

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")
#Education
df2<-df %>%
group_by(region_c, year,educ) %>%
summarize(avg_inc = weighted.mean(dhi,hwgt)) %>%
ungroup()
df2<-df2 %>%
pivot_wider(values_from = avg_inc,names_from = educ)%>%
mutate(ratio = (`[1]low` / `[3]high`))
print(tbl_df(df2), n=502)

```

listing

NOTICE TO USERS

Use of the data in the LUXEMBOURG INCOME STUDY DATABASE is governed by regulations which do not allow copying or further distribution of the survey microdata.

Anyone violating these regulations will lose all privileges to the databases and may be subject to prosecution under the law. In addition, any attempt to circumvent the LIS processing system or unauthorized entry into the LIS computing system will result in prosecution.

NOTICE TO USERS

[illegible]

Attaching package: `'janitor'`

The following objects are masked from `'package:stats'`:

chisq.test, fisher.test

```
> 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))
[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")

```

```

> #Education
> df2<-df %>%
+   group_by(region_c, year,educ) %>%
+   summarize(avg_inc = weighted.mean(dhi,hwgt)) %>%
+   ungroup()
`summarise()` has grouped output by 'region_c', 'year'. You can override using
the `.groups` argument.
> df2<-df2 %>%
+   pivot_wider(values_from = avg_inc,names_from = educ)%>%
+   mutate(ratio = (`[1]low` / `[3]high`))
> print(tbl_df(df2), n=502)
# A tibble: 502 × 7
  region_c      year [1]lo [2]me [3]hi ratio
  <chr>      <int> <dbl> <dbl> <dbl> <dbl>
1 [11]Ile-de-France (FR10) 1996 30186. 34500. 44088. 36703. 0.685
2 [11]Ile-de-France (FR10) 1997 29619. 33867. 43531. 37055. 0.680
3 [11]Ile-de-France (FR10) 1998 30111. 34707. 44525. 38268. 0.676
4 [11]Ile-de-France (FR10) 1999 31218. 35717. 46420. 40113. 0.673
5 [11]Ile-de-France (FR10) 2000 32108. 36664. 48079. 41283. 0.668
6 [11]Ile-de-France (FR10) 2001 33097. 37676. 51295. 43524. 0.645
7 [11]Ile-de-France (FR10) 2002 34289. 40047. 52667. 44624. 0.651
8 [11]Ile-de-France (FR10) 2003 34334. 41702. 51693. 44443. 0.664
9 [11]Ile-de-France (FR10) 2004 35789. 41944. 54497. 46195. 0.657
10 [11]Ile-de-France (FR10) 2005 36236. 43007. 56386. 49440. 0.643
11 [11]Ile-de-France (FR10) 2006 37350. 43181. 59477. 51536. 0.628
12 [11]Ile-de-France (FR10) 2007 38736. 45736. 57760. 50582. 0.671
13 [11]Ile-de-France (FR10) 2008 40109. 48024. 60414. 53160. 0.664
14 [11]Ile-de-France (FR10) 2009 40678. 47496. 61645. 54123. 0.660
15 [11]Ile-de-France (FR10) 2010 41007. 47419. 65507. 55078. 0.626
16 [11]Ile-de-France (FR10) 2011 41102. 50179. 68629. 56764. 0.599
17 [11]Ile-de-France (FR10) 2012 40672. 49607. 66569. 55960. 0.611
18 [11]Ile-de-France (FR10) 2013 42983. 47965. 62489. 51851. 0.688
19 [11]Ile-de-France (FR10) 2014 41162. 49584. 64253. 53492. 0.641
20 [11]Ile-de-France (FR10) 2015 41777. 46104. 64088. 53502. 0.652
21 [11]Ile-de-France (FR10) 2016 39811. 47336. 63500. 57095. 0.627
22 [11]Ile-de-France (FR10) 2017 41000. 47742. 66661. 57985. 0.615
23 [11]Ile-de-France (FR10) 2018 43963. 47885. 68843. 59219. 0.639
24 [21]Champagne-Ardenne (FRF2) 1996 22858. 27800. 38521. 28145. 0.593
25 [21]Champagne-Ardenne (FRF2) 1997 24177. 27811. 39477. 29185. 0.612
26 [21]Champagne-Ardenne (FRF2) 1998 25181. 29283. 38671. 29728. 0.651
27 [21]Champagne-Ardenne (FRF2) 1999 25038. 30297. 38564. 30487. 0.649
28 [21]Champagne-Ardenne (FRF2) 2000 25314. 31726. 39402. 31576. 0.642
29 [21]Champagne-Ardenne (FRF2) 2001 26638. 32504. 42852. 32085. 0.622
30 [21]Champagne-Ardenne (FRF2) 2002 27912. 34871. 47819. 34453. 0.584
31 [21]Champagne-Ardenne (FRF2) 2003 27211. 33087. 43554. 34447. 0.625
32 [21]Champagne-Ardenne (FRF2) 2004 27866. 32416. 44403. 34487. 0.628
33 [21]Champagne-Ardenne (FRF2) 2005 29605. 36050. 49514. 36263. 0.598
34 [21]Champagne-Ardenne (FRF2) 2006 30870. 37075. 48343. 39699. 0.639
35 [21]Champagne-Ardenne (FRF2) 2007 29960. 34443. 50104. 41985. 0.598
36 [21]Champagne-Ardenne (FRF2) 2008 32893. 36595. 49119. 37328. 0.670
37 [21]Champagne-Ardenne (FRF2) 2009 31487. 35876. 45936. 41399. 0.685
38 [21]Champagne-Ardenne (FRF2) 2010 30789. 38185. 48824. 41798. 0.631
39 [21]Champagne-Ardenne (FRF2) 2011 31572. 37444. 53896. 41942. 0.586
40 [21]Champagne-Ardenne (FRF2) 2012 30591. 36863. 52885. 40605. 0.578
41 [21]Champagne-Ardenne (FRF2) 2013 31377. 38192. 59224. 43708. 0.530
42 [21]Champagne-Ardenne (FRF2) 2014 31312. 36091. 51909. 40640. 0.603

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|----|------------------------------|------|--------|--------|--------|--------|-------|
| 43 | [21]Champagne-Ardenne (FRF2) | 2015 | 30881. | 35787. | 49065. | 39393. | 0.629 |
| 44 | [21]Champagne-Ardenne (FRF2) | 2016 | 31595. | 36333. | 48442. | 38439. | 0.652 |
| 45 | [21]Champagne-Ardenne (FRF2) | 2017 | 32149. | 38063. | 53216. | 41382. | 0.604 |
| 46 | [21]Champagne-Ardenne (FRF2) | 2018 | 33614. | 39390. | 57041. | 44183. | 0.589 |
| 47 | [22]Picardie (FRE2) | 1996 | 24328. | 27513. | 37461. | 30379. | 0.649 |
| 48 | [22]Picardie (FRE2) | 1997 | 24878. | 30531. | 38807. | 30273. | 0.641 |
| 49 | [22]Picardie (FRE2) | 1998 | 25592. | 30880. | 41348. | 29880. | 0.619 |
| 50 | [22]Picardie (FRE2) | 1999 | 26181. | 30499. | 42476. | 30106. | 0.616 |
| 51 | [22]Picardie (FRE2) | 2000 | 26880. | 32100. | 40957. | 30579. | 0.656 |
| 52 | [22]Picardie (FRE2) | 2001 | 27868. | 33520. | 42680. | 33254. | 0.653 |
| 53 | [22]Picardie (FRE2) | 2002 | 27933. | 34417. | 42630. | 34931. | 0.655 |
| 54 | [22]Picardie (FRE2) | 2003 | 27116. | 33902. | 46762. | 36660. | 0.580 |
