

*job submitted*

```

library(tidyverse)
library(janitor)
library(dineq)
library(purrr)
library(ineq)
#household
h_var_list <- c("hid","year", "dhi", "nhhmem", "hwgt","rural","region_c","own")
names_files_h <- c("fr18h","fr17h","fr16h",
"fr15h","fr14h","fr13h","fr12h","fr11h","fr10h","fr09h","fr08h","fr07h","fr06h","fr05h",
"fr84h","fr90h","fr96h","fr97h","fr98h","fr99h","fr00h","fr01h","fr02h","fr03h","fr04h")
files_h <- purrr::map(.x = names_files_h,
~read.LIS(.x, vars = h_var_list))
names(files_h) <- names_files_h
#personal
p_var_list<- c("hid",'educ',"educ_c","pid", "pill", "age", "relation", "pwgt","immigr","indal",'occl_c')
names_files_p <- c("fr18p","fr17p","fr16p",
"fr15p","fr14p","fr13p","fr12p","fr11p","fr10p","fr09p","fr08p","fr07p","fr06p","fr05p",
"fr84p","fr90p","fr96p","fr97p","fr98p","fr99p","fr00p","fr01p","fr02p","fr03p","fr04p")
files_p <- purrr::map(.x = names_files_p,
~read.LIS(.x, vars = p_var_list))
names(files_p) <- names_files_p
#merge
merged_files <- purrr::map2(.x = files_p,
.y = files_h,
.f = ~left_join(.x, .y, by = "hid"))
names(merged_files) <- c("fr18h","fr17h","fr16h",
"fr15h","fr14h","fr13h","fr12h","fr11h","fr10h","fr09h","fr08h","fr07h","fr06h","fr05h")
merged_files <- lapply(merged_files, function(x) {x$educ_c <- as.factor(x$educ_c); x})
merged_files <- lapply(merged_files, function(x) {x$region_c <- as.character(x$region_c); x})
df <- merged_files %>%
bind_rows(.id = "file")
## Income
df %>%
group_by(region_c, year) %>%
summarize(avg_dhi = mean(dhi, na.rm = TRUE),
avg_pill = mean(pill, na.rm = TRUE))
## Gini
df %>%
group_by(region_c, year) %>%
summarize(avg_gini = ineq(pill, type = "Gini"))
dfh <- df %>%
group_by(region_c, year) %>%
summarize(avg_gini = ineq(dhi, type = "Gini"))
print(tbl_df(dfh), n=502)

```

*listing*

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##### NOTICE TO USERS #####

```
> options(echo=FALSE, encoding="UTF-8")
Loading required package: readstata13
> options(error = expression(q('no'))))
> library(tidyverse)
&#x2500;&#x2500; Attaching packages
&#x2500;&#x2500;&#x2500;&#x2500;&#x2500;&#x2500;&#x2500;&#x2500;&#x2500;&#x2500;&#x2500;&#x2500;&#x2500;&#x2500;
&#x2500;&#x2500;&#x2500;&#x2500;&#x2500;&#x2500;&#x2500;&#x2500;&#x2500;&#x2500;&#x2500;&#x2500;&#x2500;&#x2500;
&#x2500;&#x2500;&#x2500;&#x2500;&#x2500;&#x2500;&#x2500;&#x2500;&#x2500;&#x2500;&#x2500;&#x2500;&#x2500; tidyverse 1.3.2
&#x2500;&#x2500;&#x2500;
&#x2714; ggplot2 3.4.3      &#x2714; purrr 1.0.0
&#x2714; tibble 3.2.1      &#x2714; dplyr 1.1.1
&#x2714; tidyr 1.2.1       &#x2714; stringr 1.5.0
&#x2714; readr 2.1.3       &#x2714; forcats 0.5.2
&#x2500;&#x2500;&#x2500; Conflicts
&#x2500;&#x2500;&#x2500;&#x2500;&#x2500;&#x2500;&#x2500;&#x2500;&#x2500;&#x2500;&#x2500;&#x2500;&#x2500;&#x2500;&#x2500;&#x2500;
&#x2500;&#x2500;&#x2500;&#x2500;&#x2500;&#x2500;&#x2500;&#x2500;&#x2500;&#x2500;&#x2500;&#x2500;&#x2500;&#x2500;&#x2500;&#x2500;
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tidyverse_conflicts() &#x2500;&#x2500;&#x2500;
&#x2716; dplyr::filter() masks stats::filter()
&#x2716; dplyr::lag()    masks stats::lag()
> library(janitor)
```

Attaching package: &#x2018;janitor&#x2019;

The following objects are masked from &#x2018;package:stats&#x2019;:

