.21331	1.59438	1.48307	0
1996	4277	1.48263	.084138	1.20696	1.63444	1.50795	0
1997	4234	1.50851	.084283	1.25222	1.65867	1.52394	0
1998	4372	1.53903	.099837	1.22899	1.73798	1.55609	0
1999	3664	1.53622	.101375	1.2551	1.71144	1.54706	0
2000	3375	1.4834	.127691	1.1106	1.65831	1.51702	0
2001	3248	1.52068	.115404	1.18646	1.68634	1.53475	0
2002	3664	1.52473	.145844	1.06622	1.76377	1.55219	0
2003	3555	1.54384	.157505	1.13059	1.82396	1.56196	0
2004	2283	1.53885	.149639	1.11245	1.76693	1.5617	0
2005	2190	1.58878	.142463	1.2158	1.83658	1.59125	0
2006	2140	1.5727	.139192	1.20795	1.80599	1.5825	0
2007	2173	1.54534	.123338	1.27615	1.74748	1.56568	0
2008	1985	1.54589	.115827	1.22861	1.8093	1.56268	0
2009	1976	1.57519	.147415	1.14985	1.78288	1.61143	0
2010	1692	1.65611	.170492	1.24949	1.90534	1.67402	0
2011	1374	1.57715	.158589	1.26582	1.90694	1.58193	0
2012	1144	1.62405	.156337	1.27888	1.91217	1.61549	0
2013	1353	1.54754	.138175	1.206	1.80887	1.55843	0

b. Retours d'échelle spécifique aux produits

M_PSRTS_overall[4,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
PSRTSya	83088	1.58747	.096254	1.37649	1.9435	1.56552	0
PSRTSyb	75979	.982552	.029086	.841302	1.00337	.996305	.033546
PSRTSyc	2536	1.05013	.006425	1.02996	1.06059	1.04998	0
PSRTSyd	37609	.781639	.125602	.320486	.998552	.780359	.402549

M_PSRTSya[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	5638	1.52074	.041828	1.42779	1.60743	1.52872	0
1990	5843	1.52076	.037347	1.42822	1.6092	1.52572	0
1991	5766	1.53013	.037953	1.43243	1.61442	1.5351	0
1992	4361	1.52601	.045212	1.41352	1.60705	1.5325	0
1993	4976	1.54051	.054498	1.3976	1.65199	1.54582	0
1994	4324	1.52953	.055862	1.38913	1.65074	1.53235	0
1995	4419	1.51631	.052989	1.37649	1.61779	1.5237	0
1996	4226	1.54052	.053888	1.39195	1.64572	1.5417	0
1997	4217	1.5644	.053263	1.4388	1.67629	1.56	0
1998	4226	1.60048	.058328	1.44672	1.72084	1.60261	0
1999	3556	1.6037	.067164	1.43048	1.74075	1.60375	0
2000	3247	1.60419	.068585	1.42351	1.74086	1.61233	0
2001	3238	1.64035	.07754	1.45744	1.78301	1.63719	0
2002	3516	1.65643	.084402	1.46584	1.83918	1.66103	0
2003	3453	1.68472	.094317	1.48269	1.89433	1.67701	0
2004	2213	1.6581	.091095	1.43676	1.82462	1.65147	0
2005	2258	1.69489	.108024	1.44939	1.91416	1.69051	0
2006	2136	1.67868	.103792	1.45083	1.87667	1.67671	0
2007	2147	1.63948	.082976	1.44424	1.77583	1.63893	0
2008	2019	1.64117	.085601	1.43438	1.82413	1.65479	0
2009	1940	1.6775	.095136	1.44283	1.81278	1.69269	0
2010	1675	1.72937	.134373	1.46022	1.93084	1.73755	0
2011	1336	1.67194	.121753	1.42829	1.92551	1.67049	0
2012	1043	1.71775	.123693	1.52861	1.9435	1.71915	0
2013	1315	1.63918	.104534	1.43848	1.86041	1.62521	0

M_PSRTSyb[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	5129	.996777	.003442	.985325	.999896	.998215	0
1990	5284	.998171	.001953	.990982	.999973	.998979	0
1991	5220	.998783	.001442	.993807	1.00337	.999108	0
1992	4099	.997988	.002051	.991133	1.00013	.998662	0
1993	4560	.997174	.003502	.982459	1.00079	.998406	0
1994	3994	.997212	.003061	.986827	1.00023	.998298	0
1995	3941	.997047	.002976	.985715	1.00001	.99828	0
1996	3766	.997257	.002499	.989132	1.0028	.997928	0
1997	4121	.997467	.002877	.986583	1.00034	.998426	0
1998	4049	.997008	.002941	.987176	1.00016	.997961	0
1999	3297	.996434	.004541	.978469	1.00166	.998294	0
2000	3004	.963268	.030756	.863186	.997952	.970846	0
2001	3002	.954914	.034041	.851757	.998972	.962964	0
2002	3255	.964824	.03024	.872034	.998169	.976671	0
2003	3204	.957593	.038563	.846773	.999819	.966533	.735294
2004	2002	.963544	.032437	.860403	.998599	.969052	0
2005	2032	.955486	.039404	.841302	.996948	.960706	0
2006	1902	.9521	.040909	.84621	.997562	.961483	0
2007	1869	.957938	.033302	.863731	.995308	.964388	0
2008	1747	.957116	.030597	.869324	.995798	.964353	0
2009	1651	.957118	.031315	.860673	.992892	.962153	0
2010	1437	.965341	.031345	.874252	.998119	.974062	0
2011	1282	.945297	.043634	.841689	.994497	.960058	0
2012	998	.943421	.041903	.843175	.994117	.960664	0
2013	1134	.953017	.035761	.868476	.996745	.963165	0

M_PSRTSyc[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	615	1.04746	.005086	1.03821	1.05568	1.04642	0
1990	437	1.05189	.00548	1.04399	1.05937	1.04828	0
1991	597	1.04719	.005552	1.03883	1.05631	1.04705	0
1992	318	1.05423	.002566	1.05172	1.0587	1.0525	0
1993	153	1.05898	.000637	1.05824	1.05992	1.05926	0
1994	264	1.05124	.005882	1.04048	1.05834	1.05009	0
1995	0	.	.	.	.	.	0
1996	0	.	.	.	.	.	0
1997	0	.	.	.	.	.	0
1998	0	.	.	.	.	.	0
1999	18	1.0549	0	1.0549	1.0549	1.0549	0
2000	76	1.03898	.00721	1.02996	1.04796	1.04223	0
2001	45	1.05827	.002199	1.05624	1.06059	1.05624	0
2002	0	.	.	.	.	.	0
2003	0	.	.	.	.	.	0
2004	0	.	.	.	.	.	0
2005	0	.	.	.	.	.	0
2006	0	.	.	.	.	.	0
2007	0	.	.	.	.	.	0
2008	0	.	.	.	.	.	0
2009	0	.	.	.	.	.	0
2010	0	.	.	.	.	.	0
2011	0	.	.	.	.	.	0
2012	13	1.05643	0	1.05643	1.05643	1.05643	0
2013	0	.	.	.	.	.	0

M_PSRTSyd[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	3034	.852816	.089413	.66623	.996428	.84818	0
1990	3188	.844116	.087998	.655025	.992544	.834339	0
1991	2987	.827688	.095217	.645282	.997749	.802321	0
1992	1901	.865564	.080859	.648796	.995227	.877438	0
1993	2197	.829393	.099162	.632938	.981042	.827068	0
1994	2000	.821783	.103343	.599806	.983024	.839051	0
1995	2275	.820218	.116074	.582859	.998552	.801246	0
1996	1924	.797505	.113342	.517614	.99728	.787065	0
1997	1940	.790561	.110982	.512497	.994298	.78641	0
1998	1877	.785905	.111223	.505198	.997672	.753558	0
1999	1494	.763014	.114237	.489234	.995232	.75637	0
2000	1399	.76234	.103197	.534556	.988165	.749376	.684932
2001	1356	.739474	.10743	.473835	.96109	.731513	0
2002	1506	.731508	.11835	.470424	.995762	.724355	0
2003	1587	.711675	.114307	.440075	.95727	.685468	.735294
2004	981	.680488	.123552	.407167	.981469	.648465	0
2005	888	.693994	.11704	.447741	.909835	.690447	.934579
2006	1022	.710011	.130864	.406224	.973564	.673891	.854701
2007	815	.69411	.153157	.350449	.987309	.671311	1
2008	866	.711605	.096505	.564306	.926415	.709456	0
2009	799	.63929	.089305	.395396	.849859	.664356	0
2010	723	.668618	.115331	.415859	.96635	.659615	0
2011	360	.635518	.140808	.347229	.918508	.647634	1.25
2012	223	.523064	.111015	.320486	.707284	.537157	2.24719
2013	267	.577423	.115369	.406575	.812989	.587754	4.16667

c. Economies de gamme

M_ESCP_overall[1,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
ESCP	80479	1.0034	.004573	.994738	1.02141	1.00103	0