| 55 | [22]Picardie (FRE2) | 2004 | 28078. | 36866. | 45543. | 38791. | 0.617 |
| 56 | [22]Picardie (FRE2) | 2005 | 28163. | 35060. | 45508. | 37790. | 0.619 |
| 57 | [22]Picardie (FRE2) | 2006 | 30541. | 36657. | 49468. | 36802. | 0.617 |
| 58 | [22]Picardie (FRE2) | 2007 | 31382. | 37485. | 50751. | 39001. | 0.618 |
| 59 | [22]Picardie (FRE2) | 2008 | 31537. | 39334. | 54083. | 44556. | 0.583 |
| 60 | [22]Picardie (FRE2) | 2009 | 31317. | 37595. | 47883. | 38771. | 0.654 |
| 61 | [22]Picardie (FRE2) | 2010 | 31670. | 40703. | 53215. | 41412. | 0.595 |
| 62 | [22]Picardie (FRE2) | 2011 | 33856. | 42606. | 55877. | 44598. | 0.606 |
| 63 | [22]Picardie (FRE2) | 2012 | 34077. | 40594. | 66512. | 46409. | 0.512 |
| 64 | [22]Picardie (FRE2) | 2013 | 33093. | 40111. | 57838. | 41377. | 0.572 |
| 65 | [22]Picardie (FRE2) | 2014 | 33337. | 40172. | 56519. | 42403. | 0.590 |
| 66 | [22]Picardie (FRE2) | 2015 | 33371. | 41200. | 57622. | 43075. | 0.579 |
| 67 | [22]Picardie (FRE2) | 2016 | 30892. | 37052. | 51057. | 41429. | 0.605 |
| 68 | [22]Picardie (FRE2) | 2017 | 34161. | 39548. | 53317. | 44621. | 0.641 |
| 69 | [22]Picardie (FRE2) | 2018 | 33502. | 40962. | 57446. | 48239. | 0.583 |
| 70 | [23]Haute-Normandie (FRD2) | 1996 | 24430. | 27541. | 39739. | 30115. | 0.615 |
| 71 | [23]Haute-Normandie (FRD2) | 1997 | 23815. | 29425. | 38958. | 30818. | 0.611 |
| 72 | [23]Haute-Normandie (FRD2) | 1998 | 24193. | 29786. | 39599. | 30351. | 0.611 |
| 73 | [23]Haute-Normandie (FRD2) | 1999 | 25674. | 30061. | 41965. | 32381. | 0.612 |
| 74 | [23]Haute-Normandie (FRD2) | 2000 | 26725. | 32016. | 47306. | 35373. | 0.565 |
| 75 | [23]Haute-Normandie (FRD2) | 2001 | 27956. | 34212. | 49559. | 36856. | 0.564 |
| 76 | [23]Haute-Normandie (FRD2) | 2002 | 29363. | 33389. | 44246. | 36249. | 0.664 |
| 77 | [23]Haute-Normandie (FRD2) | 2003 | 29565. | 35931. | 45048. | 37737. | 0.656 |
| 78 | [23]Haute-Normandie (FRD2) | 2004 | 30400. | 36138. | 44855. | 36560. | 0.678 |
| 79 | [23]Haute-Normandie (FRD2) | 2005 | 30279. | 37936. | 47372. | 37970. | 0.639 |
| 80 | [23]Haute-Normandie (FRD2) | 2006 | 30772. | 36407. | 42508. | 36321. | 0.724 |
| 81 | [23]Haute-Normandie (FRD2) | 2007 | 33200. | 36829. | 51241. | 42161. | 0.648 |
| 82 | [23]Haute-Normandie (FRD2) | 2008 | 35467. | 38900. | 50651. | 43873. | 0.700 |
| 83 | [23]Haute-Normandie (FRD2) | 2009 | 32486. | 37088. | 50864. | 42368. | 0.639 |
| 84 | [23]Haute-Normandie (FRD2) | 2010 | 32683. | 39073. | 52656. | 42232. | 0.621 |
| 85 | [23]Haute-Normandie (FRD2) | 2011 | 31687. | 39968. | 55021. | 44172. | 0.576 |
| 86 | [23]Haute-Normandie (FRD2) | 2012 | 31285. | 38432. | 52831. | 39985. | 0.592 |
| 87 | [23]Haute-Normandie (FRD2) | 2013 | 33158. | 40232. | 57690. | 43373. | 0.575 |
| 88 | [23]Haute-Normandie (FRD2) | 2014 | 32848. | 38432. | 52383. | 41058. | 0.627 |
| 89 | [23]Haute-Normandie (FRD2) | 2015 | 31803. | 38112. | 51239. | 41462. | 0.621 |
| 90 | [23]Haute-Normandie (FRD2) | 2016 | 31140. | 39165. | 55342. | 42533. | 0.563 |
| 91 | [23]Haute-Normandie (FRD2) | 2017 | 32877. | 40397. | 54617. | 42798. | 0.602 |
| 92 | [23]Haute-Normandie (FRD2) | 2018 | 30463. | 37962. | 50876. | 40604. | 0.599 |
| 93 | [24]Centre (FRB0) | 1996 | 23489. | 29058. | 38486. | 30061. | 0.610 |
| 94 | [24]Centre (FRB0) | 1997 | 24269. | 28948. | 38540. | 30550. | 0.630 |
| 95 | [24]Centre (FRB0) | 1998 | 24875. | 28987. | 37106. | 31162. | 0.670 |
| 96 | [24]Centre (FRB0) | 1999 | 25044. | 29654. | 40492. | 31064. | 0.618 |
| 97 | [24]Centre (FRB0) | 2000 | 26350. | 30650. | 39799. | 32378. | 0.662 |
| 98 | [24]Centre (FRB0) | 2001 | 26787. | 31109. | 40366. | 32656. | 0.664 |
| 99 | [24]Centre (FRB0) | 2002 | 30330. | 36007. | 48813. | 36960. | 0.621 |

| | | | | | | | |
|-----|----------------------------|------|--------|--------|--------|--------|-------|
| 100 | [24]Centre (FRB0) | 2003 | 30320. | 35691. | 50416. | 37945. | 0.601 |
| 101 | [24]Centre (FRB0) | 2004 | 30664. | 35565. | 46471. | 40465. | 0.660 |
| 102 | [24]Centre (FRB0) | 2005 | 29864. | 36376. | 45207. | 38694. | 0.661 |
| 103 | [24]Centre (FRB0) | 2006 | 32779. | 37697. | 48567. | 38645. | 0.675 |
| 104 | [24]Centre (FRB0) | 2007 | 31960. | 38242. | 51087. | 41274. | 0.626 |
| 105 | [24]Centre (FRB0) | 2008 | 34168. | 42267. | 56841. | 45119. | 0.601 |
| 106 | [24]Centre (FRB0) | 2009 | 34376. | 41680. | 58689. | 46828. | 0.586 |
| 107 | [24]Centre (FRB0) | 2010 | 33021. | 38609. | 49427. | 42851. | 0.668 |
| 108 | [24]Centre (FRB0) | 2011 | 32943. | 38780. | 54784. | 44453. | 0.601 |
| 109 | [24]Centre (FRB0) | 2012 | 33644. | 39279. | 54037. | 44684. | 0.623 |
| 110 | [24]Centre (FRB0) | 2013 | 31536. | 39365. | 55021. | 44595. | 0.573 |
| 111 | [24]Centre (FRB0) | 2014 | 33983. | 39314. | 58340. | 43072. | 0.583 |
| 112 | [24]Centre (FRB0) | 2015 | 34313. | 40083. | 59206. | 46038. | 0.580 |
| 113 | [24]Centre (FRB0) | 2016 | 33231. | 38482. | 53783. | 42340. | 0.618 |
| 114 | [24]Centre (FRB0) | 2017 | 33580. | 40160. | 53449. | 46297. | 0.628 |
| 115 | [24]Centre (FRB0) | 2018 | 34037. | 42176. | 52733. | 49526. | 0.645 |
| 116 | [25]Basse-Normandie (FRD1) | 1996 | 25202. | 29349. | 38621. | 28671. | 0.653 |
| 117 | [25]Basse-Normandie (FRD1) | 1997 | 23981. | 28344. | 37487. | 29326. | 0.640 |
| 118 | [25]Basse-Normandie (FRD1) | 1998 | 24657. | 30195. | 39897. | 30820. | 0.618 |
| 119 | [25]Basse-Normandie (FRD1) | 1999 | 24915. | 29746. | 41184. | 30703. | 0.605 |
| 120 | [25]Basse-Normandie (FRD1) | 2000 | 24658. | 30315. | 38495. | 32018. | 0.641 |
| 121 | [25]Basse-Normandie (FRD1) | 2001 | 25842. | 31634. | 39790. | 32458. | 0.649 |