chisq.test, fisher.test

```
> library(dineq)
> library(purrr)
> library(ineq)
> #household
> h_var_list <- c("hid","year", "dhi", "nhhmem", "hwt", "rural", "region_c", "own")
> names_files_h <- c("fr18h","fr17h","fr16h",
"fr15h","fr14h","fr13h","fr12h","fr11h","fr10h","fr09h","fr08h","fr07h","fr06h","fr05h",
+ "fr84h","fr90h","fr96h","fr97h","fr98h","fr99h","fr00h","fr01h","fr02h","fr03h","fr04h")
> files_h <- purrr::map(.x = names_files_h,
+ ~read.LIS(.x, vars = h_var_list))
[1] "Loading dataset fr18h..."
[1] "Loading dataset fr17h..."
[1] "Loading dataset fr16h..."
[1] "Loading dataset fr15h..."
[1] "Loading dataset fr14h..."
[1] "Loading dataset fr13h..."
[1] "Loading dataset fr12h..."
[1] "Loading dataset fr11h..."
```

```

[1] "Loading dataset fr10h..."
[1] "Loading dataset fr09h..."
[1] "Loading dataset fr08h..."
[1] "Loading dataset fr07h..."
[1] "Loading dataset fr06h..."
[1] "Loading dataset fr05h..."
[1] "Loading dataset fr84h..."
[1] "Loading dataset fr90h..."
[1] "Loading dataset fr96h..."
[1] "Loading dataset fr97h..."
[1] "Loading dataset fr98h..."
[1] "Loading dataset fr99h..."
[1] "Loading dataset fr00h..."
[1] "Loading dataset fr01h..."
[1] "Loading dataset fr02h..."
[1] "Loading dataset fr03h..."
[1] "Loading dataset fr04h..."
> names(files_h) <- names_files_h
> #personal
> p_var_list<- c("hid",'educ',"educ_c","pid", "pill", "age", "relation", "pwgt","immigr","indal",'occl_c')
> names_files_p <- c("fr18p","fr17p","fr16p",
"fr15p","fr14p","fr13p","fr12p","fr11p","fr10p","fr09p","fr08p","fr07p","fr06p","fr05p",
+ "fr84p","fr90p","fr96p","fr97p","fr98p","fr99p","fr00p","fr01p","fr02p","fr03p","fr04p")
> files_p <- purrr::map(.x = names_files_p,
+ ~read.LIS(.x, vars = p_var_list))
[1] "Loading dataset fr18p..."
[1] "Loading dataset fr17p..."
[1] "Loading dataset fr16p..."
[1] "Loading dataset fr15p..."
[1] "Loading dataset fr14p..."
[1] "Loading dataset fr13p..."
[1] "Loading dataset fr12p..."
[1] "Loading dataset fr11p..."
[1] "Loading dataset fr10p..."
[1] "Loading dataset fr09p..."
[1] "Loading dataset fr08p..."
[1] "Loading dataset fr07p..."
[1] "Loading dataset fr06p..."
[1] "Loading dataset fr05p..."
[1] "Loading dataset fr84p..."
[1] "Loading dataset fr90p..."
[1] "Loading dataset fr96p..."
[1] "Loading dataset fr97p..."
[1] "Loading dataset fr98p..."
[1] "Loading dataset fr99p..."
[1] "Loading dataset fr00p..."
[1] "Loading dataset fr01p..."
[1] "Loading dataset fr02p..."
[1] "Loading dataset fr03p..."
[1] "Loading dataset fr04p..."
> names(files_p) <- names_files_p
> #merge
> merged_files <- purrr::map2(.x = files_p,
+ .y = files_h,
+ .f = ~left_join(.x, .y, by = "hid"))
> names(merged_files) <- c("fr18h","fr17h","fr16h",
"fr15h","fr14h","fr13h","fr12h","fr11h","fr10h","fr09h","fr08h","fr07h","fr06h","fr05h")

```

```

> merged_files <- lapply(merged_files, function(x) {x$educ_c <- as.factor(x$educ_c); x})
> merged_files <- lapply(merged_files, function(x) {x$region_c <- as.character(x$region_c); x})
> df <- merged_files %>%
+   bind_rows(.id = "file")
> ## Income
> df %>%
+   group_by(region_c, year) %>%
+   summarize(avg_dhi = mean(dhi, na.rm = TRUE),
+             avg_pill = mean(pill, na.rm = TRUE))
`summarise()` has grouped output by 'region_c'. You can override using the
`.groups` argument.
# A tibble: 502 &#x00D7; 4
# Groups:   region_c [24]
   region_c      year avg_dhi avg_pill
   <chr>      <int>   <dbl>   <dbl>
1 [11]Ile-de-France (FR10) 1996  36091.  10181.
2 [11]Ile-de-France (FR10) 1997  35530.   9985.
3 [11]Ile-de-France (FR10) 1998  36212.  10493.
4 [11]Ile-de-France (FR10) 1999  37799.  11123.
5 [11]Ile-de-France (FR10) 2000  38956.  11567.
6 [11]Ile-de-France (FR10) 2001  40776.  12432.
7 [11]Ile-de-France (FR10) 2002  42804.  12863.
8 [11]Ile-de-France (FR10) 2003  42246.  12510.
9 [11]Ile-de-France (FR10) 2004  43971.  13015.
10 [11]Ile-de-France (FR10) 2005  45601.  13165.
# &#x2026; with 492 more rows
> ## Gini
> df %>%
+   group_by(region_c, year) %>%
+   summarize(avg_gini = ineq(pill, type = "Gini"))
`summarise()` has grouped output by 'region_c'. You can override using the
`.groups` argument.
# A tibble: 502 &#x00D7; 3
# Groups:   region_c [24]
   region_c      year avg_gini
   <chr>      <int>   <dbl>
1 [11]Ile-de-France (FR10) 1996    0.727
2 [11]Ile-de-France (FR10) 1997    0.729
3 [11]Ile-de-France (FR10) 1998    0.725
4 [11]Ile-de-France (FR10) 1999    0.725
5 [11]Ile-de-France (FR10) 2000    0.722
6 [11]Ile-de-France (FR10) 2001    0.720
7 [11]Ile-de-France (FR10) 2002    0.708
8 [11]Ile-de-France (FR10) 2003    0.713
9 [11]Ile-de-France (FR10) 2004    0.720
10 [11]Ile-de-France (FR10) 2005    0.727
# &#x2026; with 492 more rows
> dfh <- df %>%
+   group_by(region_c, year) %>%
+   summarize(avg_gini = ineq(dhi, type = "Gini"))
`summarise()` has grouped output by 'region_c'. You can override using the
`.groups` argument.
> print(tbl_df(dfh), n=502)
# A tibble: 502 &#x00D7; 3
   region_c      year avg_gini
   <chr>      <int>   <dbl>
1 [11]Ile-de-France (FR10) 1996    0.297