M_ESCP[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	5506	1.00329	.004205	1.00001	1.01549	1.00088	0
1990	5920	1.00337	.004589	1	1.01783	1.00074	0
1991	5787	1.00385	.005489	1	1.02141	1.00046	0
1992	4369	1.00208	.003161	1.00001	1.01249	1.00035	0
1993	4882	1.00334	.00498	1	1.01975	1.00049	0
1994	4046	1.00284	.004114	1	1.01773	1.00053	0
1995	4209	1.00327	.004687	1	1.01823	1.00062	0
1996	4111	1.00331	.005007	.999997	1.01934	1.00042	0
1997	4113	1.00298	.004508	1.00001	1.01869	1.00042	0
1998	4268	1.0032	.004607	1	1.01709	1.00039	0
1999	3468	1.00316	.004881	1	1.01758	1.00038	0
2000	3117	1.00339	.003959	1.00028	1.01604	1.00132	0
2001	3096	1.0036	.003837	1.00016	1.01449	1.00134	0
2002	3385	1.00352	.004254	1.00024	1.0201	1.00132	0
2003	3337	1.00429	.004838	1.00007	1.01839	1.00159	0
2004	2103	1.00396	.004654	.996816	1.01773	1.0013	0
2005	2102	1.00373	.004407	.999974	1.01671	1.0015	0
2006	2046	1.0042	.004663	.994738	1.0181	1.00184	0
2007	2113	1.00365	.004502	1.00034	1.01642	1.00138	0
2008	1861	1.0037	.004064	1.00037	1.0153	1.0016	0
2009	1881	1.00499	.00577	1.00041	1.02044	1.00186	0
2010	1522	1.00464	.004928	1.00044	1.01883	1.00223	0
2011	1144	1.00283	.004057	1.00033	1.01679	1.00112	0
2012	994	1.00258	.003427	1.00048	1.01429	1.00106	0
2013	1099	1.00211	.002512	1.00032	1.01152	1.00095	0

d. Taux de diminution du coût marginal

M_rcMC[4,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
rcMCya	83319	.615083	.18529	.311156	1.27527	.584283	0
rcMCyb	80422	2.50804	1.05616	.985831	6.54981	2.25027	0
rcMCyc	2732	1.60929	.208115	1.05252	2.32935	1.58902	0
rcMCyd	35140	2.86553	1.53608	.878688	9.8589	2.48772	0

M_rcMCya[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	5682	.431515	.040927	.327219	.518093	.422301	0
1990	5888	.39627	.039549	.311156	.477611	.391068	0
1991	5854	.4204	.042282	.327606	.504797	.417785	0
1992	4331	.433067	.035995	.347657	.512871	.428585	0
1993	4960	.490362	.041487	.369901	.593425	.487698	0
1994	4180	.482134	.042653	.3623	.571817	.486998	0
1995	4465	.497167	.04701	.36852	.617329	.495449	0
1996	4190	.547043	.050459	.430659	.66833	.544338	0
1997	4143	.618093	.05136	.502998	.741309	.614452	0
1998	4226	.725105	.061889	.570298	.86919	.728549	0
1999	3556	.741486	.074343	.562815	.90089	.742854	0
2000	3267	.685383	.070075	.503671	.831186	.692863	0
2001	3238	.772571	.081719	.574085	.930499	.773901	0
2002	3579	.808202	.097562	.563998	1.01418	.807116	0
2003	3461	.922403	.117474	.656645	1.18939	.907863	0
2004	2198	.763418	.089936	.568725	.947711	.756796	0
2005	2238	.888544	.111292	.664086	1.1237	.883965	0
2006	2174	.813468	.105914	.578579	1.04942	.812039	0
2007	2147	.663586	.063381	.517192	.780092	.666009	0
2008	2008	.631165	.069414	.479103	.767589	.631996	0
2009	1940	.787776	.091712	.585763	.937455	.783714	0
2010	1760	.972591	.169124	.628992	1.27527	.961712	0
2011	1380	.754817	.10617	.526472	.987693	.765212	0
2012	1124	.839177	.156851	.540989	1.17822	.849761	0
2013	1330	.546836	.084897	.382872	.725298	.548812	0

M_rcMCyb[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	5605	1.80652	.396616	1.02153	2.52454	1.80286	0
1990	5753	1.80849	.392263	.985831	2.51548	1.80658	0
1991	5692	1.86883	.428467	1.08601	2.73762	1.83916	0
1992	4350	1.86187	.438383	1.02431	2.71326	1.87121	0
1993	4805	1.99598	.492259	1.15801	3.13941	1.9359	0
1994	4195	1.97123	.512839	1.14121	3.11755	1.86205	0
1995	4139	2.01307	.526448	1.025	3.07596	2.01319	0
1996	4035	2.2291	.641489	1.16562	3.59427	2.20819	0
1997	4295	2.47711	.707677	1.12482	3.79	2.40045	0
1998	4238	2.82519	.748958	1.50382	4.4941	2.75918	0
1999	3541	2.79603	.797258	1.23644	4.66131	2.73702	0
2000	3282	2.59936	.856158	.999907	4.37748	2.49524	0
2001	3194	3.00558	.997341	1.27921	4.98144	2.85176	0
2002	3516	3.16638	1.07812	1.37918	5.49703	3.08712	0
2003	3375	3.60199	1.37832	1.48833	6.43796	3.36599	0
2004	2205	3.38137	1.23765	1.24253	5.5366	3.1601	0
2005	1820	3.32098	1.18619	1.52136	6.08113	3.15716	0
2006	1956	3.3512	1.43819	1.32873	6.54981	2.96676	0
2007	2089	3.16083	1.2297	1.312	5.54528	2.77592	0
2008	2014	2.99111	1.13335	1.26209	5.71748	2.8268	0
2009	1764	3.7775	1.42824	1.58659	6.24566	3.55443	0
2010	1122	3.26	1.26113	1.52044	6.24461	3.01052	0
2011	1248	3.33956	1.50386	1.12104	6.39212	2.94354	0
2012	912	3.1609	1.33866	1.31095	6.46214	2.83579	0
2013	1277	2.55408	1.11779	.988593	5.35269	2.33084	0

M_rcMCyc[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	615	1.604	.158747	1.33836	1.84315	1.57126	0
1990	482	1.67809	.191667	1.35665	1.92823	1.58902	0
1991	530	1.47179	.139618	1.24367	1.71579	1.42471	0
1992	378	1.57159	.15177	1.37947	1.78147	1.51837	0
1993	245	1.7902	.16413	1.56877	1.98764	1.78051	0
1994	264	1.56134	.143867	1.29428	1.73695	1.61351	0
1995	0	.	.	.	.	.	.
1996	0	.	.	.	.	.	.
1997	0	.	.	.	.	.	.
1998	0	.	.	.	.	.	.
1999	0	.	.	.	.	.	.
2000	135	1.55274	.308901	1.05252	1.96987	1.61531	0
2001	72	2.0769	.227214	1.78965	2.32935	2.23902	0
2002	0	.	.	.	.	.	.
2003	0	.	.	.	.	.	.
2004	0	.	.	.	.	.	.
2005	0	.	.	.	.	.	.
2006	0	.	.	.	.	.	.
2007	0	.	.	.	.	.	.
2008	0	.	.	.	.	.	.
2009	11	1.56563	0	1.56563	1.56563	1.56563	0
2010	0	.	.	.	.	.	.
2011	0	.	.	.	.	.	.
2012	0	.	.	.	.	.	.
2013	0	.	.	.	.	.	.

M_rcMCyd[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	2902	2.14182	.751283	.917093	3.85889	1.9091	0
1990	3098	2.12111	.663331	.930387	3.72911	2.02971	0
1991	2964	2.02644	.777502	.878688	3.79317	1.87798	0
1992	1845	2.42783	.885857	.993586	4.30735	2.31579	0
1993	2119	2.24703	.807713	.933936	4.05771	2.17497	0
1994	1886	2.25354	.759651	.947608	3.77883	2.15053	0
1995	2007	2.48066	.884562	.945043	4.54973	2.40404	0
1996	1606	2.40126	.836466	.958916	4.38766	2.22367	0
1997	1779	2.82192	1.13553	1.04503	5.25217	2.61895	0
1998	1665	3.00078	1.02493	1.19091	5.6452	2.88355	0
1999	1362	3.18328	1.41148	1.36918	6.58609	2.67472	0
2000	1295	3.12023	1.44933	1.10983	6.03601	2.61936	0
2001	1254	3.33205	1.21884	1.24096	6.26543	3.30289	0
2002	1425	3.98961	2.07158	.964031	8.22581	3.48653	0
2003	1469	3.73867	1.93839	1.12018	8.66234	3.18246	0
2004	849	3.40124	1.93919	.999906	8.56007	2.8498	0
2005	804	3.82947	1.77592	1.26433	9.04513	3.47483	0
2006	838	3.89103	1.53414	1.51852	8.56015	3.69071	0
2007	693	3.61088	1.85117	1.51213	8.52266	3.22011	0
2008	812	3.20971	1.46534	1.27495	8.06354	2.87948	0
2009	840	4.40123	1.95738	1.23108	6.58816	4.52796	0
2010	672	5.54438	2.23785	1.55047	7.48613	7.38539	0
2011	366	3.60131	2.09315	1.1774	7.31845	3.10881	0
2012	254	5.27001	3.42193	1.4473	9.8589	3.25707	0
2013	336	4.2013	2.94403	1.25448	9.52976	2.41647	0