| 122 | [25]Basse-Normandie (FRD1) | 2002 | 26818. | 35140. | 42993. | 35229. | 0.624 |
| 123 | [25]Basse-Normandie (FRD1) | 2003 | 27240. | 31422. | 41189. | 33718. | 0.661 |
| 124 | [25]Basse-Normandie (FRD1) | 2004 | 28124. | 33765. | 42745. | 35050. | 0.658 |
| 125 | [25]Basse-Normandie (FRD1) | 2005 | 29002. | 33374. | 45321. | 36958. | 0.640 |
| 126 | [25]Basse-Normandie (FRD1) | 2006 | 30451. | 36418. | 46986. | 40563. | 0.648 |
| 127 | [25]Basse-Normandie (FRD1) | 2007 | 29843. | 37573. | 48980. | 39358. | 0.609 |
| 128 | [25]Basse-Normandie (FRD1) | 2008 | 30610. | 37346. | 48066. | 42266. | 0.637 |
| 129 | [25]Basse-Normandie (FRD1) | 2009 | 29868. | 36194. | 48386. | 39978. | 0.617 |
| 130 | [25]Basse-Normandie (FRD1) | 2010 | 30421. | 35907. | 51517. | 41063. | 0.591 |
| 131 | [25]Basse-Normandie (FRD1) | 2011 | 30056. | 35704. | 50722. | 44899. | 0.593 |
| 132 | [25]Basse-Normandie (FRD1) | 2012 | 32183. | 38851. | 53872. | 45206. | 0.597 |
| 133 | [25]Basse-Normandie (FRD1) | 2013 | 30221. | 37020. | 47263. | 40804. | 0.639 |
| 134 | [25]Basse-Normandie (FRD1) | 2014 | 30359. | 37050. | 52842. | 42690. | 0.575 |
| 135 | [25]Basse-Normandie (FRD1) | 2015 | 31813. | 36976. | 52513. | 43935. | 0.606 |
| 136 | [25]Basse-Normandie (FRD1) | 2016 | 32348. | 38172. | 59324. | 43360. | 0.545 |
| 137 | [25]Basse-Normandie (FRD1) | 2017 | 32389. | 38907. | 54009. | 44311. | 0.600 |
| 138 | [25]Basse-Normandie (FRD1) | 2018 | 31472. | 39219. | 48958. | 43267. | 0.643 |
| 139 | [26]Bourgogne (FRC1) | 1996 | 23778. | 26371. | 36193. | 27843. | 0.657 |
| 140 | [26]Bourgogne (FRC1) | 1997 | 24409. | 28742. | 36894. | 29927. | 0.662 |
| 141 | [26]Bourgogne (FRC1) | 1998 | 24900. | 29340. | 38163. | 31376. | 0.652 |
| 142 | [26]Bourgogne (FRC1) | 1999 | 25295. | 28417. | 39928. | 31548. | 0.634 |
| 143 | [26]Bourgogne (FRC1) | 2000 | 25136. | 29984. | 41726. | 31853. | 0.602 |
| 144 | [26]Bourgogne (FRC1) | 2001 | 25634. | 31051. | 41536. | 32785. | 0.617 |
| 145 | [26]Bourgogne (FRC1) | 2002 | 27314. | 33287. | 43193. | 39348. | 0.632 |
| 146 | [26]Bourgogne (FRC1) | 2003 | 28331. | 34771. | 49804. | 37839. | 0.569 |
| 147 | [26]Bourgogne (FRC1) | 2004 | 27115. | 31830. | 43151. | 33678. | 0.628 |
| 148 | [26]Bourgogne (FRC1) | 2005 | 27935. | 34205. | 45318. | 36290. | 0.616 |
| 149 | [26]Bourgogne (FRC1) | 2006 | 28565. | 35971. | 47381. | 36085. | 0.603 |
| 150 | [26]Bourgogne (FRC1) | 2007 | 29552. | 36345. | 46790. | 36649. | 0.632 |
| 151 | [26]Bourgogne (FRC1) | 2008 | 31482. | 39144. | 51692. | 41003. | 0.609 |
| 152 | [26]Bourgogne (FRC1) | 2009 | 31203. | 37561. | 50231. | 39826. | 0.621 |
| 153 | [26]Bourgogne (FRC1) | 2010 | 32578. | 37608. | 50148. | 41435. | 0.650 |
| 154 | [26]Bourgogne (FRC1) | 2011 | 30982. | 36390. | 45505. | 42993. | 0.681 |
| 155 | [26]Bourgogne (FRC1) | 2012 | 33047. | 37859. | 53289. | 44466. | 0.620 |
| 156 | [26]Bourgogne (FRC1) | 2013 | 31826. | 36821. | 47449. | 42438. | 0.671 |

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|-----|-------------------------------|------|--------|--------|--------|--------|-------|
| 157 | [26]Bourgogne (FRCl) | 2014 | 31705. | 36851. | 50303. | 43005. | 0.630 |
| 158 | [26]Bourgogne (FRCl) | 2015 | 34431. | 37898. | 50040. | 43650. | 0.688 |
| 159 | [26]Bourgogne (FRCl) | 2016 | 31980. | 36769. | 50447. | 43904. | 0.634 |
| 160 | [26]Bourgogne (FRCl) | 2017 | 30239. | 36308. | 50995. | 43011. | 0.593 |
| 161 | [26]Bourgogne (FRCl) | 2018 | 33360. | 37555. | 55184. | 45957. | 0.605 |
| 162 | [31]Nord-Pas de Calais (FRE1) | 1996 | 23970. | 27000. | 36997. | 26466. | 0.648 |
| 163 | [31]Nord-Pas de Calais (FRE1) | 1997 | 23567. | 27040. | 41182. | 28218. | 0.572 |
| 164 | [31]Nord-Pas de Calais (FRE1) | 1998 | 23696. | 28481. | 40904. | 28843. | 0.579 |
| 165 | [31]Nord-Pas de Calais (FRE1) | 1999 | 24084. | 28384. | 40019. | 28625. | 0.602 |
| 166 | [31]Nord-Pas de Calais (FRE1) | 2000 | 24547. | 29011. | 43109. | 30314. | 0.569 |
| 167 | [31]Nord-Pas de Calais (FRE1) | 2001 | 25772. | 29831. | 45670. | 31364. | 0.564 |
| 168 | [31]Nord-Pas de Calais (FRE1) | 2002 | 26602. | 32777. | 44367. | 34115. | 0.600 |
| 169 | [31]Nord-Pas de Calais (FRE1) | 2003 | 26588. | 31825. | 44511. | 33976. | 0.597 |
| 170 | [31]Nord-Pas de Calais (FRE1) | 2004 | 26902. | 32101. | 45408. | 33816. | 0.592 |
| 171 | [31]Nord-Pas de Calais (FRE1) | 2005 | 27605. | 33797. | 49382. | 35921. | 0.559 |
| 172 | [31]Nord-Pas de Calais (FRE1) | 2006 | 27905. | 34704. | 47941. | 35076. | 0.582 |
| 173 | [31]Nord-Pas de Calais (FRE1) | 2007 | 28727. | 34503. | 47049. | 38240. | 0.611 |
| 174 | [31]Nord-Pas de Calais (FRE1) | 2008 | 28761. | 34675. | 50434. | 39994. | 0.570 |
| 175 | [31]Nord-Pas de Calais (FRE1) | 2009 | 30273. | 34057. | 54047. | 43661. | 0.560 |
| 176 | [31]Nord-Pas de Calais (FRE1) | 2010 | 30532. | 36887. | 54592. | 42269. | 0.559 |
| 177 | [31]Nord-Pas de Calais (FRE1) | 2011 | 30059. | 37323. | 51758. | 41561. | 0.581 |
| 178 | [31]Nord-Pas de Calais (FRE1) | 2012 | 30160. | 37554. | 51720. | 39995. | 0.583 |
| 179 | [31]Nord-Pas de Calais (FRE1) | 2013 | 29826. | 37222. | 52648. | 40547. | 0.567 |
| 180 | [31]Nord-Pas de Calais (FRE1) | 2014 | 29699. | 35491. | 51951. | 40314. | 0.572 |
| 181 | [31]Nord-Pas de Calais (FRE1) | 2015 | 30666. | 36040. | 51671. | 40252. | 0.593 |
| 182 | [31]Nord-Pas de Calais (FRE1) | 2016 | 31074. | 35810. | 54046. | 42509. | 0.575 |
| 183 | [31]Nord-Pas de Calais (FRE1) | 2017 | 30680. | 35678. | 52019. | 42532. | 0.590 |