```

2	[11]Ile-de-France (FR10)	1997	0.308
3	[11]Ile-de-France (FR10)	1998	0.309
4	[11]Ile-de-France (FR10)	1999	0.323
5	[11]Ile-de-France (FR10)	2000	0.331
6	[11]Ile-de-France (FR10)	2001	0.326
7	[11]Ile-de-France (FR10)	2002	0.327
8	[11]Ile-de-France (FR10)	2003	0.327
9	[11]Ile-de-France (FR10)	2004	0.337
10	[11]Ile-de-France (FR10)	2005	0.349
11	[11]Ile-de-France (FR10)	2006	0.348
12	[11]Ile-de-France (FR10)	2007	0.349
13	[11]Ile-de-France (FR10)	2008	0.355
14	[11]Ile-de-France (FR10)	2009	0.356
15	[11]Ile-de-France (FR10)	2010	0.365
16	[11]Ile-de-France (FR10)	2011	0.379
17	[11]Ile-de-France (FR10)	2012	0.368
18	[11]Ile-de-France (FR10)	2013	0.338
19	[11]Ile-de-France (FR10)	2014	0.350
20	[11]Ile-de-France (FR10)	2015	0.338
21	[11]Ile-de-France (FR10)	2016	0.344
22	[11]Ile-de-France (FR10)	2017	0.352
23	[11]Ile-de-France (FR10)	2018	0.374
24	[21]Champagne-Ardenne (FRF2)	1996	0.298
25	[21]Champagne-Ardenne (FRF2)	1997	0.303
26	[21]Champagne-Ardenne (FRF2)	1998	0.294
27	[21]Champagne-Ardenne (FRF2)	1999	0.293
28	[21]Champagne-Ardenne (FRF2)	2000	0.308
29	[21]Champagne-Ardenne (FRF2)	2001	0.303
30	[21]Champagne-Ardenne (FRF2)	2002	0.328
31	[21]Champagne-Ardenne (FRF2)	2003	0.295
32	[21]Champagne-Ardenne (FRF2)	2004	0.302
33	[21]Champagne-Ardenne (FRF2)	2005	0.308
34	[21]Champagne-Ardenne (FRF2)	2006	0.338
35	[21]Champagne-Ardenne (FRF2)	2007	0.352
36	[21]Champagne-Ardenne (FRF2)	2008	0.332
37	[21]Champagne-Ardenne (FRF2)	2009	0.312
38	[21]Champagne-Ardenne (FRF2)	2010	0.321
39	[21]Champagne-Ardenne (FRF2)	2011	0.317
40	[21]Champagne-Ardenne (FRF2)	2012	0.309
41	[21]Champagne-Ardenne (FRF2)	2013	0.321
42	[21]Champagne-Ardenne (FRF2)	2014	0.308
43	[21]Champagne-Ardenne (FRF2)	2015	0.310
44	[21]Champagne-Ardenne (FRF2)	2016	0.295
45	[21]Champagne-Ardenne (FRF2)	2017	0.299
46	[21]Champagne-Ardenne (FRF2)	2018	0.301
47	[22]Picardie (FRE2)	1996	0.292
48	[22]Picardie (FRE2)	1997	0.285
49	[22]Picardie (FRE2)	1998	0.282
50	[22]Picardie (FRE2)	1999	0.281
51	[22]Picardie (FRE2)	2000	0.275
52	[22]Picardie (FRE2)	2001	0.282
53	[22]Picardie (FRE2)	2002	0.289
54	[22]Picardie (FRE2)	2003	0.284
55	[22]Picardie (FRE2)	2004	0.284
56	[22]Picardie (FRE2)	2005	0.285
57	[22]Picardie (FRE2)	2006	0.301
58	[22]Picardie (FRE2)	2007	0.306

59	[22]Picardie (FRE2)	2008	0.314
60	[22]Picardie (FRE2)	2009	0.287
61	[22]Picardie (FRE2)	2010	0.294
62	[22]Picardie (FRE2)	2011	0.303
63	[22]Picardie (FRE2)	2012	0.329
64	[22]Picardie (FRE2)	2013	0.305
65	[22]Picardie (FRE2)	2014	0.300
66	[22]Picardie (FRE2)	2015	0.292
67	[22]Picardie (FRE2)	2016	0.293
68	[22]Picardie (FRE2)	2017	0.299
69	[22]Picardie (FRE2)	2018	0.285
70	[23]Haute-Normandie (FRD2)	1996	0.281
71	[23]Haute-Normandie (FRD2)	1997	0.281
72	[23]Haute-Normandie (FRD2)	1998	0.272
73	[23]Haute-Normandie (FRD2)	1999	0.291
74	[23]Haute-Normandie (FRD2)	2000	0.306
75	[23]Haute-Normandie (FRD2)	2001	0.314
76	[23]Haute-Normandie (FRD2)	2002	0.289
77	[23]Haute-Normandie (FRD2)	2003	0.280
78	[23]Haute-Normandie (FRD2)	2004	0.280
79	[23]Haute-Normandie (FRD2)	2005	0.276
80	[23]Haute-Normandie (FRD2)	2006	0.282
81	[23]Haute-Normandie (FRD2)	2007	0.305
82	[23]Haute-Normandie (FRD2)	2008	0.308
83	[23]Haute-Normandie (FRD2)	2009	0.300
84	[23]Haute-Normandie (FRD2)	2010	0.290
85	[23]Haute-Normandie (FRD2)	2011	0.312
86	[23]Haute-Normandie (FRD2)	2012	0.307
87	[23]Haute-Normandie (FRD2)	2013	0.303
88	[23]Haute-Normandie (FRD2)	2014	0.298
89	[23]Haute-Normandie (FRD2)	2015	0.289
90	[23]Haute-Normandie (FRD2)	2016	0.310
91	[23]Haute-Normandie (FRD2)	2017	0.294
92	[23]Haute-Normandie (FRD2)	2018	0.292
93	[24]Centre (FRB0)	1996	0.292
94	[24]Centre (FRB0)	1997	0.280
95	[24]Centre (FRB0)	1998	0.282
96	[24]Centre (FRB0)	1999	0.288
97	[24]Centre (FRB0)	2000	0.279
98	[24]Centre (FRB0)	2001	0.283
99	[24]Centre (FRB0)	2002	0.299
100	[24]Centre (FRB0)	2003	0.301
101	[24]Centre (FRB0)	2004	0.304
102	[24]Centre (FRB0)	2005	0.264
103	[24]Centre (FRB0)	2006	0.295
104	[24]Centre (FRB0)	2007	0.290
105	[24]Centre (FRB0)	2008	0.291
106	[24]Centre (FRB0)	2009	0.300
107	[24]Centre (FRB0)	2010	0.294
108	[24]Centre (FRB0)	2011	0.313
109	[24]Centre (FRB0)	2012	0.307
110	[24]Centre (FRB0)	2013	0.310
111	[24]Centre (FRB0)	2014	0.324
112	[24]Centre (FRB0)	2015	0.306
113	[24]Centre (FRB0)	2016	0.291
114	[24]Centre (FRB0)	2017	0.294
115	[24]Centre (FRB0)	2018	0.292