e. Taux de diminution du coût

```
M_RCD_overall[1,7]
         Obs      Mean    StdDev       Min       Max    Median      %neg
RCD    80700   .497829   .159551   .215754   1.07185   .474196         0

M_RCD[25,7]
          Obs      Mean    StdDev       Min       Max    Median      %neg
1989     5802   .410078   .109319   .235132   .689045   .380748         0
1990     5907   .353813    .08966   .215754   .579424    .32372         0
1991     5791   .362795   .089354   .222073   .630444   .336422         0
1992     4347   .354846   .072762   .246752    .58126   .334389         0
1993     4679   .405438   .090315   .250322   .714953   .374932         0
1994     4132   .401669    .09167   .274888   .674477   .364831         0
1995     4085   .406271   .076058   .302593    .6478   .379528         0
1996     3985   .431843   .074508   .315614   .668992   .415859         0
1997     3976   .466061   .073089   .322142   .672728    .44415         0
1998     4136   .537394   .087653   .349353   .798296   .516363         0
1999     3437   .535361   .093381   .347018   .840521   .511365         0
2000     3200   .601542   .133198   .341601   .987661   .571327         0
2001     3136    .67566   .143407   .369273   1.01682   .648124         0
2002     3256   .656191   .133421   .397978   1.02489   .633322         0
2003     3017   .702823   .111511   .460676   .986695     .6949         0
2004     2109   .608961   .112975   .407174   .956994   .591511         0
2005     2086   .700094   .119178   .427525   1.01126   .684078         0
2006     2066   .666541   .128454   .430069   .993976   .640715         0
2007     2159   .561472   .117471   .376095   .879641   .528893         0
2008     1931   .526456   .112531   .356135   .802133   .491172         0
2009     2016   .659138   .150367    .40663   1.07185   .644567         0
2010     1641   .716253   .109787    .45763   1.03253   .731579         0
2011     1258   .571998   .098071   .378804   .844869   .557091         0
2012     1165   .608895   .134076   .399129     .9486   .584895         0
2013     1383   .451634   .127902   .267186   .782201   .416199         0
```

f. Taux de changement technique

```
M_RTC_overall[1,7]
         Obs      Mean    StdDev       Min       Max    Median      %neg
RTC    83718   .332498   .120231    .13837   .794347   .301787         0

M_RTC[25,7]
          Obs      Mean    StdDev       Min       Max    Median      %neg
1989     5597    .22282   .024303   .154278   .275329   .222117         0
1990     6074   .208046   .025387    .13837   .276568   .210202         0
1991     5967    .22116   .030406   .142645   .296003   .221104         0
1992     4493   .225471   .027224    .15526   .289819   .229032         0
1993     4882   .255875    .03081   .168316   .341191   .255028         0
1994     4199    .25551   .035053   .163647   .345227   .252359         0
```

1995	4373	.268539	.038261	.173293	.364294	.267475	0
1996	4251	.295747	.045183	.201357	.400072	.295142	0
1997	4322	.330484	.051411	.198988	.446699	.331481	0
1998	4450	.385502	.063431	.211503	.546619	.388236	0
1999	3638	.390588	.065683	.213167	.53815	.394151	0
2000	3337	.355888	.0676	.154337	.527355	.361625	0
2001	3240	.401428	.07444	.195349	.555762	.413142	0
2002	3539	.426405	.08892	.171688	.656845	.429675	0
2003	3521	.493164	.113102	.204926	.756015	.481263	0
2004	2228	.424183	.085513	.176849	.618472	.420218	0
2005	2234	.502413	.108333	.250162	.738202	.498655	0
2006	2126	.455919	.101388	.231179	.655216	.448796	0
2007	2203	.3795	.068596	.19765	.51941	.377372	0
2008	2030	.361744	.069691	.210638	.496851	.363973	0
2009	1954	.478474	.103738	.246786	.711929	.486763	0
2010	1488	.567694	.145979	.274694	.794347	.577621	0
2011	1260	.46789	.109674	.251783	.716262	.453464	0
2012	1032	.499956	.159184	.200234	.791656	.516848	0
2013	1280	.350155	.099969	.156204	.553583	.355766	0

g. Changements techniques biaisés en facteur

M_FbTC[4,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
FbTCxa	76559	-.205067	.050055	-.39693	-.113183	-.191594	100
FbTCxb	73479	-1.58671	.727416	-4.42584	-.387223	-1.45234	100
FbTCxc	73387	1.3583	.408144	.238897	2.89358	1.28186	0
FbTCxd	77174	-1.88509	.65973	-4.32043	-.854562	-1.69001	100

M_FbTCxa[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	5301	-.20447	.058237	-.360763	-.114502	-.18303	100
1990	5560	-.190622	.054501	-.350952	-.113183	-.173021	100
1991	5465	-.195067	.062846	-.372723	-.113792	-.172538	100
1992	4071	-.182261	.037235	-.296754	-.133061	-.173541	100
1993	4538	-.190051	.048951	-.358951	-.12156	-.173851	100
1994	4140	-.205002	.065392	-.391521	-.127545	-.178665	100
1995	3909	-.193547	.033945	-.298109	-.140644	-.181238	100
1996	3762	-.19554	.039252	-.334685	-.145309	-.184458	100
1997	3861	-.193423	.03566	-.307195	-.125735	-.180723	100
1998	3859	-.191683	.033506	-.301649	-.134037	-.182242	100
1999	3224	-.190459	.036125	-.310619	-.139582	-.177797	100
2000	3149	-.238509	.056647	-.39693	-.15752	-.221732	100
2001	2994	-.234933	.043392	-.347143	-.166559	-.231684	100
2002	3314	-.232916	.052118	-.364851	-.159468	-.2125	100
2003	2966	-.216897	.038665	-.342389	-.15754	-.207175	100
2004	2060	-.228145	.047569	-.359427	-.166636	-.21333	100
2005	2016	-.220553	.04106	-.339449	-.152688	-.208596	100
2006	1900	-.224795	.037906	-.31585	-.171729	-.219298	100
2007	2077	-.234795	.048485	-.365568	-.170616	-.213956	100
2008	1679	-.219605	.033631	-.289125	-.172383	-.209247	100
2009	1812	-.223394	.042598	-.34153	-.163727	-.217598	100
2010	1573	-.208697	.02971	-.29793	-.153162	-.211017	100
2011	1154	-.201239	.031191	-.284216	-.150851	-.192905	100
2012	1017	-.180774	.026601	-.251099	-.141779	-.17541	100
2013	1158	-.196154	.04055	-.316833	-.14328	-.187683	100

M_FbTCxb[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	5290	-1.65559	.800968	-3.7194	-.512811	-1.60205	100
1990	5374	-1.5298	.657136	-3.12958	-.523528	-1.47709	100
1991	5521	-1.78924	.997211	-4.31886	-.460953	-1.59167	100
1992	3547	-2.20655	.908536	-4.16147	-.576422	-2.24101	100
1993	4512	-1.83859	.778075	-3.34746	-.481412	-1.86807	100
1994	3947	-1.92228	.811548	-4.06205	-.501782	-1.93883	100
1995	3949	-1.68869	.688015	-3.73175	-.447507	-1.73817	100
1996	3936	-1.55087	.546423	-3.02749	-.491503	-1.63864	100
1997	4047	-1.30178	.400882	-2.27803	-.453319	-1.40224	100
1998	4146	-1.16649	.30299	-1.73114	-.476347	-1.24308	100
1999	3311	-1.10801	.257842	-1.68736	-.437126	-1.17781	100
2000	2943	-1.70593	.514326	-3.24358	-.655994	-1.66046	100
2001	2674	-1.58868	.424071	-2.8234	-.662729	-1.57326	100
2002	2821	-1.32666	.302251	-2.11453	-.521518	-1.32122	100
2003	3097	-1.02982	.224564	-1.51593	-.502968	-1.03509	100
2004	2006	-1.40656	.442856	-2.72067	-.531173	-1.41577	100
2005	1938	-1.18632	.301738	-1.93194	-.618468	-1.18397	100
2006	1840	-1.53346	.497897	-3.21986	-.592764	-1.45651	100
2007	1571	-2.28029	.880254	-4.42584	-.871175	-2.2145	100
2008	506	-2.74266	.648684	-4.05923	-1.57344	-2.68075	100
2009	1721	-1.97299	.762817	-4.00225	-.604205	-1.86788	100
2010	1590	-1.24977	.336352	-2.14623	-.56708	-1.22379	100
2011	1154	-1.9424	.721409	-3.84151	-.496548	-1.94358	100
2012	958	-1.01112	.354237	-1.8321	-.387223	-.946782	100
2013	1080	-1.63983	.943325	-4.13758	-.472133	-1.18989	100