| 184 | [31]Nord-Pas de Calais (FRE1) | 2018 | 30503. | 36564. | 53739. | 43601. | 0.568 |
| 185 | [41]Lorraine (FRF3) | 1996 | 23576. | 27855. | 38377. | 32762. | 0.614 |
| 186 | [41]Lorraine (FRF3) | 1997 | 23813. | 27122. | 37931. | 30367. | 0.628 |
| 187 | [41]Lorraine (FRF3) | 1998 | 25292. | 29065. | 39605. | 30108. | 0.639 |
| 188 | [41]Lorraine (FRF3) | 1999 | 25723. | 30221. | 40570. | 31296. | 0.634 |
| 189 | [41]Lorraine (FRF3) | 2000 | 26352. | 31065. | 41466. | 32335. | 0.636 |
| 190 | [41]Lorraine (FRF3) | 2001 | 27192. | 31553. | 40033. | 31745. | 0.679 |
| 191 | [41]Lorraine (FRF3) | 2002 | 27224. | 32118. | 43492. | 34285. | 0.626 |
| 192 | [41]Lorraine (FRF3) | 2003 | 26863. | 32356. | 39559. | 32827. | 0.679 |
| 193 | [41]Lorraine (FRF3) | 2004 | 27261. | 32945. | 42103. | 37880. | 0.647 |
| 194 | [41]Lorraine (FRF3) | 2005 | 29106. | 35825. | 53708. | 42191. | 0.542 |
| 195 | [41]Lorraine (FRF3) | 2006 | 29707. | 36829. | 48055. | 39557. | 0.618 |
| 196 | [41]Lorraine (FRF3) | 2007 | 30491. | 34793. | 46577. | 37311. | 0.655 |
| 197 | [41]Lorraine (FRF3) | 2008 | 30212. | 37182. | 48368. | 41935. | 0.625 |
| 198 | [41]Lorraine (FRF3) | 2009 | 30363. | 36422. | 49720. | 40895. | 0.611 |
| 199 | [41]Lorraine (FRF3) | 2010 | 31238. | 39192. | 52215. | 41896. | 0.598 |
| 200 | [41]Lorraine (FRF3) | 2011 | 31742. | 39375. | 54485. | 39653. | 0.583 |
| 201 | [41]Lorraine (FRF3) | 2012 | 30208. | 38855. | 57098. | 39314. | 0.529 |
| 202 | [41]Lorraine (FRF3) | 2013 | 32037. | 40544. | 57545. | 39551. | 0.557 |
| 203 | [41]Lorraine (FRF3) | 2014 | 30509. | 38087. | 49979. | 41659. | 0.610 |
| 204 | [41]Lorraine (FRF3) | 2015 | 32999. | 38359. | 53775. | 44206. | 0.614 |
| 205 | [41]Lorraine (FRF3) | 2016 | 30607. | 37226. | 50257. | 43523. | 0.609 |
| 206 | [41]Lorraine (FRF3) | 2017 | 32174. | 38982. | 59106. | 45985. | 0.544 |
| 207 | [41]Lorraine (FRF3) | 2018 | 32229. | 36456. | 51257. | 41537. | 0.629 |
| 208 | [42]Alsace (FRF1) | 1996 | 24688. | 31147. | 39568. | 32245. | 0.624 |
| 209 | [42]Alsace (FRF1) | 1997 | 25663. | 31940. | 39185. | 32487. | 0.655 |
| 210 | [42]Alsace (FRF1) | 1998 | 27794. | 32406. | 37375. | 32922. | 0.744 |
| 211 | [42]Alsace (FRF1) | 1999 | 28272. | 33425. | 41717. | 34020. | 0.678 |
| 212 | [42]Alsace (FRF1) | 2000 | 29080. | 34577. | 43559. | 35143. | 0.668 |
| 213 | [42]Alsace (FRF1) | 2001 | 29853. | 35464. | 47162. | 36855. | 0.633 |

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|-----|---------------------------------|------|--------|--------|--------|--------|-------|
| 214 | [42]Alsace (FRF1) | 2002 | 30003. | 33804. | 45909. | 36799. | 0.654 |
| 215 | [42]Alsace (FRF1) | 2003 | 30079. | 35443. | 44570. | 39912. | 0.675 |
| 216 | [42]Alsace (FRF1) | 2004 | 31564. | 35716. | 45436. | 40597. | 0.695 |
| 217 | [42]Alsace (FRF1) | 2005 | 32663. | 38855. | 49161. | 44139. | 0.664 |
| 218 | [42]Alsace (FRF1) | 2006 | 34344. | 40183. | 52043. | 45487. | 0.660 |
| 219 | [42]Alsace (FRF1) | 2007 | 36458. | 42012. | 52326. | 46705. | 0.697 |
| 220 | [42]Alsace (FRF1) | 2008 | 34206. | 41812. | 53386. | 46862. | 0.641 |
| 221 | [42]Alsace (FRF1) | 2009 | 34127. | 41411. | 52624. | 45591. | 0.649 |
| 222 | [42]Alsace (FRF1) | 2010 | 37500. | 39334. | 58708. | 53379. | 0.639 |
| 223 | [42]Alsace (FRF1) | 2011 | 34930. | 42644. | 56171. | 45494. | 0.622 |
| 224 | [42]Alsace (FRF1) | 2012 | 36444. | 43975. | 55483. | 47399. | 0.657 |
| 225 | [42]Alsace (FRF1) | 2013 | 34945. | 43243. | 51704. | 47781. | 0.676 |
| 226 | [42]Alsace (FRF1) | 2014 | 34901. | 41716. | 51318. | 43545. | 0.680 |
| 227 | [42]Alsace (FRF1) | 2015 | 34108. | 42680. | 55518. | 50173. | 0.614 |
| 228 | [42]Alsace (FRF1) | 2016 | 35026. | 41423. | 53794. | 46472. | 0.651 |
| 229 | [42]Alsace (FRF1) | 2017 | 35883. | 41291. | 54305. | 45338. | 0.661 |
| 230 | [42]Alsace (FRF1) | 2018 | 34972. | 42650. | 55497. | 47328. | 0.630 |
| 231 | [43]Franche-Comté (FRC2) | 1996 | 23700. | 27246. | 33199. | 27602. | 0.714 |
| 232 | [43]Franche-Comté (FRC2) | 1997 | 24776. | 28156. | 35569. | 29362. | 0.697 |
| 233 | [43]Franche-Comté (FRC2) | 1998 | 24807. | 28538. | 36762. | 30326. | 0.675 |
| 234 | [43]Franche-Comté (FRC2) | 1999 | 25256. | 28267. | 36410. | 30980. | 0.694 |
| 235 | [43]Franche-Comté (FRC2) | 2000 | 25973. | 30070. | 36679. | 33350. | 0.708 |
| 236 | [43]Franche-Comté (FRC2) | 2001 | 26802. | 31658. | 40926. | 33690. | 0.655 |
| 237 | [43]Franche-Comté (FRC2) | 2002 | 28074. | 34469. | 43663. | 37057. | 0.643 |
| 238 | [43]Franche-Comté (FRC2) | 2003 | 27397. | 32939. | 42689. | 35662. | 0.642 |
| 239 | [43]Franche-Comté (FRC2) | 2004 | 26807. | 31557. | 38294. | 34011. | 0.700 |
| 240 | [43]Franche-Comté (FRC2) | 2005 | 26519. | 32513. | 39067. | 34046. | 0.679 |
| 241 | [43]Franche-Comté (FRC2) | 2006 | 27109. | 31388. | 40512. | 32651. | 0.669 |
| 242 | [43]Franche-Comté (FRC2) | 2007 | 28775. | 33729. | 43324. | 36637. | 0.664 |
| 243 | [43]Franche-Comté (FRC2) | 2008 | 31169. | 36681. | 51334. | 41806. | 0.607 |
| 244 | [43]Franche-Comté (FRC2) | 2009 | 29685. | 36188. | 48682. | 41081. | 0.610 |
| 245 | [43]Franche-Comté (FRC2) | 2010 | 30569. | 38370. | 52659. | 42977. | 0.581 |
| 246 | [43]Franche-Comté (FRC2) | 2011 | 31025. | 38238. | 50584. | 41213. | 0.613 |
| 247 | [43]Franche-Comté (FRC2) | 2012 | 32596. | 39593. | 52810. | 43456. | 0.617 |
| 248 | [43]Franche-Comté (FRC2) | 2013 | 32253. | 39073. | 53478. | 44461. | 0.603 |
| 249 | [43]Franche-Comté (FRC2) | 2014 | 33165. | 41591. | 53497. | 44377. | 0.620 |
| 250 | [43]Franche-Comté (FRC2) | 2015 | 33033. | 39804. | 51137. | 45466. | 0.646 |