116	[25]Basse-Normandie (FRD1)	1996	0.311
117	[25]Basse-Normandie (FRD1)	1997	0.306
118	[25]Basse-Normandie (FRD1)	1998	0.296
119	[25]Basse-Normandie (FRD1)	1999	0.300
120	[25]Basse-Normandie (FRD1)	2000	0.291
121	[25]Basse-Normandie (FRD1)	2001	0.289
122	[25]Basse-Normandie (FRD1)	2002	0.298
123	[25]Basse-Normandie (FRD1)	2003	0.298
124	[25]Basse-Normandie (FRD1)	2004	0.277
125	[25]Basse-Normandie (FRD1)	2005	0.303
126	[25]Basse-Normandie (FRD1)	2006	0.291
127	[25]Basse-Normandie (FRD1)	2007	0.292
128	[25]Basse-Normandie (FRD1)	2008	0.303
129	[25]Basse-Normandie (FRD1)	2009	0.317
130	[25]Basse-Normandie (FRD1)	2010	0.319
131	[25]Basse-Normandie (FRD1)	2011	0.318
132	[25]Basse-Normandie (FRD1)	2012	0.332
133	[25]Basse-Normandie (FRD1)	2013	0.298
134	[25]Basse-Normandie (FRD1)	2014	0.289
135	[25]Basse-Normandie (FRD1)	2015	0.285
136	[25]Basse-Normandie (FRD1)	2016	0.303
137	[25]Basse-Normandie (FRD1)	2017	0.288
138	[25]Basse-Normandie (FRD1)	2018	0.284
139	[26]Bourgogne (FRCl)	1996	0.274
140	[26]Bourgogne (FRCl)	1997	0.280
141	[26]Bourgogne (FRCl)	1998	0.287
142	[26]Bourgogne (FRCl)	1999	0.292
143	[26]Bourgogne (FRCl)	2000	0.291
144	[26]Bourgogne (FRCl)	2001	0.279
145	[26]Bourgogne (FRCl)	2002	0.285
146	[26]Bourgogne (FRCl)	2003	0.314
147	[26]Bourgogne (FRCl)	2004	0.303
148	[26]Bourgogne (FRCl)	2005	0.295
149	[26]Bourgogne (FRCl)	2006	0.302
150	[26]Bourgogne (FRCl)	2007	0.302
151	[26]Bourgogne (FRCl)	2008	0.330
152	[26]Bourgogne (FRCl)	2009	0.295
153	[26]Bourgogne (FRCl)	2010	0.327
154	[26]Bourgogne (FRCl)	2011	0.300
155	[26]Bourgogne (FRCl)	2012	0.293
156	[26]Bourgogne (FRCl)	2013	0.285
157	[26]Bourgogne (FRCl)	2014	0.294
158	[26]Bourgogne (FRCl)	2015	0.301
159	[26]Bourgogne (FRCl)	2016	0.304
160	[26]Bourgogne (FRCl)	2017	0.306
161	[26]Bourgogne (FRCl)	2018	0.315
162	[31]Nord-Pas de Calais (FRE1)	1996	0.274
163	[31]Nord-Pas de Calais (FRE1)	1997	0.296
164	[31]Nord-Pas de Calais (FRE1)	1998	0.279
165	[31]Nord-Pas de Calais (FRE1)	1999	0.280
166	[31]Nord-Pas de Calais (FRE1)	2000	0.307
167	[31]Nord-Pas de Calais (FRE1)	2001	0.311
168	[31]Nord-Pas de Calais (FRE1)	2002	0.302
169	[31]Nord-Pas de Calais (FRE1)	2003	0.294
170	[31]Nord-Pas de Calais (FRE1)	2004	0.296
171	[31]Nord-Pas de Calais (FRE1)	2005	0.319
172	[31]Nord-Pas de Calais (FRE1)	2006	0.296