M_FbTCxc[25,7]

	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	4712	1.76375	.469553	1.02289	2.89358	1.6784	0
1990	4750	1.56206	.319836	1.07725	2.56633	1.53612	0
1991	5340	1.59363	.319278	.961554	2.42259	1.53587	0
1992	3823	1.72997	.453746	1.12267	2.84144	1.64662	0
1993	4341	1.58652	.379002	.929401	2.71835	1.55525	0
1994	3601	1.52389	.367452	.767508	2.60522	1.46619	0
1995	3869	1.33445	.252283	.772688	2.23776	1.29666	0
1996	3996	1.3453	.272101	.82433	2.07764	1.2727	0
1997	4060	1.22957	.194588	.757212	1.74805	1.22015	0
1998	4020	1.12965	.205553	.664819	1.67633	1.07826	0
1999	3318	1.05766	.182411	.72007	1.57935	1.03799	0
2000	2794	1.50645	.35715	.928887	2.63246	1.45773	0
2001	2748	1.44348	.345256	.818174	2.40011	1.36377	0
2002	3063	1.28634	.34109	.406884	2.36767	1.22933	0
2003	3080	1.09537	.233248	.670979	1.76952	1.05856	0
2004	1961	1.2223	.263937	.748193	2.22793	1.14853	0
2005	1984	1.13198	.227744	.797608	1.73395	1.07113	0

2006	1944	1.1851	.258007	.744934	1.9933	1.1761	0
2007	1973	1.39029	.458532	.776865	2.58481	1.22711	0
2008	1679	1.22958	.287866	.789797	2.07498	1.17263	0
2009	1796	1.07851	.237601	.428517	1.77684	1.0315	0
2010	1403	.892481	.13529	.552187	1.22419	.871877	0
2011	1172	.954155	.273174	.446023	1.59708	.957087	0
2012	920	.635378	.245548	.238897	1.23129	.554106	0
2013	1040	.707582	.293815	.267888	1.33281	.631089	0

M_FbTCxd[25,7]

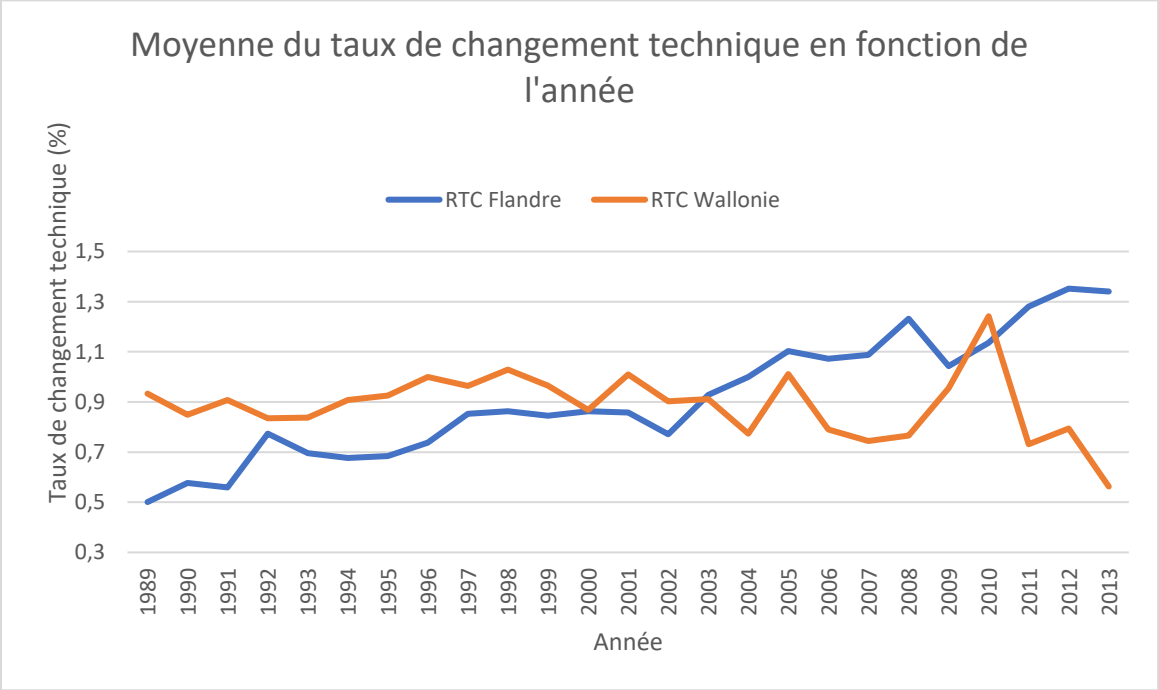
	Obs	Mean	StdDev	Min	Max	Median	%neg
1989	5598	-1.40764	.227888	-1.98275	-.873979	-1.39977	100
1990	5772	-1.32157	.209405	-1.82853	-.854562	-1.31723	100
1991	5521	-1.32532	.185048	-1.65696	-.884239	-1.31735	100
1992	4352	-1.34928	.206184	-1.83641	-.889536	-1.32361	100
1993	4805	-1.46171	.258319	-2.15804	-.906371	-1.41276	100
1994	3773	-1.42653	.214483	-2.02899	-.960579	-1.36998	100
1995	3983	-1.51275	.222612	-2.1083	-1.07538	-1.50364	100
1996	3854	-1.61651	.243782	-2.23406	-1.17976	-1.6046	100
1997	3985	-1.73595	.277641	-2.3811	-1.04208	-1.69198	100
1998	4027	-1.90809	.325514	-2.68016	-1.15735	-1.85561	100
1999	3236	-1.89454	.308508	-2.7382	-1.1531	-1.88697	100
2000	2922	-2.15242	.42688	-3.20628	-1.1064	-2.12645	100
2001	2593	-2.33565	.432662	-3.37487	-1.24358	-2.29918	100
2002	3095	-2.43824	.54565	-3.66404	-1.39421	-2.38323	100
2003	2961	-2.7547	.634672	-4.22404	-1.45864	-2.69115	100
2004	1916	-2.4898	.512956	-3.6166	-1.33206	-2.45407	100
2005	2016	-2.77833	.643667	-4.13596	-1.45284	-2.72435	100
2006	1854	-2.65267	.575463	-3.96559	-1.44676	-2.61103	100
2007	1925	-2.43729	.469254	-3.64106	-1.33396	-2.40114	100
2008	1890	-2.28912	.477552	-3.22647	-1.28654	-2.24196	100
2009	1867	-2.81256	.637016	-4.18154	-1.49168	-2.80262	100
2010	1590	-2.82469	.675157	-4.158	-1.48874	-2.73679	100
2011	1282	-2.54974	.640341	-4.04735	-1.3217	-2.40955	100
2012	1026	-2.79785	.801824	-4.32043	-1.50673	-2.63529	100
2013	1331	-2.36737	.602361	-3.75142	-1.3227	-2.20023	100

ANNEXE 6 : GRAPHES DES INDICATEURS DE PRODUCTIVITE CONTRE LES ANNEES

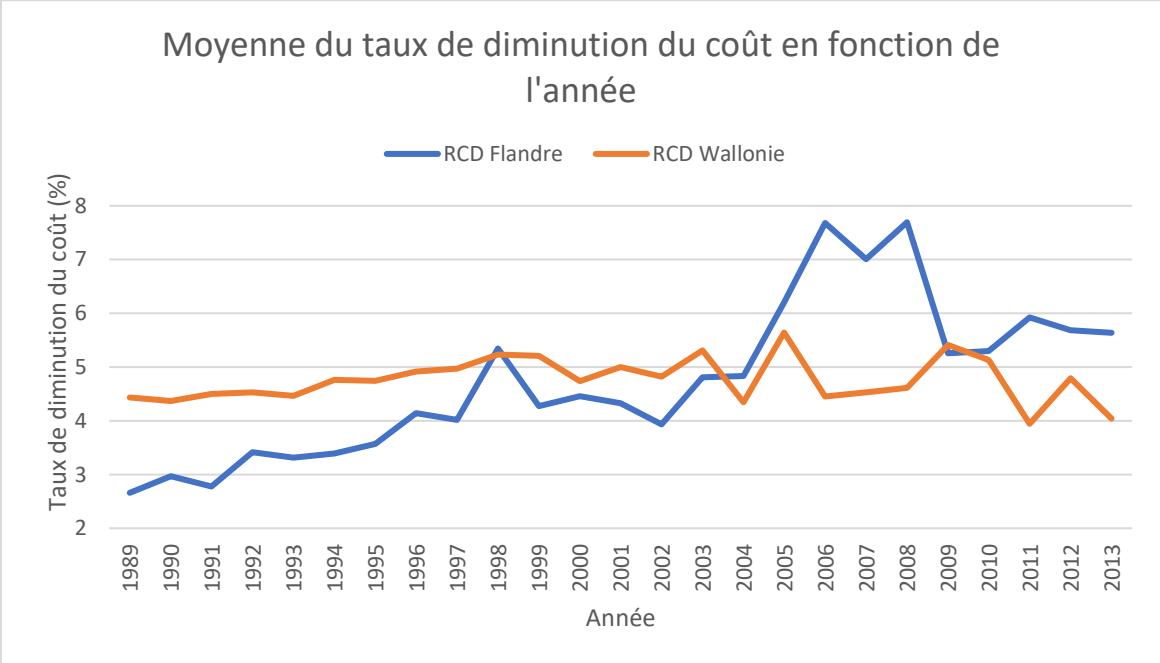
Source des données : UE-RICA - DG AGRI.