| 251 | [43]Franche-Comté (FRC2) | 2016 | 35757. | 41499. | 55208. | 49496. | 0.648 |
| 252 | [43]Franche-Comté (FRC2) | 2017 | 35075. | 41724. | 53740. | 48280. | 0.653 |
| 253 | [43]Franche-Comté (FRC2) | 2018 | 34751. | 42044. | 55189. | 45414. | 0.630 |
| 254 | [52]Pays de la Loire (FRG0) | 1996 | 22875. | 26471. | 34069. | 29192. | 0.671 |
| 255 | [52]Pays de la Loire (FRG0) | 1997 | 23615. | 27585. | 38240. | 30532. | 0.618 |
| 256 | [52]Pays de la Loire (FRG0) | 1998 | 23797. | 28027. | 36282. | 30441. | 0.656 |
| 257 | [52]Pays de la Loire (FRG0) | 1999 | 24185. | 28162. | 36333. | 30246. | 0.666 |
| 258 | [52]Pays de la Loire (FRG0) | 2000 | 25437. | 29031. | 40622. | 32052. | 0.626 |
| 259 | [52]Pays de la Loire (FRG0) | 2001 | 25951. | 30996. | 41289. | 33547. | 0.629 |
| 260 | [52]Pays de la Loire (FRG0) | 2002 | 27207. | 33468. | 44485. | 37681. | 0.612 |
| 261 | [52]Pays de la Loire (FRG0) | 2003 | 28171. | 33074. | 44188. | 37317. | 0.638 |
| 262 | [52]Pays de la Loire (FRG0) | 2004 | 27863. | 33891. | 46655. | 38355. | 0.597 |
| 263 | [52]Pays de la Loire (FRG0) | 2005 | 28469. | 33980. | 46746. | 38876. | 0.609 |
| 264 | [52]Pays de la Loire (FRG0) | 2006 | 28840. | 35486. | 45749. | 39608. | 0.630 |
| 265 | [52]Pays de la Loire (FRG0) | 2007 | 30622. | 36716. | 46772. | 40496. | 0.655 |
| 266 | [52]Pays de la Loire (FRG0) | 2008 | 30506. | 36602. | 52039. | 42466. | 0.586 |
| 267 | [52]Pays de la Loire (FRG0) | 2009 | 30206. | 36152. | 54354. | 44309. | 0.556 |
| 268 | [52]Pays de la Loire (FRG0) | 2010 | 30855. | 35828. | 51292. | 44490. | 0.602 |
| 269 | [52]Pays de la Loire (FRG0) | 2011 | 31515. | 37259. | 52719. | 45697. | 0.598 |
| 270 | [52]Pays de la Loire (FRG0) | 2012 | 30878. | 37817. | 50946. | 44344. | 0.606 |

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|-----|-----------------------------|------|--------|--------|--------|--------|-------|
| 271 | [52]Pays de la Loire (FRG0) | 2013 | 30846. | 38062. | 51979. | 43677. | 0.593 |
| 272 | [52]Pays de la Loire (FRG0) | 2014 | 31319. | 39253. | 52106. | 47709. | 0.601 |
| 273 | [52]Pays de la Loire (FRG0) | 2015 | 32248. | 37856. | 51806. | 46075. | 0.622 |
| 274 | [52]Pays de la Loire (FRG0) | 2016 | 33456. | 38626. | 50767. | 45010. | 0.659 |
| 275 | [52]Pays de la Loire (FRG0) | 2017 | 32616. | 37929. | 51804. | 47077. | 0.630 |
| 276 | [52]Pays de la Loire (FRG0) | 2018 | 32822. | 40146. | 60843. | 52507. | 0.539 |
| 277 | [53]Bretagne (FRH0) | 1996 | 22840. | 27424. | 35738. | 30382. | 0.639 |
| 278 | [53]Bretagne (FRH0) | 1997 | 23892. | 28748. | 37864. | 32724. | 0.631 |
| 279 | [53]Bretagne (FRH0) | 1998 | 24652. | 29225. | 39208. | 32569. | 0.629 |
| 280 | [53]Bretagne (FRH0) | 1999 | 24790. | 29771. | 37197. | 33417. | 0.666 |
| 281 | [53]Bretagne (FRH0) | 2000 | 25742. | 30601. | 40719. | 35338. | 0.632 |
| 282 | [53]Bretagne (FRH0) | 2001 | 26265. | 31112. | 42030. | 36470. | 0.625 |
| 283 | [53]Bretagne (FRH0) | 2002 | 26846. | 32929. | 44056. | 40514. | 0.609 |
| 284 | [53]Bretagne (FRH0) | 2003 | 28346. | 33507. | 44829. | 41246. | 0.632 |
| 285 | [53]Bretagne (FRH0) | 2004 | 28454. | 33490. | 45220. | 40486. | 0.629 |
| 286 | [53]Bretagne (FRH0) | 2005 | 28658. | 33198. | 43001. | 38430. | 0.666 |
| 287 | [53]Bretagne (FRH0) | 2006 | 28823. | 33819. | 39953. | 39833. | 0.721 |
| 288 | [53]Bretagne (FRH0) | 2007 | 29722. | 34609. | 41691. | 41675. | 0.713 |
| 289 | [53]Bretagne (FRH0) | 2008 | 32193. | 36695. | 51997. | 44584. | 0.619 |
| 290 | [53]Bretagne (FRH0) | 2009 | 30443. | 37738. | 48998. | 44238. | 0.621 |
| 291 | [53]Bretagne (FRH0) | 2010 | 32489. | 38931. | 50943. | 44388. | 0.638 |
| 292 | [53]Bretagne (FRH0) | 2011 | 34566. | 39513. | 54911. | 47553. | 0.629 |
| 293 | [53]Bretagne (FRH0) | 2012 | 31857. | 39208. | 55664. | 50580. | 0.572 |
| 294 | [53]Bretagne (FRH0) | 2013 | 31802. | 37192. | 49282. | 49041. | 0.645 |
| 295 | [53]Bretagne (FRH0) | 2014 | 32916. | 37493. | 47646. | 45721. | 0.691 |
| 296 | [53]Bretagne (FRH0) | 2015 | 32958. | 37930. | 48965. | 44385. | 0.673 |
| 297 | [53]Bretagne (FRH0) | 2016 | 33132. | 37631. | 49099. | 46223. | 0.675 |
| 298 | [53]Bretagne (FRH0) | 2017 | 32177. | 37645. | 49744. | 48582. | 0.647 |
| 299 | [53]Bretagne (FRH0) | 2018 | 33606. | 38599. | 55747. | 48615. | 0.603 |
| 300 | [54]Poitou-Charentes (FRI3) | 1996 | 21693. | 24743. | 36819. | 28683. | 0.589 |
| 301 | [54]Poitou-Charentes (FRI3) | 1997 | 22423. | 26087. | 36560. | 30499. | 0.613 |
| 302 | [54]Poitou-Charentes (FRI3) | 1998 | 23124. | 27720. | 36075. | 30396. | 0.641 |
| 303 | [54]Poitou-Charentes (FRI3) | 1999 | 23747. | 27488. | 37038. | 31415. | 0.641 |
| 304 | [54]Poitou-Charentes (FRI3) | 2000 | 24700. | 28498. | 39447. | 32508. | 0.626 |
| 305 | [54]Poitou-Charentes (FRI3) | 2001 | 26046. | 30107. | 41337. | 32571. | 0.630 |
| 306 | [54]Poitou-Charentes (FRI3) | 2002 | 25869. | 30722. | 42108. | 30903. | 0.614 |
| 307 | [54]Poitou-Charentes (FRI3) | 2003 | 26165. | 32050. | 42512. | 33420. | 0.615 |
| 308 | [54]Poitou-Charentes (FRI3) | 2004 | 26377. | 32204. | 41652. | 34251. | 0.633 |
| 309 | [54]Poitou-Charentes (FRI3) | 2005 | 27381. | 31064. | 42952. | 38204. | 0.637 |
| 310 | [54]Poitou-Charentes (FRI3) | 2006 | 27782. | 33052. | 46538. | 35996. | 0.597 |
| 311 | [54]Poitou-Charentes (FRI3) | 2007 | 29784. | 37776. | 46695. | 39358. | 0.638 |
| 312 | [54]Poitou-Charentes (FRI3) | 2008 | 31570. | 37942. | 52290. | 40155. | 0.604 |
| 313 | [54]Poitou-Charentes (FRI3) | 2009 | 30407. | 37653. | 54238. | 41539. | 0.561 |
