International GDP Population Historical

R Analysis

By: Stephanie Hunter

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R version 3.1.2 (2014-10-31) -- "Pumpkin Helmet"
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Platform: x86_64-w64-mingw32/x64 (64-bit)

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  Natural language support but running in an English locale

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> data <- read.csv(file="C:/Users/shunter5/Documents/HistoricalPopulation.csv",head=TRUE,se
p=",")
> class(data)
[1] "data.frame"
> dim(data)
[1]  3 47
> names(data)
 [1] "X"     "X1969" "X1970" "X1971" "X1972" "X1973" "X1974" "X1975" "X1976"
[10] "X1977" "X1978" "X1979" "X1980" "X1981" "X1982" "X1983" "X1984" "X1985"
[19] "X1986" "X1987" "X1988" "X1989" "X1990" "X1991" "X1992" "X1993" "X1994"
[28] "X1995" "X1996" "X1997" "X1998" "X1999" "X2000" "X2001" "X2002" "X2003"
[37] "X2004" "X2005" "X2006" "X2007" "X2008" "X2009" "X2010" "X2011" "X2012"
[46] "X2013" "X2014"
> str(data)
'data.frame':    3 obs. of  47 variables:
 $ X    : Factor w/ 3 levels "Canada","North America",..: 2 1 3
 $ X1969: int  222833073 21448073 201385000
 $ X1970: int  225733986 21749986 203984000
 $ X1971: int  228853400 22026400 206827000
 $ X1972: int  231568500 22284500 209284000
 $ X1973: int  233916500 22559500 211357000
 $ X1974: int  236216700 22874700 213342000
 $ X1975: int  238674200 23209200 215465000
 $ X1976: int  241080500 23517500 217563000
 $ X1977: int  243556400 23796400 219760000
 $ X1978: int  246131300 24036300 222095000
 $ X1979: int  248843900 24276900 224567000
 $ X1980: int  251817981 24593300 227224681
 $ X1981: int  254365714 24900000 229465714
 $ X1982: int  256866358 25201900 231664458
 $ X1983: int  259248294 25456300 233791994
 $ X1984: int  261526702 25701800 235824902
 $ X1985: int  263865395 25941600 237923795
 $ X1986: int  266336687 26203800 240132887
 $ X1987: int  268838618 26549700 242288918
 $ X1988: int  271393782 26894800 244498982
 $ X1989: int  274198530 27379300 246819230
 $ X1990: int  277971600 27790600 250181000
 $ X1991: int  281647900 28117900 253530000
 $ X1992: int  285466892 28544892 256922000
 $ X1993: int  289235336 28953336 260282000
 $ X1994: int  292785810 29330810 263455000
 $ X1995: int  296278529 29690529 266588000
 $ X1996: int  299740324 30026324 269714000
 $ X1997: int  303263602 30305602 272958000
 $ X1998: int  306705660 30551660 276154000
 $ X1999: int  310148257 30820257 279328000
 $ X2000: int  313497561 31099561 282398000
```

```
 $ X2001: int  316601736 31376736 285225000
 $ X2002: int  319595962 31640962 287955000
 $ X2003: int  322515309 31889309 290626000
 $ X2004: int  325396763 32134763 293262000
 $ X2005: int  328379378 32386378 295993000
 $ X2006: int  331474679 32656679 298818000
 $ X2007: int  334631961 32935961 301696000
 $ X2008: int  337755696 33212696 304543000
 $ X2009: int  340727208 33487208 307240000
 $ X2010: int  343567742 33759742 309808000
 $ X2011: int  346202589 34030589 312172000
 $ X2012: int  348799083 34300083 314499000
 $ X2013: int  351407211 34568211 316839000
 $ X2014: int  354007841 34834841 319173000
> attributes(data)
$names
 [1] "X"     "X1969" "X1970" "X1971" "X1972" "X1973" "X1974" "X1975" "X1976"
[10] "X1977" "X1978" "X1979" "X1980" "X1981" "X1982" "X1983" "X1984" "X1985"
[19] "X1986" "X1987" "X1988" "X1989" "X1990" "X1991" "X1992" "X1993" "X1994"
[28] "X1995" "X1996" "X1997" "X1998" "X1999" "X2000" "X2001" "X2002" "X2003"
[37] "X2004" "X2005" "X2006" "X2007" "X2008" "X2009" "X2010" "X2011" "X2012"
[46] "X2013" "X2014"

$class
[1] "data.frame"