Fermes de grandes cultures

Taux de changement technique

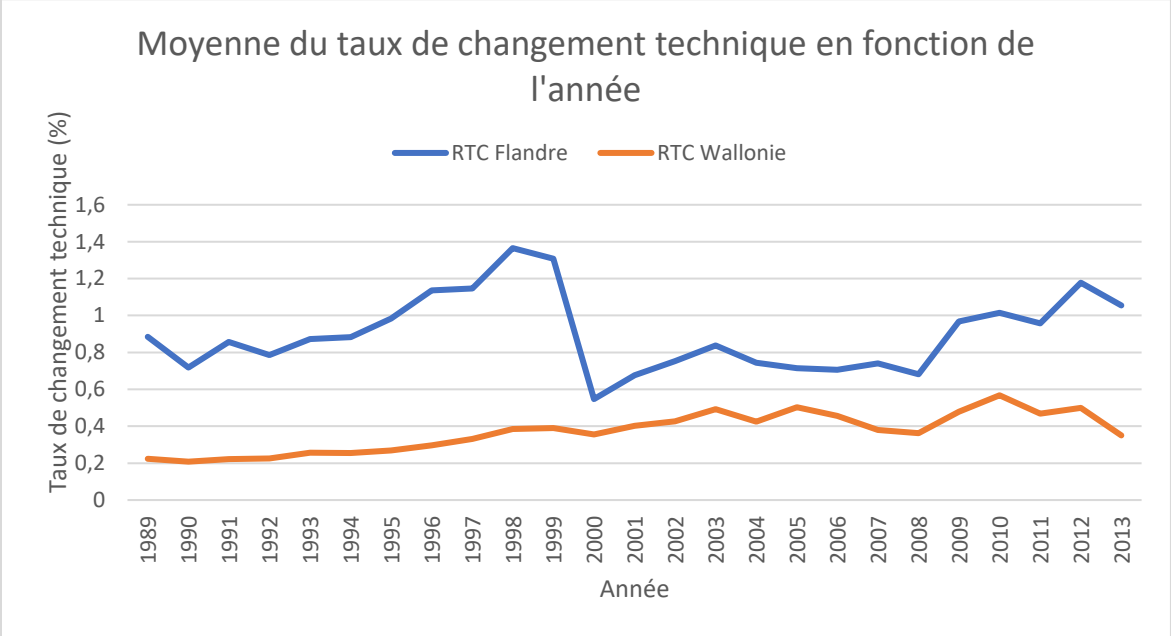


Taux de diminution des coûts

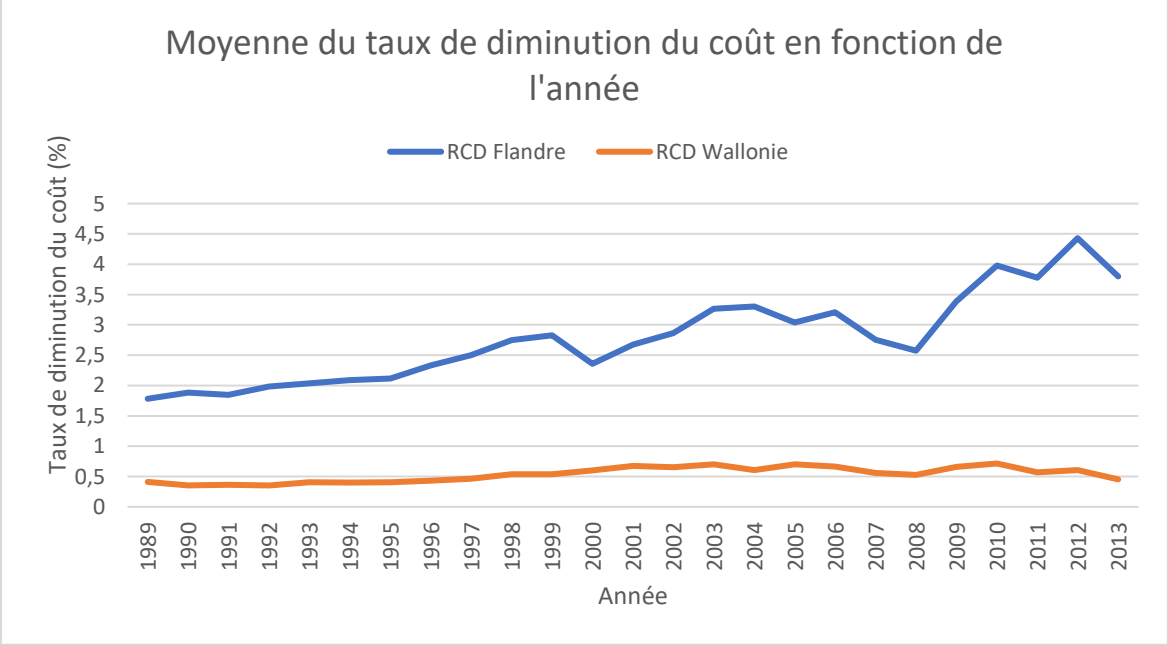


Fermes laitières

Taux de changement technique



Taux de diminution des coûts



ANNEXE 7 : RESULTATS DES REGRESSIONS CONCERNANT LES DETERMINANTS SOUS-JACENTS AUX GAINS DE PRODUCTIVITE

Source des données : UE-RICA - DG AGRI.

Fermes de grandes cultures

Flandre

a. Taux de diminution du coût

Linear regression

Number of obs	= 54,644
F(13, 24)	= .
Prob > F	= .
R-squared	= 0.7113
Root MSE	= .3969

(Std. Err. adjusted for 25 clusters in year)

ln_rcd	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
ln_size	-.6109472	.0669871	-9.12	0.000	-.7492018	-.4726925
ln_speciali~n	.2087799	.0223667	9.33	0.000	.1626173	.2549425
ln_capitalAWU	.4941896	.0516737	9.56	0.000	.3875404	.6008389
ln_capitalS~e	-.6237718	.0624637	-9.99	0.000	-.7526906	-.494853
ln_ownland	.010371	.0077874	1.33	0.195	-.0057014	.0264434
ln_subsratio	-.0080819	.0221489	-0.36	0.718	-.0537949	.0376311
ln_subMAESAU	-.0027808	.0039576	-0.70	0.489	-.010949	.0053873
ln_wheatyield	-.0418568	.0083523	-5.01	0.000	-.0590951	-.0246184
ln_chemical~y	.0422529	.0383058	1.10	0.281	-.0368064	.1213122
ln_pyd	29.99957	1.951988	15.37	0.000	25.97086	34.02827
TCresidual	2.84e-06	5.77e-07	4.92	0.000	1.65e-06	4.03e-06
subreg						
202	-.0422856	.1587609	-0.27	0.792	-.3699521	.2853809
203	-.0577857	.1557075	-0.37	0.714	-.3791502	.2635788
204	-.0766924	.1538905	-0.50	0.623	-.3943068	.240922
205	-.1974244	.1525618	-1.29	0.208	-.5122966	.1174477
year						
1990	1.003247	.0555919	18.05	0.000	.8885106	1.117982
1991	.8851191	.0527776	16.77	0.000	.7761915	.9940468
1992	.0145932	.0343154	0.43	0.674	-.0562303	.0854168
1993	5.792228	.3933969	14.72	0.000	4.980296	6.604159
1994	5.420586	.3739249	14.50	0.000	4.648843	6.192329
1995	5.092509	.3550285	14.34	0.000	4.359766	5.825251
1996	7.447012	.5112835	14.57	0.000	6.391775	8.50225
1997	10.19417	.6923539	14.72	0.000	8.765223	11.62312
1998	13.1868	.8787985	15.01	0.000	11.37305	15.00055
1999	11.13693	.750361	14.84	0.000	9.588263	12.6856
2000	13.08059	.8732668	14.98	0.000	11.27826	14.88293
2001	12.49503	.8434668	14.81	0.000	10.7542	14.23586
2002	15.78013	1.057149	14.93	0.000	13.59828	17.96198
2003	9.187658	.6231732	14.74	0.000	7.901492	10.47382
2004	17.22943	1.142334	15.08	0.000	14.87177	19.58709
2005	16.76869	1.115924	15.03	0.000	14.46553	19.07184
2006	7.120768	.493113	14.44	0.000	6.103032	8.138503
2007	-5.697307	.3273569	-17.40	0.000	-6.372938	-5.021675
2008	9.841134	.6658137	14.78	0.000	8.466962	11.21531
2009	13.98955	.9340819	14.98	0.000	12.0617	15.9174
2010	-3.663248	.2227028	-16.45	0.000	-4.122884	-3.203612
2011	-1.414731	.0812744	-17.41	0.000	-1.582473	-1.246989
2012	-6.894754	.442111	-15.60	0.000	-7.807227	-5.982282
2013	0	(omitted)				
_cons	-12.94655	1.284209	-10.08	0.000	-15.59702	-10.29607