| 314 | [54]Poitou-Charentes (FRI3) | 2010 | 29788. | 36504. | 49360. | 39799. | 0.603 |
| 315 | [54]Poitou-Charentes (FRI3) | 2011 | 31311. | 36750. | 50233. | 40163. | 0.623 |
| 316 | [54]Poitou-Charentes (FRI3) | 2012 | 31600. | 37086. | 45532. | 41693. | 0.694 |
| 317 | [54]Poitou-Charentes (FRI3) | 2013 | 30349. | 35337. | 45080. | 38973. | 0.673 |
| 318 | [54]Poitou-Charentes (FRI3) | 2014 | 28391. | 34947. | 47595. | 39088. | 0.597 |
| 319 | [54]Poitou-Charentes (FRI3) | 2015 | 30401. | 36180. | 47732. | 40461. | 0.637 |
| 320 | [54]Poitou-Charentes (FRI3) | 2016 | 29040. | 36027. | 46754. | 41033. | 0.621 |
| 321 | [54]Poitou-Charentes (FRI3) | 2017 | 30943. | 37280. | 48470. | 42312. | 0.638 |
| 322 | [54]Poitou-Charentes (FRI3) | 2018 | 30877. | 37960. | 50470. | 44119. | 0.612 |
| 323 | [72]Aquitaine (FRI1) | 1996 | 24157. | 25781. | 37754. | 30485. | 0.640 |
| 324 | [72]Aquitaine (FRI1) | 1997 | 24566. | 27715. | 36737. | 30190. | 0.669 |
| 325 | [72]Aquitaine (FRI1) | 1998 | 24117. | 28752. | 39845. | 32394. | 0.605 |
| 326 | [72]Aquitaine (FRI1) | 1999 | 25370. | 29180. | 40318. | 31819. | 0.629 |
| 327 | [72]Aquitaine (FRI1) | 2000 | 26002. | 29291. | 39086. | 31841. | 0.665 |

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| 328 | [72]Aquitaine (FRI1) | 2001 | 27019. | 31012. | 40929. | 32928. | 0.660 |
| 329 | [72]Aquitaine (FRI1) | 2002 | 26489. | 32643. | 42741. | 37805. | 0.620 |
| 330 | [72]Aquitaine (FRI1) | 2003 | 27895. | 32077. | 45533. | 36855. | 0.613 |
| 331 | [72]Aquitaine (FRI1) | 2004 | 27288. | 32328. | 45199. | 35861. | 0.604 |
| 332 | [72]Aquitaine (FRI1) | 2005 | 28305. | 33047. | 44316. | 37643. | 0.639 |
| 333 | [72]Aquitaine (FRI1) | 2006 | 29652. | 34936. | 44664. | 36885. | 0.664 |
| 334 | [72]Aquitaine (FRI1) | 2007 | 31052. | 35846. | 46455. | 39050. | 0.668 |
| 335 | [72]Aquitaine (FRI1) | 2008 | 31162. | 38210. | 52869. | 42666. | 0.589 |
| 336 | [72]Aquitaine (FRI1) | 2009 | 31366. | 39300. | 52080. | 44625. | 0.602 |
| 337 | [72]Aquitaine (FRI1) | 2010 | 31864. | 38678. | 50188. | 46049. | 0.635 |
| 338 | [72]Aquitaine (FRI1) | 2011 | 32359. | 37193. | 51157. | 44381. | 0.633 |
| 339 | [72]Aquitaine (FRI1) | 2012 | 31599. | 37897. | 51905. | 43279. | 0.609 |
| 340 | [72]Aquitaine (FRI1) | 2013 | 32777. | 37976. | 50501. | 43648. | 0.649 |
| 341 | [72]Aquitaine (FRI1) | 2014 | 32338. | 36822. | 49084. | 44027. | 0.659 |
| 342 | [72]Aquitaine (FRI1) | 2015 | 31538. | 37484. | 50701. | 44510. | 0.622 |
| 343 | [72]Aquitaine (FRI1) | 2016 | 32488. | 36563. | 48931. | 44237. | 0.664 |
| 344 | [72]Aquitaine (FRI1) | 2017 | 32137. | 36867. | 50097. | 43611. | 0.641 |
| 345 | [72]Aquitaine (FRI1) | 2018 | 31951. | 36794. | 52677. | 45550. | 0.607 |
| 346 | [73]Midi-Pyrénées (FRJ2) | 1996 | 22608. | 26270. | 35677. | 30936. | 0.634 |
| 347 | [73]Midi-Pyrénées (FRJ2) | 1997 | 23519. | 27732. | 34366. | 29675. | 0.684 |
| 348 | [73]Midi-Pyrénées (FRJ2) | 1998 | 23543. | 27304. | 35723. | 30785. | 0.659 |
| 349 | [73]Midi-Pyrénées (FRJ2) | 1999 | 25318. | 28376. | 37404. | 29813. | 0.677 |
| 350 | [73]Midi-Pyrénées (FRJ2) | 2000 | 25437. | 28874. | 38274. | 31901. | 0.665 |
| 351 | [73]Midi-Pyrénées (FRJ2) | 2001 | 26047. | 30020. | 38173. | 34127. | 0.682 |
| 352 | [73]Midi-Pyrénées (FRJ2) | 2002 | 26030. | 30961. | 39299. | 34306. | 0.662 |
| 353 | [73]Midi-Pyrénées (FRJ2) | 2003 | 26247. | 29794. | 37416. | 34529. | 0.701 |
| 354 | [73]Midi-Pyrénées (FRJ2) | 2004 | 27643. | 30132. | 40720. | 36002. | 0.679 |
| 355 | [73]Midi-Pyrénées (FRJ2) | 2005 | 28431. | 32103. | 40547. | 39292. | 0.701 |
| 356 | [73]Midi-Pyrénées (FRJ2) | 2006 | 28043. | 32594. | 42177. | 40431. | 0.665 |
| 357 | [73]Midi-Pyrénées (FRJ2) | 2007 | 29385. | 35534. | 48342. | 46278. | 0.608 |
| 358 | [73]Midi-Pyrénées (FRJ2) | 2008 | 33843. | 38614. | 47914. | 48666. | 0.706 |
| 359 | [73]Midi-Pyrénées (FRJ2) | 2009 | 30528. | 33255. | 46268. | 40084. | 0.660 |
| 360 | [73]Midi-Pyrénées (FRJ2) | 2010 | 31324. | 36206. | 47332. | 42433. | 0.662 |
| 361 | [73]Midi-Pyrénées (FRJ2) | 2011 | 29855. | 36706. | 50018. | 45026. | 0.597 |
| 362 | [73]Midi-Pyrénées (FRJ2) | 2012 | 31888. | 38535. | 50897. | 44332. | 0.627 |
| 363 | [73]Midi-Pyrénées (FRJ2) | 2013 | 31846. | 37349. | 49690. | 45173. | 0.641 |
| 364 | [73]Midi-Pyrénées (FRJ2) | 2014 | 32006. | 36783. | 50715. | 50003. | 0.631 |
| 365 | [73]Midi-Pyrénées (FRJ2) | 2015 | 33583. | 38095. | 57003. | 51196. | 0.589 |
| 366 | [73]Midi-Pyrénées (FRJ2) | 2016 | 33667. | 35833. | 51783. | 47894. | 0.650 |
| 367 | [73]Midi-Pyrénées (FRJ2) | 2017 | 34460. | 37293. | 50203. | 49630. | 0.686 |
| 368 | [73]Midi-Pyrénées (FRJ2) | 2018 | 31997. | 37003. | 50597. | 48408. | 0.632 |
| 369 | [74]Limousin (FRI2) | 1996 | 22998. | 27532. | 38496. | 31563. | 0.597 |
| 370 | [74]Limousin (FRI2) | 1997 | 22758. | 26501. | 36210. | 30064. | 0.628 |
| 371 | [74]Limousin (FRI2) | 1998 | 22965. | 26632. | 36217. | 29699. | 0.634 |
| 372 | [74]Limousin (FRI2) | 1999 | 22766. | 27501. | 38009. | 29243. | 0.599 |
| 373 | [74]Limousin (FRI2) | 2000 | 24340. | 28561. | 39812. | 30129. | 0.611 |
| 374 | [74]Limousin (FRI2) | 2001 | 24462. | 29244. | 39946. | 30297. | 0.612 |
| 375 | [74]Limousin (FRI2) | 2002 | 24494. | 30885. | 42063. | 31924. | 0.582 |
| 376 | [74]Limousin (FRI2) | 2003 | 24437. | 31138. | 43488. | 31580. | 0.562 |
| 377 | [74]Limousin (FRI2) | 2004 | 25138. | 32011. | 42132. | 35576. | 0.597 |
| 378 | [74]Limousin (FRI2) | 2005 | 27900. | 32650. | 44626. | 42298. | 0.625 |
| 379 | [74]Limousin (FRI2) | 2006 | 28500. | 33176. | 46634. | 39924. | 0.611 |