173 [31]Nord-Pas de Calais (FRE1)	2007	0.297
174 [31]Nord-Pas de Calais (FRE1)	2008	0.309
175 [31]Nord-Pas de Calais (FRE1)	2009	0.342
176 [31]Nord-Pas de Calais (FRE1)	2010	0.330
177 [31]Nord-Pas de Calais (FRE1)	2011	0.321
178 [31]Nord-Pas de Calais (FRE1)	2012	0.309
179 [31]Nord-Pas de Calais (FRE1)	2013	0.312
180 [31]Nord-Pas de Calais (FRE1)	2014	0.318
181 [31]Nord-Pas de Calais (FRE1)	2015	0.318
182 [31]Nord-Pas de Calais (FRE1)	2016	0.312
183 [31]Nord-Pas de Calais (FRE1)	2017	0.301
184 [31]Nord-Pas de Calais (FRE1)	2018	0.309
185 [41]Lorraine (FRF3)	1996	0.291
186 [41]Lorraine (FRF3)	1997	0.294
187 [41]Lorraine (FRF3)	1998	0.286
188 [41]Lorraine (FRF3)	1999	0.292
189 [41]Lorraine (FRF3)	2000	0.300
190 [41]Lorraine (FRF3)	2001	0.290
191 [41]Lorraine (FRF3)	2002	0.294
192 [41]Lorraine (FRF3)	2003	0.290
193 [41]Lorraine (FRF3)	2004	0.302
194 [41]Lorraine (FRF3)	2005	0.326
195 [41]Lorraine (FRF3)	2006	0.323
196 [41]Lorraine (FRF3)	2007	0.321
197 [41]Lorraine (FRF3)	2008	0.299
198 [41]Lorraine (FRF3)	2009	0.298
199 [41]Lorraine (FRF3)	2010	0.314
200 [41]Lorraine (FRF3)	2011	0.327
201 [41]Lorraine (FRF3)	2012	0.334
202 [41]Lorraine (FRF3)	2013	0.331
203 [41]Lorraine (FRF3)	2014	0.298
204 [41]Lorraine (FRF3)	2015	0.316
205 [41]Lorraine (FRF3)	2016	0.311
206 [41]Lorraine (FRF3)	2017	0.324
207 [41]Lorraine (FRF3)	2018	0.303
208 [42]Alsace (FRF1)	1996	0.292
209 [42]Alsace (FRF1)	1997	0.286
210 [42]Alsace (FRF1)	1998	0.273
211 [42]Alsace (FRF1)	1999	0.289
212 [42]Alsace (FRF1)	2000	0.299
213 [42]Alsace (FRF1)	2001	0.304
214 [42]Alsace (FRF1)	2002	0.307
215 [42]Alsace (FRF1)	2003	0.313
216 [42]Alsace (FRF1)	2004	0.287
217 [42]Alsace (FRF1)	2005	0.305
218 [42]Alsace (FRF1)	2006	0.319
219 [42]Alsace (FRF1)	2007	0.308
220 [42]Alsace (FRF1)	2008	0.310
221 [42]Alsace (FRF1)	2009	0.324
222 [42]Alsace (FRF1)	2010	0.321
223 [42]Alsace (FRF1)	2011	0.309
224 [42]Alsace (FRF1)	2012	0.309
225 [42]Alsace (FRF1)	2013	0.310
226 [42]Alsace (FRF1)	2014	0.300
227 [42]Alsace (FRF1)	2015	0.314
228 [42]Alsace (FRF1)	2016	0.307
229 [42]Alsace (FRF1)	2017	0.290



230 [42]Alsace (FRF1)	2018	0.314
231 [43]Franche-Comt&#x00E9; (FRC2)	1996	0.265
232 [43]Franche-Comt&#x00E9; (FRC2)	1997	0.267
233 [43]Franche-Comt&#x00E9; (FRC2)	1998	0.282
234 [43]Franche-Comt&#x00E9; (FRC2)	1999	0.279
235 [43]Franche-Comt&#x00E9; (FRC2)	2000	0.267
236 [43]Franche-Comt&#x00E9; (FRC2)	2001	0.271
237 [43]Franche-Comt&#x00E9; (FRC2)	2002	0.280
238 [43]Franche-Comt&#x00E9; (FRC2)	2003	0.276
239 [43]Franche-Comt&#x00E9; (FRC2)	2004	0.272
240 [43]Franche-Comt&#x00E9; (FRC2)	2005	0.283
241 [43]Franche-Comt&#x00E9; (FRC2)	2006	0.283
242 [43]Franche-Comt&#x00E9; (FRC2)	2007	0.289
243 [43]Franche-Comt&#x00E9; (FRC2)	2008	0.320
244 [43]Franche-Comt&#x00E9; (FRC2)	2009	0.292
245 [43]Franche-Comt&#x00E9; (FRC2)	2010	0.298
246 [43]Franche-Comt&#x00E9; (FRC2)	2011	0.288
247 [43]Franche-Comt&#x00E9; (FRC2)	2012	0.299
248 [43]Franche-Comt&#x00E9; (FRC2)	2013	0.290
249 [43]Franche-Comt&#x00E9; (FRC2)	2014	0.294
250 [43]Franche-Comt&#x00E9; (FRC2)	2015	0.295
251 [43]Franche-Comt&#x00E9; (FRC2)	2016	0.318
252 [43]Franche-Comt&#x00E9; (FRC2)	2017	0.297
253 [43]Franche-Comt&#x00E9; (FRC2)	2018	0.301
254 [52]Pays de la Loire (FRG0)	1996	0.265
255 [52]Pays de la Loire (FRG0)	1997	0.294
256 [52]Pays de la Loire (FRG0)	1998	0.285
257 [52]Pays de la Loire (FRG0)	1999	0.290
258 [52]Pays de la Loire (FRG0)	2000	0.306
259 [52]Pays de la Loire (FRG0)	2001	0.296
260 [52]Pays de la Loire (FRG0)	2002	0.301
261 [52]Pays de la Loire (FRG0)	2003	0.296
262 [52]Pays de la Loire (FRG0)	2004	0.311
263 [52]Pays de la Loire (FRG0)	2005	0.340
264 [52]Pays de la Loire (FRG0)	2006	0.303
265 [52]Pays de la Loire (FRG0)	2007	0.315
266 [52]Pays de la Loire (FRG0)	2008	0.313
267 [52]Pays de la Loire (FRG0)	2009	0.316
268 [52]Pays de la Loire (FRG0)	2010	0.333
269 [52]Pays de la Loire (FRG0)	2011	0.318
270 [52]Pays de la Loire (FRG0)	2012	0.302
271 [52]Pays de la Loire (FRG0)	2013	0.298
272 [52]Pays de la Loire (FRG0)	2014	0.294
273 [52]Pays de la Loire (FRG0)	2015	0.292
274 [52]Pays de la Loire (FRG0)	2016	0.282
275 [52]Pays de la Loire (FRG0)	2017	0.291
276 [52]Pays de la Loire (FRG0)	2018	0.332
277 [53]Bretagne (FRH0)	1996	0.275
278 [53]Bretagne (FRH0)	1997	0.287
279 [53]Bretagne (FRH0)	1998	0.291
280 [53]Bretagne (FRH0)	1999	0.300
281 [53]Bretagne (FRH0)	2000	0.304
282 [53]Bretagne (FRH0)	2001	0.306
283 [53]Bretagne (FRH0)	2002	0.312
284 [53]Bretagne (FRH0)	2003	0.316
285 [53]Bretagne (FRH0)	2004	0.293
286 [53]Bretagne (FRH0)	2005	0.315