b. Taux de changement technique

```
Linear regression                               Number of obs     =     54,838
                                                F(13, 24)         =          .
                                                Prob > F          =          .
                                                R-squared         =     0.5813
                                                Root MSE          =     .39663

                                   (Std. Err. adjusted for 25 clusters in year)
------------------------------------------------------------------------------
             |               Robust
      ln_rtc |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     ln_size |  -.7220198   .0500631   -14.42   0.000    -.8253451   -.6186946
ln_speciali~n |   .0280671   .0167386     1.68   0.107    -.0064796    .0626138
ln_capitalAWU |   .5499886    .043374    12.68   0.000      .460469    .6395082
ln_capitalS~e |  -.6315526   .0432364   -14.61   0.000    -.7207881    -.542317
   ln_ownland |   .0032584   .0063446     0.51   0.612    -.0098362     .016353
 ln_subsratio |  -.0342178   .0130278    -2.63   0.015    -.0611058   -.0073298
 ln_subMAESAU |  -.0029024   .0027985    -1.04   0.310    -.0086781    .0028733
ln_wheatyield |  -.0103925   .0037153    -2.80   0.010    -.0180606   -.0027244
ln_chemical~y |   .1708801   .0289295     5.91   0.000     .1111725    .2305877
       ln_pyd |   28.04236   1.282243    21.87   0.000     25.39594    30.68877
   TCresidual |   3.41e-06   6.16e-07     5.54   0.000     2.14e-06    4.68e-06
              |
       subreg |
          202 |   .0373345   .0800172     0.47   0.645     -.127813     .202482
          203 |   -.100105   .0844271    -1.19   0.247     -.274354     .074144
          204 |  -.0525516   .0744143    -0.71   0.487    -.2061352     .101032
          205 |   -.317454   .0950661    -3.34   0.003    -.5136607   -.1212472
              |
         year |
         1990 |   .8986998    .039579    22.71   0.000     .8170128    .9803868
         1991 |   .8125312    .034893    23.29   0.000     .7405156    .8845467
         1992 |   .1503693   .0134343    11.19   0.000     .1226422    .1780963
         1993 |   5.609015   .2576757    21.77   0.000     5.077198    6.140831
         1994 |     5.1932   .2481378    20.93   0.000     4.681068    5.705331
         1995 |   4.885015   .2332384    20.94   0.000     4.403635    5.366396
         1996 |   7.206263   .3348502    21.52   0.000     6.515166     7.89736
         1997 |   9.850613   .4554314    21.63   0.000     8.910649    10.79058
         1998 |   12.40939     .57641    21.53   0.000     11.21974    13.59905
         1999 |   10.62737   .4938768    21.52   0.000     9.608061    11.64668
         2000 |   12.45839     .57578    21.64   0.000     11.27004    13.64674
         2001 |   11.93449   .5576591    21.40   0.000     10.78354    13.08544
         2002 |   14.95706   .6968119    21.46   0.000     13.51891    16.39521
         2003 |    8.78029    .411466    21.34   0.000     7.931066    9.629514
         2004 |   16.37362   .7509061    21.81   0.000     14.82382    17.92341
         2005 |   15.88109   .7360574    21.58   0.000     14.36194    17.40024
         2006 |   6.772812   .3242452    20.89   0.000     6.103603    7.442021
         2007 |  -5.073016   .2139017   -23.72   0.000    -5.514487   -4.631545
         2008 |   9.323146   .4372566    21.32   0.000     8.420692     10.2256
         2009 |   13.20745   .6152888    21.47   0.000     11.93756    14.47735
         2010 |  -3.469235   .1469382   -23.61   0.000      -3.7725   -3.165969
         2011 |  -1.372591   .0529493   -25.92   0.000    -1.481873   -1.263309
         2012 |  -6.387885   .2870345   -22.25   0.000    -6.980295   -5.795475
         2013 |           0  (omitted)
              |
        _cons |  -14.44959   .8176267   -17.67   0.000    -16.13709   -12.76209
```

Wallonie

a. Taux de diminution du coût

```
Linear regression                               Number of obs     =     48,460
                                                F(13, 24)         =          .
                                                Prob > F          =          .
                                                R-squared         =     0.3848
                                                Root MSE          =     .41157

                                   (Std. Err. adjusted for 25 clusters in year)
------------------------------------------------------------------------------
             |               Robust
      ln_rcd |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     ln_size |  -.0313776   .0922443    -0.34   0.737    -.2217604    .1590053
ln_speciali~n |   .5772223   .0884545     6.53   0.000     .3946613    .7597833
ln_capitalAWU |   .0453822   .0718235     0.63   0.533    -.1028542    .1936186
ln_capitalS~e |  -.1250013   .0642093    -1.95   0.063    -.2575227    .0075201
   ln_ownland |  -.0275237   .0100974    -2.73   0.012    -.0483638   -.0066836
 ln_subsratio |  -.0539896   .0334551    -1.61   0.120    -.1230375    .0150583
 ln_subMAESAU |  -.0017278   .0073421    -0.24   0.816    -.0168812    .0134256
ln_wheatyield |  -.1007791   .0269965    -3.73   0.001    -.1564971   -.0450611
ln_chemical~y |   .1926193   .0539453     3.57   0.002     .0812817     .303957
       ln_pyd |  -1.425494   1.533061    -0.93   0.362    -4.589575    1.738588
   TCresidual |   3.25e-07   6.60e-07     0.49   0.627    -1.04e-06    1.69e-06
              |
       subreg |
          302 |  -.0010359   .0481515    -0.02   0.983    -.1004158    .0983439
          303 |   .0005622   .0576202     0.01   0.992      -.11836    .1194844
          304 |   .5288583   .1443416     3.66   0.001     .2309518    .8267649
          305 |  -.3771971   .0746325    -5.05   0.000    -.5312311   -.2231632
              |
         year |
         1990 |   .0232124   .0738034     0.31   0.756    -.1291103    .1755351
         1991 |    .031252   .0243452     1.28   0.212     -.018994    .0814981
         1992 |   .0851443   .0266618     3.19   0.004      .030117    .1401716
         1993 |   .1169164   .4359206     0.27   0.791    -.7827795    1.016612
         1994 |   .1802956   .4156023     0.43   0.668    -.6774653    1.038057
         1995 |    .190056    .360163     0.53   0.603     -.553284     .933396
         1996 |   .0516652   .4965937     0.10   0.918    -.9732539    1.076584
         1997 |  -.0246536   .6524377    -0.04   0.970    -1.371219    1.321912
         1998 |  -.0356352   .7458029    -0.05   0.962    -1.574897    1.503626
         1999 |    .046263   .6642463     0.07   0.945    -1.324674      1.4172
         2000 |  -.0538215   .8021337    -0.07   0.947    -1.709344    1.601701
         2001 |    .048626   .8030152     0.06   0.952    -1.608716    1.705968
         2002 |  -.1118165   .9627835    -0.12   0.909    -2.098904    1.875271
         2003 |   .1348926   .5226728     0.26   0.799    -.9438511    1.213636
         2004 |  -.4184729   1.050892    -0.40   0.694    -2.587407    1.750461
         2005 |  -.2775297    .972756    -0.29   0.778    -2.285199     1.73014
         2006 |   .1094342   .4408303     0.25   0.806    -.8003947    1.019263
         2007 |   .5099757    .265373     1.92   0.067    -.0377273    1.057679
         2008 |  -.1374646   .6450803    -0.21   0.833    -1.468845    1.193916
         2009 |  -.1707553    .875429    -0.20   0.847    -1.977552    1.636041
         2010 |    .828283   .1020027     8.12   0.000     .6177597    1.038806
         2011 |   .4192906   .0590614     7.10   0.000     .2973939    .5411873
         2012 |   .7888645   .3407327     2.32   0.029     .0856267    1.492102
         2013 |            0  (omitted)
              |
        _cons |   3.191598   .9000358     3.55   0.002     1.334016    5.049181
```