$row.names
[1] 1 2 3

> data[1:3,]
              X     X1969     X1970     X1971     X1972     X1973     X1974
1 North America 222833073 225733986 228853400 231568500 233916500 236216700
2        Canada  21448073  21749986  22026400  22284500  22559500  22874700
3 United States 201385000 203984000 206827000 209284000 211357000 213342000
      X1975     X1976     X1977     X1978     X1979     X1980     X1981
1 238674200 241080500 243556400 246131300 248843900 251817981 254365714
2  23209200  23517500  23796400  24036300  24276900  24593300  24900000
3 215465000 217563000 219760000 222095000 224567000 227224681 229465714
      X1982     X1983     X1984     X1985     X1986     X1987     X1988
1 256866358 259248294 261526702 263865395 266336687 268838618 271393782
2  25201900  25456300  25701800  25941600  26203800  26549700  26894800
3 231664458 233791994 235824902 237923795 240132887 242288918 244498982
      X1989     X1990     X1991     X1992     X1993     X1994     X1995
1 274198530 277971600 281647900 285466892 289235336 292785810 296278529
2  27379300  27790600  28117900  28544892  28953336  29330810  29690529
3 246819230 250181000 253530000 256922000 260282000 263455000 266588000
      X1996     X1997     X1998     X1999     X2000     X2001     X2002
1 299740324 303263602 306705660 310148257 313497561 316601736 319595962
2  30026324  30305602  30551660  30820257  31099561  31376736  31640962
3 269714000 272958000 276154000 279328000 282398000 285225000 287955000
      X2003     X2004     X2005     X2006     X2007     X2008     X2009
1 322515309 325396763 328379378 331474679 334631961 337755696 340727208
2  31889309  32134763  32386378  32656679  32935961  33212696  33487208
3 290626000 293262000 295993000 298818000 301696000 304543000 307240000
      X2010     X2011     X2012     X2013     X2014
1 343567742 346202589 348799083 351407211 354007841
2  33759742  34030589  34300083  34568211  34834841
3 309808000 312172000 314499000 316839000 319173000
> summary(data)
            X          X1969              X1970              X1971
 Canada       :1  Min.   : 21448073  Min.   : 21749986  Min.   : 22026400
 North America:1  1st Qu.:111416536  1st Qu.:112866993  1st Qu.:114426700
 United States:1  Median :201385000  Median :203984000  Median :206827000
                  Mean   :148555382  Mean   :150489324  Mean   :152568933
                  3rd Qu.:212109036  3rd Qu.:214858993  3rd Qu.:217840200
                  Max.   :222833073  Max.   :225733986  Max.   :228853400
      X1972              X1973              X1974
```