| 380 | [74]Limousin (FRI2) | 2007 | 26754. | 34433. | 46649. | 35187. | 0.574 |
| 381 | [74]Limousin (FRI2) | 2008 | 28712. | 32901. | 39328. | 37968. | 0.730 |
| 382 | [74]Limousin (FRI2) | 2009 | 28999. | 33893. | 42691. | 37822. | 0.679 |
| 383 | [74]Limousin (FRI2) | 2010 | 28546. | 33044. | 46911. | 42108. | 0.609 |
| 384 | [74]Limousin (FRI2) | 2011 | 28998. | 34088. | 43737. | 41260. | 0.663 |

| | | | | | | | |
|-----|---------------------------------|------|--------|--------|--------|--------|-------|
| 385 | [74]Limousin (FRI2) | 2012 | 31638. | 36718. | 54141. | 45373. | 0.584 |
| 386 | [74]Limousin (FRI2) | 2013 | 29445. | 39482. | 47282. | 39325. | 0.623 |
| 387 | [74]Limousin (FRI2) | 2014 | 28978. | 35652. | 48022. | 42562. | 0.603 |
| 388 | [74]Limousin (FRI2) | 2015 | 29778. | 36206. | 48410. | 41735. | 0.615 |
| 389 | [74]Limousin (FRI2) | 2016 | 31682. | 37261. | 51446. | 43525. | 0.616 |
| 390 | [74]Limousin (FRI2) | 2017 | 29963. | 37327. | 48736. | 40808. | 0.615 |
| 391 | [74]Limousin (FRI2) | 2018 | 29668. | 35500. | 47734. | 40454. | 0.622 |
| 392 | [82]Rhône-Alpes (FRK2) | 1996 | 25296. | 29502. | 39307. | 32621. | 0.644 |
| 393 | [82]Rhône-Alpes (FRK2) | 1997 | 25295. | 29276. | 39082. | 31797. | 0.647 |
| 394 | [82]Rhône-Alpes (FRK2) | 1998 | 26511. | 30592. | 40707. | 33004. | 0.651 |
| 395 | [82]Rhône-Alpes (FRK2) | 1999 | 27067. | 30934. | 41462. | 33846. | 0.653 |
| 396 | [82]Rhône-Alpes (FRK2) | 2000 | 27730. | 32282. | 43520. | 34893. | 0.637 |
| 397 | [82]Rhône-Alpes (FRK2) | 2001 | 28939. | 33330. | 44115. | 36245. | 0.656 |
| 398 | [82]Rhône-Alpes (FRK2) | 2002 | 28011. | 33470. | 42809. | 35637. | 0.654 |
| 399 | [82]Rhône-Alpes (FRK2) | 2003 | 29036. | 34517. | 46150. | 37683. | 0.629 |
| 400 | [82]Rhône-Alpes (FRK2) | 2004 | 29338. | 35806. | 47496. | 38757. | 0.618 |
| 401 | [82]Rhône-Alpes (FRK2) | 2005 | 29910. | 35171. | 45785. | 37081. | 0.653 |
| 402 | [82]Rhône-Alpes (FRK2) | 2006 | 31308. | 39010. | 47213. | 41879. | 0.663 |
| 403 | [82]Rhône-Alpes (FRK2) | 2007 | 32891. | 39540. | 48847. | 43304. | 0.673 |
| 404 | [82]Rhône-Alpes (FRK2) | 2008 | 32708. | 38922. | 48598. | 43585. | 0.673 |
| 405 | [82]Rhône-Alpes (FRK2) | 2009 | 32653. | 39998. | 49710. | 43916. | 0.657 |
| 406 | [82]Rhône-Alpes (FRK2) | 2010 | 32202. | 39557. | 51750. | 45489. | 0.622 |
| 407 | [82]Rhône-Alpes (FRK2) | 2011 | 34598. | 41692. | 54803. | 48437. | 0.631 |
| 408 | [82]Rhône-Alpes (FRK2) | 2012 | 34723. | 40140. | 56154. | 48100. | 0.618 |
| 409 | [82]Rhône-Alpes (FRK2) | 2013 | 35006. | 41533. | 53987. | 48440. | 0.648 |
| 410 | [82]Rhône-Alpes (FRK2) | 2014 | 34287. | 41704. | 55694. | 49448. | 0.616 |
| 411 | [82]Rhône-Alpes (FRK2) | 2015 | 34788. | 40286. | 56631. | 47972. | 0.614 |
| 412 | [82]Rhône-Alpes (FRK2) | 2016 | 36792. | 42598. | 56571. | 49996. | 0.650 |
| 413 | [82]Rhône-Alpes (FRK2) | 2017 | 37285. | 41755. | 55305. | 49099. | 0.674 |
| 414 | [82]Rhône-Alpes (FRK2) | 2018 | 35111. | 41810. | 56534. | 50055. | 0.621 |
| 415 | [83]Auvergne (FRK1) | 1996 | 21769. | 25721. | 38036. | 30188. | 0.572 |
| 416 | [83]Auvergne (FRK1) | 1997 | 22443. | 26436. | 37157. | 29759. | 0.604 |
| 417 | [83]Auvergne (FRK1) | 1998 | 23573. | 27809. | 39103. | 29227. | 0.603 |
| 418 | [83]Auvergne (FRK1) | 1999 | 23508. | 28052. | 38834. | 28995. | 0.605 |
| 419 | [83]Auvergne (FRK1) | 2000 | 24342. | 29206. | 40299. | 31093. | 0.604 |
| 420 | [83]Auvergne (FRK1) | 2001 | 25045. | 30202. | 42093. | 31906. | 0.595 |
| 421 | [83]Auvergne (FRK1) | 2002 | 26526. | 30923. | 44685. | 33812. | 0.594 |
| 422 | [83]Auvergne (FRK1) | 2003 | 26164. | 32614. | 44673. | 35773. | 0.586 |
| 423 | [83]Auvergne (FRK1) | 2004 | 26146. | 31904. | 42692. | 35977. | 0.612 |
| 424 | [83]Auvergne (FRK1) | 2005 | 25936. | 32284. | 39574. | 34179. | 0.655 |
| 425 | [83]Auvergne (FRK1) | 2006 | 28661. | 34458. | 43633. | 37034. | 0.657 |
| 426 | [83]Auvergne (FRK1) | 2007 | 28193. | 34167. | 43808. | 38033. | 0.644 |
| 427 | [83]Auvergne (FRK1) | 2008 | 28558. | 34874. | 45176. | 40380. | 0.632 |
| 428 | [83]Auvergne (FRK1) | 2009 | 28862. | 34371. | 46808. | 43982. | 0.617 |
| 429 | [83]Auvergne (FRK1) | 2010 | 30202. | 38719. | 56881. | 40221. | 0.531 |
| 430 | [83]Auvergne (FRK1) | 2011 | 29447. | 35358. | 46814. | 39704. | 0.629 |
| 431 | [83]Auvergne (FRK1) | 2012 | 28335. | 34673. | 45246. | 38808. | 0.626 |
| 432 | [83]Auvergne (FRK1) | 2013 | 28649. | 34739. | 47039. | 40007. | 0.609 |
| 433 | [83]Auvergne (FRK1) | 2014 | 29361. | 34461. | 46004. | 39061. | 0.638 |
| 434 | [83]Auvergne (FRK1) | 2015 | 29527. | 35656. | 47849. | 42354. | 0.617 |
| 435 | [83]Auvergne (FRK1) | 2016 | 29321. | 34592. | 47048. | 40966. | 0.623 |
| 436 | [83]Auvergne (FRK1) | 2017 | 29966. | 35532. | 46728. | 38763. | 0.641 |
| 437 | [83]Auvergne (FRK1) | 2018 | 29422. | 36888. | 46598. | 44560. | 0.631 |
| 438 | [91]Languedoc-Roussillon (FRJ1) | 1996 | 20711. | 23250. | 33099. | 23101. | 0.626 |
| 439 | [91]Languedoc-Roussillon (FRJ1) | 1997 | 20213. | 23070. | 31578. | 24252. | 0.640 |
| 440 | [91]Languedoc-Roussillon (FRJ1) | 1998 | 21411. | 25448. | 34157. | 25907. | 0.627 |
| 441 | [91]Languedoc-Roussillon (FRJ1) | 1999 | 22116. | 26422. | 35723. | 27848. | 0.619 |

| | | | | | | | | |
|-----|------|--|------|--------|--------|--------|--------|-------|
| 442 | [91] | Languedoc-Roussillon (FRJ1) | 2000 | 22209. | 26118. | 37041. | 27423. | 0.600 |
| 443 | [91] | Languedoc-Roussillon (FRJ1) | 2001 | 24228. | 29134. | 39350. | 31428. | 0.616 |