b. Taux de changement technique

```
Linear regression                               Number of obs     =     48,460
                                                F(13, 24)         =          .
                                                Prob > F          =          .
                                                R-squared         =     0.5032
                                                Root MSE          =     .42008

                                   (Std. Err. adjusted for 25 clusters in year)
------------------------------------------------------------------------------
             |               Robust
      ln_rtc |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
     ln_size |   .0404056   .0930176     0.43   0.668    -.1515733    .2323845
ln_speciali~n |   .8345001   .0863808     9.66   0.000      .656219    1.012781
ln_capitalAWU |  -.0035601   .0776175    -0.05   0.964    -.1637546    .1566345
ln_capitalS~e |  -.0676038   .0765469    -0.88   0.386     -.225589    .0903813
   ln_ownland |   -.026593   .0109784    -2.42   0.023    -.0492512   -.0039348
 ln_subsratio |   -.081478   .0366482    -2.22   0.036    -.1571162   -.0058398
 ln_subMAESAU |  -.0021045   .0069787    -0.30   0.766    -.0165077    .0122988
ln_wheatyield |  -.1397501   .0325485    -4.29   0.000    -.2069268   -.0725734
ln_chemical~y |   .2654898    .062967     4.22   0.000     .1355323    .3954474
       ln_pyd |   -4.52949   1.659524    -2.73   0.012     -7.95458   -1.104399
   TCresidual |   4.66e-07   6.01e-07     0.78   0.446    -7.75e-07    1.71e-06
              |
       subreg |
          302 |  -.0060538   .0456358    -0.13   0.896    -.1002415    .0881339
          303 |   .0042655   .0525503     0.08   0.936    -.1041929     .112724
          304 |    .330882   .1021965     3.24   0.004     .1199587    .5418053
          305 |  -.4432726   .0713095    -6.22   0.000    -.5904482   -.2960969
              |
         year |
         1990 |  -.1390322    .077887    -1.79   0.087    -.2997832    .0217187
         1991 |  -.0216016   .0270468    -0.80   0.432    -.0774234    .0342203
         1992 |   .0110945    .032004     0.35   0.732    -.0549585    .0771476
         1993 |  -.5478461   .4688767    -1.17   0.254     -1.51556    .4198678
         1994 |  -.3442211   .4475126    -0.77   0.449    -1.267842    .5793996
         1995 |  -.2572696   .3870811    -0.66   0.513    -1.056166    .5416266
         1996 |  -.6588094   .5367697    -1.23   0.232    -1.766648    .4490289
         1997 |  -1.047816   .7048017    -1.49   0.150    -2.502455    .4068231
         1998 |  -1.194159   .8050758    -1.48   0.151    -2.855754    .4674354
         1999 |  -1.006687   .7169026    -1.40   0.173    -2.486301    .4729272
         2000 |  -1.338935   .8632987    -1.55   0.134    -3.120696    .4428261
         2001 |   -1.16405   .8657279    -1.34   0.191    -2.950825    .6227242
         2002 |  -1.624339   1.037324    -1.57   0.130    -3.765271    .5165922
         2003 |  -.5711619   .5607493    -1.02   0.319    -1.728492    .5861678
         2004 |  -2.134736   1.130949    -1.89   0.071    -4.468901    .1994289
         2005 |  -1.816372   1.049588    -1.73   0.096    -3.982614    .3498707
         2006 |  -.4105651   .4731233    -0.87   0.394    -1.387044    .5659133
         2007 |   1.242298   .2878448     4.32   0.000     .6482158    1.836381
         2008 |  -1.152639   .6967222    -1.65   0.111    -2.590603     .285325
         2009 |  -1.685062   .9459102    -1.78   0.088    -3.637325    .2672003
         2010 |   1.142925   .1112255    10.28   0.000     .9133667    1.372483
         2011 |   .6273312   .0658525     9.53   0.000     .4914182    .7632441
         2012 |   1.540567   .3704473     4.16   0.000     .7760012    2.305133
         2013 |            0  (omitted)
              |
        _cons |   3.347963   1.001472     3.34   0.003     1.281027    5.414899
```

ANNEXE 8 : CONVERGENCE DE CLUBS

Source des données : UE-RICA - DG AGRI.

Flandre

a. Taux de diminution du coût

Club 1 :(43)					
6.82e+10	6.82e+10	6.82e+10	6.82e+10	9.63e+10	9.63e+10
9.63e+10	9.63e+10	9.63e+10	9.63e+10	9.63e+10	9.63e+10
9.63e+10	9.63e+10	6.82e+11	6.82e+11	6.82e+11	6.82e+11
6.82e+11	9.63e+11	9.63e+11	9.63e+11	9.63e+11	9.63e+11
9.63e+11	9.63e+11	9.63e+11	9.63e+11	9.63e+11	9.63e+11
9.63e+11	9.63e+11	9.63e+11	9.63e+11	9.63e+11	9.63e+11
9.63e+11	9.63e+11	9.63e+11	9.63e+11	9.63e+11	9.63e+11
9.63e+11					

Club 2 :(129)					
6.82e+09	6.82e+09	6.82e+09	6.82e+09	6.82e+09	6.82e+09
6.82e+09	6.82e+09	6.82e+09	6.82e+09	6.82e+09	6.82e+10
6.82e+10	6.82e+10	6.82e+10	6.82e+10	6.82e+10	6.82e+10
6.82e+10	6.82e+10	6.82e+10	6.82e+10	6.82e+10	6.82e+10
6.82e+10	6.82e+10	6.82e+10	6.82e+10	6.82e+10	6.82e+10
6.82e+10	6.82e+10	6.82e+10	6.82e+10	6.82e+10	6.82e+10
6.82e+10	6.82e+10	6.82e+10	6.82e+10	6.82e+10	6.82e+10
6.82e+10	6.82e+10	6.82e+10	6.82e+10	6.82e+10	6.82e+10
6.82e+10	6.82e+10	6.82e+10	6.82e+10	6.82e+10	6.82e+10
6.82e+10	6.82e+10	6.82e+10	6.82e+11	6.82e+11	6.82e+11
6.82e+11	6.82e+11	6.82e+11	6.82e+11	6.82e+11	6.82e+11
6.82e+11	6.82e+11	6.82e+11	6.82e+11	6.82e+11	6.82e+11
6.82e+11	6.82e+11	6.82e+11	6.82e+11	6.82e+11	6.82e+11
6.82e+11	6.82e+11	6.82e+11	6.82e+11	6.82e+11	6.82e+11
6.82e+11	6.82e+11	6.82e+11	6.82e+11	6.82e+11	6.82e+11
6.82e+11	6.82e+11	6.82e+11	6.82e+11	6.82e+11	6.82e+11
6.82e+11	6.82e+11	6.82e+11	6.82e+11	6.82e+11	6.82e+11
6.82e+11	6.82e+11	6.82e+11	6.82e+11	6.82e+11	6.82e+11
6.82e+11	6.82e+11	6.82e+11	6.82e+11	6.82e+11	6.82e+11
6.82e+11	6.82e+11	6.82e+11	6.82e+11	6.82e+11	6.82e+11
6.82e+11	6.82e+11	6.82e+11	6.82e+11	6.82e+11	6.82e+11
6.82e+11	6.82e+11	6.82e+11	6.82e+11	6.82e+11	6.82e+11
6.82e+11	6.82e+11	9.63e+11			

b. Taux de changement technique

Club 1 :(122)					
6.82e+09	6.82e+09	6.82e+09	6.82e+09	6.82e+09	6.82e+09
6.82e+09	6.82e+10	6.82e+10	6.82e+10	6.82e+10	6.82e+10
6.82e+10	6.82e+10	6.82e+10	6.82e+10	6.82e+10	6.82e+10
6.82e+10	6.82e+10	6.82e+10	6.82e+10	6.82e+10	6.82e+10
6.82e+10	6.82e+10	6.82e+10	6.82e+10	6.82e+10	6.82e+10
6.82e+10	6.82e+10	6.82e+10	6.82e+10	6.82e+10	6.82e+10
9.63e+10	9.63e+10	9.63e+10	9.63e+10	9.63e+10	9.63e+10
9.63e+10	9.63e+10	9.63e+10	9.63e+10	6.82e+11	6.82e+11
6.82e+11	6.82e+11	6.82e+11	6.82e+11	6.82e+11	6.82e+11
6.82e+11	6.82e+11	6.82e+11	6.82e+11	6.82e+11	6.82e+11
6.82e+11	6.82e+11	6.82e+11	6.82e+11	6.82e+11	6.82e+11
6.82e+11	6.82e+11	6.82e+11	6.82e+11	6.82e+11	6.82e+11
6.82e+11	6.82e+11	6.82e+11	6.82e+11	6.82e+11	6.82e+11
6.82e+11	6.82e+11	6.82e+11	6.82e+11	6.82e+11	6.82e+11
6.82e+11	6.82e+11	6.82e+11	6.82e+11	6.82e+11	6.82e+11
6.82e+11	6.82e+11	6.82e+11	6.82e+11	6.82e+11	6.82e+11
6.82e+11	9.63e+11	9.63e+11	9.63e+11	9.63e+11	9.63e+11
9.63e+11	9.63e+11	9.63e+11	9.63e+11	9.63e+11	9.63e+11
9.63e+11	9.63e+11	9.63e+11	9.63e+11	9.63e+11	9.63e+11
9.63e+11	9.63e+11	9.63e+11	9.63e+11	9.63e+11	9.63e+11
9.63e+11	9.63e+11				