287 [53]Bretagne (FRH0)	2006	0.304
288 [53]Bretagne (FRH0)	2007	0.316
289 [53]Bretagne (FRH0)	2008	0.317
290 [53]Bretagne (FRH0)	2009	0.291
291 [53]Bretagne (FRH0)	2010	0.312
292 [53]Bretagne (FRH0)	2011	0.334
293 [53]Bretagne (FRH0)	2012	0.305
294 [53]Bretagne (FRH0)	2013	0.279
295 [53]Bretagne (FRH0)	2014	0.285
296 [53]Bretagne (FRH0)	2015	0.295
297 [53]Bretagne (FRH0)	2016	0.294
298 [53]Bretagne (FRH0)	2017	0.304
299 [53]Bretagne (FRH0)	2018	0.312
300 [54]Poitou-Charentes (FRI3)	1996	0.312
301 [54]Poitou-Charentes (FRI3)	1997	0.310
302 [54]Poitou-Charentes (FRI3)	1998	0.292
303 [54]Poitou-Charentes (FRI3)	1999	0.304
304 [54]Poitou-Charentes (FRI3)	2000	0.306
305 [54]Poitou-Charentes (FRI3)	2001	0.306
306 [54]Poitou-Charentes (FRI3)	2002	0.314
307 [54]Poitou-Charentes (FRI3)	2003	0.330
308 [54]Poitou-Charentes (FRI3)	2004	0.303
309 [54]Poitou-Charentes (FRI3)	2005	0.315
310 [54]Poitou-Charentes (FRI3)	2006	0.315
311 [54]Poitou-Charentes (FRI3)	2007	0.317
312 [54]Poitou-Charentes (FRI3)	2008	0.311
313 [54]Poitou-Charentes (FRI3)	2009	0.352
314 [54]Poitou-Charentes (FRI3)	2010	0.299
315 [54]Poitou-Charentes (FRI3)	2011	0.302
316 [54]Poitou-Charentes (FRI3)	2012	0.281
317 [54]Poitou-Charentes (FRI3)	2013	0.282
318 [54]Poitou-Charentes (FRI3)	2014	0.294
319 [54]Poitou-Charentes (FRI3)	2015	0.292
320 [54]Poitou-Charentes (FRI3)	2016	0.295
321 [54]Poitou-Charentes (FRI3)	2017	0.286
322 [54]Poitou-Charentes (FRI3)	2018	0.288
323 [72]Aquitaine (FRI1)	1996	0.311
324 [72]Aquitaine (FRI1)	1997	0.312
325 [72]Aquitaine (FRI1)	1998	0.314
326 [72]Aquitaine (FRI1)	1999	0.304
327 [72]Aquitaine (FRI1)	2000	0.298
328 [72]Aquitaine (FRI1)	2001	0.295
329 [72]Aquitaine (FRI1)	2002	0.328
330 [72]Aquitaine (FRI1)	2003	0.329
331 [72]Aquitaine (FRI1)	2004	0.318
332 [72]Aquitaine (FRI1)	2005	0.318
333 [72]Aquitaine (FRI1)	2006	0.300
334 [72]Aquitaine (FRI1)	2007	0.305
335 [72]Aquitaine (FRI1)	2008	0.339
336 [72]Aquitaine (FRI1)	2009	0.329
337 [72]Aquitaine (FRI1)	2010	0.320
338 [72]Aquitaine (FRI1)	2011	0.320
339 [72]Aquitaine (FRI1)	2012	0.325
340 [72]Aquitaine (FRI1)	2013	0.306
341 [72]Aquitaine (FRI1)	2014	0.316
342 [72]Aquitaine (FRI1)	2015	0.320
343 [72]Aquitaine (FRI1)	2016	0.307