| 444 | [91] | Languedoc-Roussillon (FRJ1) | 2002 | 24455. | 29611. | 42826. | 31423. | 0.571 |
| 445 | [91] | Languedoc-Roussillon (FRJ1) | 2003 | 26184. | 31065. | 40547. | 32195. | 0.646 |
| 446 | [91] | Languedoc-Roussillon (FRJ1) | 2004 | 26849. | 31594. | 44645. | 33489. | 0.601 |
| 447 | [91] | Languedoc-Roussillon (FRJ1) | 2005 | 26176. | 32217. | 44226. | 32469. | 0.592 |
| 448 | [91] | Languedoc-Roussillon (FRJ1) | 2006 | 26497. | 32893. | 45954. | 34491. | 0.577 |
| 449 | [91] | Languedoc-Roussillon (FRJ1) | 2007 | 26984. | 32263. | 49074. | 37382. | 0.550 |
| 450 | [91] | Languedoc-Roussillon (FRJ1) | 2008 | 29019. | 33355. | 45056. | 35971. | 0.644 |
| 451 | [91] | Languedoc-Roussillon (FRJ1) | 2009 | 28782. | 33421. | 44868. | 37308. | 0.641 |
| 452 | [91] | Languedoc-Roussillon (FRJ1) | 2010 | 29243. | 35868. | 49275. | 40463. | 0.593 |
| 453 | [91] | Languedoc-Roussillon (FRJ1) | 2011 | 28937. | 36662. | 49144. | 39046. | 0.589 |
| 454 | [91] | Languedoc-Roussillon (FRJ1) | 2012 | 29056. | 34446. | 46216. | 36507. | 0.629 |
| 455 | [91] | Languedoc-Roussillon (FRJ1) | 2013 | 29673. | 35637. | 48341. | 39884. | 0.614 |
| 456 | [91] | Languedoc-Roussillon (FRJ1) | 2014 | 31698. | 36083. | 51571. | 42438. | 0.615 |
| 457 | [91] | Languedoc-Roussillon (FRJ1) | 2015 | 30533. | 35227. | 49036. | 39686. | 0.623 |
| 458 | [91] | Languedoc-Roussillon (FRJ1) | 2016 | 30980. | 33825. | 49380. | 38866. | 0.627 |
| 459 | [91] | Languedoc-Roussillon (FRJ1) | 2017 | 30524. | 34948. | 46868. | 39120. | 0.651 |
| 460 | [91] | Languedoc-Roussillon (FRJ1) | 2018 | 30441. | 36308. | 52014. | 40166. | 0.585 |
| 461 | [92] | Provence-Côte d'Azur-Corse … | 1996 | 21784. | 25604. | 33813. | 25477. | 0.644 |
| 462 | [92] | Provence-Côte d'Azur-Corse … | 1997 | 22527. | 26102. | 33876. | 26246. | 0.665 |
| 463 | [92] | Provence-Côte d'Azur-Corse … | 1998 | 23474. | 27104. | 35697. | 28112. | 0.658 |
| 464 | [92] | Provence-Côte d'Azur-Corse … | 1999 | 23613. | 27311. | 37121. | 28170. | 0.636 |
| 465 | [92] | Provence-Côte d'Azur-Corse … | 2000 | 24564. | 28301. | 38123. | 29758. | 0.644 |
| 466 | [92] | Provence-Côte d'Azur-Corse … | 2001 | 25060. | 29604. | 38320. | 29943. | 0.654 |
| 467 | [93] | Provence-Alpes-Côte-d'Azur … | 2002 | 28125. | 33848. | 46970. | 34642. | 0.599 |
| 468 | [93] | Provence-Alpes-Côte-d'Azur … | 2003 | 28613. | 33598. | 46621. | 35671. | 0.614 |
| 469 | [93] | Provence-Alpes-Côte-d'Azur … | 2004 | 28360. | 34467. | 44690. | 36687. | 0.635 |
| 470 | [93] | Provence-Alpes-Côte-d'Azur … | 2005 | 29154. | 34816. | 43978. | 37035. | 0.663 |
| 471 | [93] | Provence-Alpes-Côte-d'Azur … | 2006 | 30654. | 36108. | 47315. | 37060. | 0.648 |
| 472 | [93] | Provence-Alpes-Côte-d'Azur … | 2007 | 30429. | 36691. | 52188. | 38852. | 0.583 |
| 473 | [93] | Provence-Alpes-Côte-d'Azur … | 2008 | 31999. | 37863. | 52485. | 42952. | 0.610 |
| 474 | [93] | Provence-Alpes-Côte-d'Azur … | 2009 | 32944. | 37981. | 48970. | 40297. | 0.673 |
| 475 | [93] | Provence-Alpes-Côte-d'Azur … | 2010 | 32088. | 39194. | 53269. | 43733. | 0.602 |
| 476 | [93] | Provence-Alpes-Côte-d'Azur … | 2011 | 33732. | 40597. | 55139. | 46786. | 0.612 |
| 477 | [93] | Provence-Alpes-Côte-d'Azur … | 2012 | 33303. | 40673. | 55899. | 44546. | 0.596 |
| 478 | [93] | Provence-Alpes-Côte-d'Azur … | 2013 | 33049. | 40459. | 55773. | 46322. | 0.593 |
| 479 | [93] | Provence-Alpes-Côte-d'Azur … | 2014 | 32739. | 38335. | 53027. | 44066. | 0.617 |
| 480 | [93] | Provence-Alpes-Côte-d'Azur … | 2015 | 33295. | 40415. | 55009. | 44792. | 0.605 |
| 481 | [93] | Provence-Alpes-Côte-d'Azur … | 2016 | 34619. | 39317. | 53106. | 43837. | 0.652 |
| 482 | [93] | Provence-Alpes-Côte-d'Azur … | 2017 | 34851. | 39814. | 54645. | 43931. | 0.638 |
| 483 | [93] | Provence-Alpes-Côte-d'Azur … | 2018 | 34567. | 40344. | 56127. | 46467. | 0.616 |
| 484 | [94] | Corse (FRM0) | 2002 | 27312. | 29381. | 62346. | 33748. | 0.438 |
| 485 | [94] | Corse (FRM0) | 2003 | 24434. | 40118. | 39757. | 31748. | 0.615 |
| 486 | [94] | Corse (FRM0) | 2004 | 24714. | 41353. | 45707. | 32747. | 0.541 |
| 487 | [94] | Corse (FRM0) | 2005 | 25220. | 40903. | 51404. | 35738. | 0.491 |
| 488 | [94] | Corse (FRM0) | 2006 | 35120. | 39760. | 57195. | 46245. | 0.614 |
| 489 | [94] | Corse (FRM0) | 2007 | 27394. | 34223. | 49786. | 34712. | 0.550 |
| 490 | [94] | Corse (FRM0) | 2008 | 31326. | 42993. | 37360. | 38816. | 0.838 |
| 491 | [94] | Corse (FRM0) | 2009 | 30469. | 42431. | 59259. | 35625. | 0.514 |
| 492 | [94] | Corse (FRM0) | 2010 | 28640. | 46000. | 63248. | 37605. | 0.453 |
| 493 | [94] | Corse (FRM0) | 2011 | 29675. | 39677. | 42759. | 38859. | 0.694 |
| 494 | [94] | Corse (FRM0) | 2012 | 33410. | 36245. | 44648. | 38021. | 0.748 |
| 495 | [94] | Corse (FRM0) | 2013 | 32520. | 34867. | 47212. | 37120. | 0.689 |
| 496 | [94] | Corse (FRM0) | 2014 | 28990. | 40323. | 53881. | 41237. | 0.538 |
| 497 | [94] | Corse (FRM0) | 2015 | 25600. | 42271. | 49333. | 41857. | 0.519 |
| 498 | [94] | Corse (FRM0) | 2016 | 28855. | 34737. | 44590. | 41367. | 0.647 |

```

499 [94]Corse (FRM0)                2017  32309.  35917.  49568.  43778.  0.652
500 [94]Corse (FRM0)                2018  30187.  37039.  45895.  43478.  0.658
501 <NA>                             1984      NA      NA      NA  19661.  NA
502 <NA>                             1990      NA      NA      NA  25372.  NA
# with abbreviated variable names  `low`, `medium`,
#  `high`
Warning message:
`tbl_df()` was deprecated in dplyr 1.0.0.
Please use `tibble::as_tibble()` instead.
>
> proc.time()
   user  system elapsed
 42.007   1.021  50.685

```