Club 2 :(50)					
6.82e+09	6.82e+09	6.82e+09	6.82e+09	6.82e+10	6.82e+10
6.82e+10	6.82e+10	6.82e+10	6.82e+10	6.82e+10	6.82e+10
6.82e+10	6.82e+10	6.82e+10	6.82e+10	6.82e+10	6.82e+10
6.82e+10	6.82e+10	6.82e+10	6.82e+10	6.82e+10	6.82e+10
6.82e+10	6.82e+11	6.82e+11	6.82e+11	6.82e+11	6.82e+11
6.82e+11	6.82e+11	6.82e+11	6.82e+11	6.82e+11	6.82e+11
6.82e+11	6.82e+11	6.82e+11	6.82e+11	6.82e+11	6.82e+11
6.82e+11	6.82e+11	6.82e+11	6.82e+11	6.82e+11	6.82e+11
6.82e+11	6.82e+11				

Wallonie

a. Taux de diminution du coût

```
------------------------------- Club 1 :(9)-------------------------
 | 6.86e+09 | 6.86e+10 | 9.69e+10 | 6.86e+11 | 9.69e+11 | 9.69e+11 |
 | 9.69e+11 | 9.69e+11 | 9.69e+11 |
-------------------------------------------------------------------
------------------------------- Club 2 :(40)------------------------
 | 6.86e+10 | 6.86e+10 | 6.86e+10 | 6.86e+10 | 6.86e+11 | 6.86e+11 |
 | 6.86e+11 | 6.86e+11 | 6.86e+11 | 6.86e+11 | 6.86e+11 | 6.86e+11 |
 | 6.86e+11 | 6.86e+11 | 6.86e+11 | 6.86e+11 | 9.69e+11 | 9.69e+11 |
 | 9.69e+11 | 9.69e+11 | 9.69e+11 | 9.69e+11 | 9.69e+11 | 9.69e+11 |
 | 9.69e+11 | 9.69e+11 | 9.69e+11 | 9.69e+11 | 9.69e+11 | 9.69e+11 |
 | 9.69e+11 | 9.69e+11 | 9.69e+11 | 9.69e+11 | 9.69e+11 | 9.69e+11 |
 | 9.69e+11 | 9.69e+11 | 9.69e+11 | 9.69e+12 |
-------------------------------------------------------------------
------------------------------- Club 3 :(113)-----------------------
 | 6.86e+09 | 6.86e+09 | 6.86e+09 | 6.86e+09 | 6.86e+09 | 6.86e+09 |
 | 6.86e+10 | 6.86e+10 | 6.86e+10 | 6.86e+10 | 6.86e+10 | 6.86e+10 |
 | 6.86e+10 | 6.86e+10 | 6.86e+10 | 6.86e+10 | 6.86e+10 | 6.86e+10 |
 | 6.86e+10 | 6.86e+10 | 6.86e+10 | 6.86e+10 | 6.86e+10 | 6.86e+10 |
 | 6.86e+10 | 6.86e+10 | 6.86e+10 | 6.86e+10 | 6.86e+11 | 6.86e+11 |
 | 6.86e+11 | 6.86e+11 | 6.86e+11 | 6.86e+11 | 6.86e+11 | 6.86e+11 |
 | 6.86e+11 | 6.86e+11 | 6.86e+11 | 6.86e+11 | 6.86e+11 | 6.86e+11 |
 | 6.86e+11 | 6.86e+11 | 6.86e+11 | 6.86e+11 | 6.86e+11 | 6.86e+11 |
 | 6.86e+11 | 6.86e+11 | 6.86e+11 | 6.86e+11 | 6.86e+11 | 6.86e+11 |
 | 6.86e+11 | 6.86e+11 | 6.86e+11 | 6.86e+11 | 6.86e+11 | 6.86e+11 |
 | 6.86e+11 | 6.86e+11 | 6.86e+11 | 6.86e+11 | 6.86e+11 | 6.86e+11 |
 | 6.86e+11 | 6.86e+11 | 6.86e+11 | 6.86e+11 | 6.86e+11 | 6.86e+11 |
 | 6.86e+11 | 6.86e+11 | 6.86e+11 | 6.86e+11 | 6.86e+11 | 6.86e+11 |
 | 6.86e+11 | 6.86e+11 | 6.86e+11 | 6.86e+11 | 6.86e+11 | 6.86e+11 |
 | 6.86e+11 | 6.86e+11 | 6.86e+11 | 6.86e+11 | 6.86e+11 | 6.86e+11 |
 | 6.86e+11 | 6.86e+11 | 6.86e+11 | 6.86e+11 | 6.86e+11 | 6.86e+11 |
 | 6.86e+11 | 6.86e+11 | 6.86e+11 | 6.86e+11 | 6.86e+11 | 6.86e+11 |
 | 6.86e+11 | 6.86e+11 | 6.86e+11 | 6.86e+11 | 6.86e+11 | 6.86e+11 |
 | 6.86e+11 | 6.86e+11 | 6.86e+11 | 6.86e+11 | 6.86e+11 | 6.86e+11 |
 | 6.86e+11 | 6.86e+11 | 6.86e+11 | 6.86e+11 | 6.86e+11 |
-------------------------------------------------------------------
```

b. Taux de changement technique

Club 1 :(10)					
6.86e+09	6.86e+11	6.86e+11	6.86e+11	6.86e+11	9.69e+11
9.69e+11	9.69e+11	9.69e+11	9.69e+11		

Club 2 :(40)					
6.86e+10	6.86e+10	6.86e+10	6.86e+10	6.86e+10	9.69e+10
6.86e+11	6.86e+11	6.86e+11	6.86e+11	6.86e+11	6.86e+11
6.86e+11	6.86e+11	6.86e+11	6.86e+11	9.69e+11	9.69e+11
9.69e+11	9.69e+11	9.69e+11	9.69e+11	9.69e+11	9.69e+11
9.69e+11	9.69e+11	9.69e+11	9.69e+11	9.69e+11	9.69e+11
9.69e+11	9.69e+11	9.69e+11	9.69e+11	9.69e+11	9.69e+11
9.69e+11	9.69e+11	9.69e+11	9.69e+12		

Club 3 :(112)					
6.86e+09	6.86e+09	6.86e+09	6.86e+09	6.86e+09	6.86e+09
6.86e+10	6.86e+10	6.86e+10	6.86e+10	6.86e+10	6.86e+10
6.86e+10	6.86e+10	6.86e+10	6.86e+10	6.86e+10	6.86e+10
6.86e+10	6.86e+10	6.86e+10	6.86e+10	6.86e+10	6.86e+10
6.86e+10	6.86e+10	6.86e+10	6.86e+10	6.86e+11	6.86e+11
6.86e+11	6.86e+11	6.86e+11	6.86e+11	6.86e+11	6.86e+11
6.86e+11	6.86e+11	6.86e+11	6.86e+11	6.86e+11	6.86e+11
6.86e+11	6.86e+11	6.86e+11	6.86e+11	6.86e+11	6.86e+11
6.86e+11	6.86e+11	6.86e+11	6.86e+11	6.86e+11	6.86e+11
6.86e+11	6.86e+11	6.86e+11	6.86e+11	6.86e+11	6.86e+11
6.86e+11	6.86e+11	6.86e+11	6.86e+11	6.86e+11	6.86e+11
6.86e+11	6.86e+11	6.86e+11	6.86e+11	6.86e+11	6.86e+11
6.86e+11	6.86e+11	6.86e+11	6.86e+11	6.86e+11	6.86e+11
6.86e+11	6.86e+11	6.86e+11	6.86e+11	6.86e+11	6.86e+11
6.86e+11	6.86e+11	6.86e+11	6.86e+11	6.86e+11	6.86e+11
6.86e+11	6.86e+11	6.86e+11	6.86e+11	6.86e+11	6.86e+11
6.86e+11	6.86e+11	6.86e+11	6.86e+11	6.86e+11	6.86e+11
6.86e+11	6.86e+11	6.86e+11	6.86e+11	6.86e+11	6.86e+11
6.86e+11	6.86e+11	6.86e+11	6.86e+11	6.86e+11	6.86e+11
6.86e+11	6.86e+11	6.86e+11	6.86e+11	6.86e+11	6.86e+11
6.86e+11	6.86e+11	6.86e+11	6.86e+11		