344	[72]Aquitaine (FRI1)	2017	0.294	
345	[72]Aquitaine (FRI1)	2018	0.320	
346	[73]Midi-Pyr&#x00E9;n&#x00E9;es (FRJ2)		1996	0.313
347	[73]Midi-Pyr&#x00E9;n&#x00E9;es (FRJ2)		1997	0.351
348	[73]Midi-Pyr&#x00E9;n&#x00E9;es (FRJ2)		1998	0.323
349	[73]Midi-Pyr&#x00E9;n&#x00E9;es (FRJ2)		1999	0.315
350	[73]Midi-Pyr&#x00E9;n&#x00E9;es (FRJ2)		2000	0.310
351	[73]Midi-Pyr&#x00E9;n&#x00E9;es (FRJ2)		2001	0.311
352	[73]Midi-Pyr&#x00E9;n&#x00E9;es (FRJ2)		2002	0.287
353	[73]Midi-Pyr&#x00E9;n&#x00E9;es (FRJ2)		2003	0.310
354	[73]Midi-Pyr&#x00E9;n&#x00E9;es (FRJ2)		2004	0.321
355	[73]Midi-Pyr&#x00E9;n&#x00E9;es (FRJ2)		2005	0.304
356	[73]Midi-Pyr&#x00E9;n&#x00E9;es (FRJ2)		2006	0.331
357	[73]Midi-Pyr&#x00E9;n&#x00E9;es (FRJ2)		2007	0.337
358	[73]Midi-Pyr&#x00E9;n&#x00E9;es (FRJ2)		2008	0.328
359	[73]Midi-Pyr&#x00E9;n&#x00E9;es (FRJ2)		2009	0.345
360	[73]Midi-Pyr&#x00E9;n&#x00E9;es (FRJ2)		2010	0.313
361	[73]Midi-Pyr&#x00E9;n&#x00E9;es (FRJ2)		2011	0.315
362	[73]Midi-Pyr&#x00E9;n&#x00E9;es (FRJ2)		2012	0.330
363	[73]Midi-Pyr&#x00E9;n&#x00E9;es (FRJ2)		2013	0.324
364	[73]Midi-Pyr&#x00E9;n&#x00E9;es (FRJ2)		2014	0.355
365	[73]Midi-Pyr&#x00E9;n&#x00E9;es (FRJ2)		2015	0.349
366	[73]Midi-Pyr&#x00E9;n&#x00E9;es (FRJ2)		2016	0.308
367	[73]Midi-Pyr&#x00E9;n&#x00E9;es (FRJ2)		2017	0.325
368	[73]Midi-Pyr&#x00E9;n&#x00E9;es (FRJ2)		2018	0.318
369	[74]Limousin (FRI2)	1996	0.290	
370	[74]Limousin (FRI2)	1997	0.301	
371	[74]Limousin (FRI2)	1998	0.306	
372	[74]Limousin (FRI2)	1999	0.311	
373	[74]Limousin (FRI2)	2000	0.308	
374	[74]Limousin (FRI2)	2001	0.301	
375	[74]Limousin (FRI2)	2002	0.292	
376	[74]Limousin (FRI2)	2003	0.310	
377	[74]Limousin (FRI2)	2004	0.310	
378	[74]Limousin (FRI2)	2005	0.336	
379	[74]Limousin (FRI2)	2006	0.335	
380	[74]Limousin (FRI2)	2007	0.318	
381	[74]Limousin (FRI2)	2008	0.293	
382	[74]Limousin (FRI2)	2009	0.313	
383	[74]Limousin (FRI2)	2010	0.325	
384	[74]Limousin (FRI2)	2011	0.295	
385	[74]Limousin (FRI2)	2012	0.327	
386	[74]Limousin (FRI2)	2013	0.276	
387	[74]Limousin (FRI2)	2014	0.295	
388	[74]Limousin (FRI2)	2015	0.300	
389	[74]Limousin (FRI2)	2016	0.292	
390	[74]Limousin (FRI2)	2017	0.290	
391	[74]Limousin (FRI2)	2018	0.289	
392	[82]Rh&#x00F4;ne-Alpes (FRK2)		1996	0.312
393	[82]Rh&#x00F4;ne-Alpes (FRK2)		1997	0.299
394	[82]Rh&#x00F4;ne-Alpes (FRK2)		1998	0.296
395	[82]Rh&#x00F4;ne-Alpes (FRK2)		1999	0.313
396	[82]Rh&#x00F4;ne-Alpes (FRK2)		2000	0.308
397	[82]Rh&#x00F4;ne-Alpes (FRK2)		2001	0.301
398	[82]Rh&#x00F4;ne-Alpes (FRK2)		2002	0.294
399	[82]Rh&#x00F4;ne-Alpes (FRK2)		2003	0.304
400	[82]Rh&#x00F4;ne-Alpes (FRK2)		2004	0.325

401	[82]Rh&#x00F4;ne-Alpes (FRK2)	2005	0.318
402	[82]Rh&#x00F4;ne-Alpes (FRK2)	2006	0.321
403	[82]Rh&#x00F4;ne-Alpes (FRK2)	2007	0.312
404	[82]Rh&#x00F4;ne-Alpes (FRK2)	2008	0.303
405	[82]Rh&#x00F4;ne-Alpes (FRK2)	2009	0.316
406	[82]Rh&#x00F4;ne-Alpes (FRK2)	2010	0.324
407	[82]Rh&#x00F4;ne-Alpes (FRK2)	2011	0.334
408	[82]Rh&#x00F4;ne-Alpes (FRK2)	2012	0.330
409	[82]Rh&#x00F4;ne-Alpes (FRK2)	2013	0.305
410	[82]Rh&#x00F4;ne-Alpes (FRK2)	2014	0.319
411	[82]Rh&#x00F4;ne-Alpes (FRK2)	2015	0.329
412	[82]Rh&#x00F4;ne-Alpes (FRK2)	2016	0.322
413	[82]Rh&#x00F4;ne-Alpes (FRK2)	2017	0.308
414	[82]Rh&#x00F4;ne-Alpes (FRK2)	2018	0.316
415	[83]Auvergne (FRK1)	1996	0.310
416	[83]Auvergne (FRK1)	1997	0.309
417	[83]Auvergne (FRK1)	1998	0.304
418	[83]Auvergne (FRK1)	1999	0.299
419	[83]Auvergne (FRK1)	2000	0.312
420	[83]Auvergne (FRK1)	2001	0.297
421	[83]Auvergne (FRK1)	2002	0.311
422	[83]Auvergne (FRK1)	2003	0.324
423	[83]Auvergne (FRK1)	2004	0.345
424	[83]Auvergne (FRK1)	2005	0.319
425	[83]Auvergne (FRK1)	2006	0.312
426	[83]Auvergne (FRK1)	2007	0.330
427	[83]Auvergne (FRK1)	2008	0.313
428	[83]Auvergne (FRK1)	2009	0.370
429	[83]Auvergne (FRK1)	2010	0.360
430	[83]Auvergne (FRK1)	2011	0.313
431	[83]Auvergne (FRK1)	2012	0.292
432	[83]Auvergne (FRK1)	2013	0.303
433	[83]Auvergne (FRK1)	2014	0.290
434	[83]Auvergne (FRK1)	2015	0.309
435	[83]Auvergne (FRK1)	2016	0.297
436	[83]Auvergne (FRK1)	2017	0.297
437	[83]Auvergne (FRK1)	2018	0.288
438	[91]Languedoc-Roussillon (FRJ1)	1996	0.319
439	[91]Languedoc-Roussillon (FRJ1)	1997	0.329
440	[91]Languedoc-Roussillon (FRJ1)	1998	0.329
441	[91]Languedoc-Roussillon (FRJ1)	1999	0.326
442	[91]Languedoc-Roussillon (FRJ1)	2000	0.325
443	[91]Languedoc-Roussillon (FRJ1)	2001	0.315
444	[91]Languedoc-Roussillon (FRJ1)	2002	0.312
445	[91]Languedoc-Roussillon (FRJ1)	2003	0.321
446	[91]Languedoc-Roussillon (FRJ1)	2004	0.317
447	[91]Languedoc-Roussillon (FRJ1)	2005	0.324
448	[91]Languedoc-Roussillon (FRJ1)	2006	0.335
449	[91]Languedoc-Roussillon (FRJ1)	2007	0.373
450	[91]Languedoc-Roussillon (FRJ1)	2008	0.324
451	[91]Languedoc-Roussillon (FRJ1)	2009	0.318
452	[91]Languedoc-Roussillon (FRJ1)	2010	0.326
453	[91]Languedoc-Roussillon (FRJ1)	2011	0.339
454	[91]Languedoc-Roussillon (FRJ1)	2012	0.352
455	[91]Languedoc-Roussillon (FRJ1)	2013	0.326
456	[91]Languedoc-Roussillon (FRJ1)	2014	0.338
457	[91]Languedoc-Roussillon (FRJ1)	2015	0.334

458	[91]Languedoc-Roussillon (FRJ1)	2016	0.322
459	[91]Languedoc-Roussillon (FRJ1)	2017	0.307
460	[91]Languedoc-Roussillon (FRJ1)	2018	0.336
461	[92]Provence-C&#x00F4;te d'Azur-Corse (FRL0 & FRM0)	1996	0.296
462	[92]Provence-C&#x00F4;te d'Azur-Corse (FRL0 & FRM0)	1997	0.299
463	[92]Provence-C&#x00F4;te d'Azur-Corse (FRL0 & FRM0)	1998	0.302
464	[92]Provence-C&#x00F4;te d'Azur-Corse (FRL0 & FRM0)	1999	0.310
465	[92]Provence-C&#x00F4;te d'Azur-Corse (FRL0 & FRM0)	2000	0.315
466	[92]Provence-C&#x00F4;te d'Azur-Corse (FRL0 & FRM0)	2001	0.302
467	[93]Provence-Alpes-C&#x00F4;te-d'Azur (FRL0)	2002	0.331
468	[93]Provence-Alpes-C&#x00F4;te-d'Azur (FRL0)	2003	0.324
469	[93]Provence-Alpes-C&#x00F4;te-d'Azur (FRL0)	2004	0.310
470	[93]Provence-Alpes-C&#x00F4;te-d'Azur (FRL0)	2005	0.312
471	[93]Provence-Alpes-C&#x00F4;te-d'Azur (FRL0)	2006	0.314
472	[93]Provence-Alpes-C&#x00F4;te-d'Azur (FRL0)	2007	0.339
473	[93]Provence-Alpes-C&#x00F4;te-d'Azur (FRL0)	2008	0.322
474	[93]Provence-Alpes-C&#x00F4;te-d'Azur (FRL0)	2009	0.322
475	[93]Provence-Alpes-C&#x00F4;te-d'Azur (FRL0)	2010	0.334
476	[93]Provence-Alpes-C&#x00F4;te-d'Azur (FRL0)	2011	0.343
477	[93]Provence-Alpes-C&#x00F4;te-d'Azur (FRL0)	2012	0.340
478	[93]Provence-Alpes-C&#x00F4;te-d'Azur (FRL0)	2013	0.327
479	[93]Provence-Alpes-C&#x00F4;te-d'Azur (FRL0)	2014	0.329
480	[93]Provence-Alpes-C&#x00F4;te-d'Azur (FRL0)	2015	0.343
481	[93]Provence-Alpes-C&#x00F4;te-d'Azur (FRL0)	2016	0.318
482	[93]Provence-Alpes-C&#x00F4;te-d'Azur (FRL0)	2017	0.326
483	[93]Provence-Alpes-C&#x00F4;te-d'Azur (FRL0)	2018	0.337
484	[94]Corse (FRM0)	2002	0.377
485	[94]Corse (FRM0)	2003	0.373
486	[94]Corse (FRM0)	2004	0.335
487	[94]Corse (FRM0)	2005	0.339
488	[94]Corse (FRM0)	2006	0.389
489	[94]Corse (FRM0)	2007	0.289
490	[94]Corse (FRM0)	2008	0.318
491	[94]Corse (FRM0)	2009	0.324
492	[94]Corse (FRM0)	2010	0.368
493	[94]Corse (FRM0)	2011	0.312
494	[94]Corse (FRM0)	2012	0.314
495	[94]Corse (FRM0)	2013	0.324
496	[94]Corse (FRM0)	2014	0.301
497	[94]Corse (FRM0)	2015	0.318
498	[94]Corse (FRM0)	2016	0.275
499	[94]Corse (FRM0)	2017	0.285
500	[94]Corse (FRM0)	2018	0.312
501	<NA>	1984	0.384
502	<NA>	1990	0.397

Warning message:

```
`tbl_df()` was deprecated in dplyr 1.0.0.
&#x2139; Please use `tibble::as_tibble()` instead.
>
> proc.time()
  user  system elapsed
42.929   1.239  51.420
```