```
Min.   : 22284500     Min.   : 22559500     Min.   : 22874700
1st Qu.:115784250     1st Qu.:116958250     1st Qu.:118108350
Median :209284000     Median :211357000     Median :213342000
Mean   :154379000     Mean   :155944333     Mean   :157477800
3rd Qu.:220426250     3rd Qu.:222636750     3rd Qu.:224779350
Max.   :231568500     Max.   :233916500     Max.   :236216700
      X1975                 X1976                 X1977
Min.   : 23209200     Min.   : 23517500     Min.   : 23796400
1st Qu.:119337100     1st Qu.:120540250     1st Qu.:121778200
Median :215465000     Median :217563000     Median :219760000
Mean   :159116133     Mean   :160720333     Mean   :162370933
3rd Qu.:227069600     3rd Qu.:229321750     3rd Qu.:231658200
Max.   :238674200     Max.   :241080500     Max.   :243556400
      X1978                 X1979                 X1980
Min.   : 24036300     Min.   : 24276900     Min.   : 24593300
1st Qu.:123065650     1st Qu.:124421950     1st Qu.:125908990
Median :222095000     Median :224567000     Median :227224681
Mean   :164087533     Mean   :165895933     Mean   :167878654
3rd Qu.:234113150     3rd Qu.:236705450     3rd Qu.:239521331
Max.   :246131300     Max.   :248843900     Max.   :251817981
      X1981                 X1982                 X1983
Min.   : 24900000     Min.   : 25201900     Min.   : 25456300
1st Qu.:127182857     1st Qu.:128433179     1st Qu.:129624147
Median :229465714     Median :231664458     Median :233791994
Mean   :169577143     Mean   :171244239     Mean   :172832196
3rd Qu.:241915714     3rd Qu.:244265408     3rd Qu.:246520144
Max.   :254365714     Max.   :256866358     Max.   :259248294
      X1984                 X1985                 X1986
Min.   : 25701800     Min.   : 25941600     Min.   : 26203800
1st Qu.:130763351     1st Qu.:131932698     1st Qu.:133168344
Median :235824902     Median :237923795     Median :240132887
Mean   :174351135     Mean   :175910263     Mean   :177557791
3rd Qu.:248675802     3rd Qu.:250894595     3rd Qu.:253234787
Max.   :261526702     Max.   :263865395     Max.   :266336687
      X1987                 X1988                 X1989
Min.   : 26549700     Min.   : 26894800     Min.   : 27379300
1st Qu.:134419309     1st Qu.:135696891     1st Qu.:137099265
Median :242288918     Median :244498982     Median :246819230
Mean   :179225745     Mean   :180929188     Mean   :182799020
3rd Qu.:255563768     3rd Qu.:257946382     3rd Qu.:260508880
Max.   :268838618     Max.   :271393782     Max.   :274198530
      X1990                 X1991                 X1992
Min.   : 27790600     Min.   : 28117900     Min.   : 28544892
1st Qu.:138985800     1st Qu.:140823950     1st Qu.:142733446
Median :250181000     Median :253530000     Median :256922000
Mean   :185314400     Mean   :187765267     Mean   :190311261
3rd Qu.:264076300     3rd Qu.:267588950     3rd Qu.:271194446
Max.   :277971600     Max.   :281647900     Max.   :285466892
      X1993                 X1994                 X1995
Min.   : 28953336     Min.   : 29330810     Min.   : 29690529
1st Qu.:144617668     1st Qu.:146392905     1st Qu.:148139264
Median :260282000     Median :263455000     Median :266588000
Mean   :192823557     Mean   :195190540     Mean   :197519019
3rd Qu.:274758668     3rd Qu.:278120405     3rd Qu.:281433264
Max.   :289235336     Max.   :292785810     Max.   :296278529
      X1996                 X1997                 X1998
Min.   : 30026324     Min.   : 30305602     Min.   : 30551660
1st Qu.:149870162     1st Qu.:151631801     1st Qu.:153352830
Median :269714000     Median :272958000     Median :276154000
Mean   :199826883     Mean   :202175735     Mean   :204470440
3rd Qu.:284727162     3rd Qu.:288110801     3rd Qu.:291429830
Max.   :299740324     Max.   :303263602     Max.   :306705660
      X1999                 X2000                 X2001
Min.   : 30820257     Min.   : 31099561     Min.   : 31376736
1st Qu.:155074128     1st Qu.:156748780     1st Qu.:158300868
Median :279328000     Median :282398000     Median :285225000
Mean   :206765505     Mean   :208998374     Mean   :211067824
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 3rd Qu.:294738128    3rd Qu.:297947780    3rd Qu.:300913368
 Max.   :310148257    Max.   :313497561    Max.   :316601736
     X2002                X2003                X2004
 Min.   : 31640962    Min.   : 31889309    Min.   : 32134763
 1st Qu.:159797981    1st Qu.:161257654    1st Qu.:162698382
 Median :287955000    Median :290626000    Median :293262000
 Mean   :213063975    Mean   :215010206    Mean   :216931175
 3rd Qu.:303775481    3rd Qu.:306570654    3rd Qu.:309329382
 Max.   :319595962    Max.   :322515309    Max.   :325396763
     X2005                X2006                X2007
 Min.   : 32386378    Min.   : 32656679    Min.   : 32935961
 1st Qu.:164189689    1st Qu.:165737340    1st Qu.:167315980
 Median :295993000    Median :298818000    Median :301696000
 Mean   :218919585    Mean   :220983119    Mean   :223087974
 3rd Qu.:312186189    3rd Qu.:315146340    3rd Qu.:318163980
 Max.   :328379378    Max.   :331474679    Max.   :334631961
     X2008                X2009                X2010
 Min.   : 33212696    Min.   : 33487208    Min.   : 33759742
 1st Qu.:168877848    1st Qu.:170363604    1st Qu.:171783871
 Median :304543000    Median :307240000    Median :309808000
 Mean   :225170464    Mean   :227151472    Mean   :229045161
 3rd Qu.:321149348    3rd Qu.:323983604    3rd Qu.:326687871
 Max.   :337755696    Max.   :340727208    Max.   :343567742
     X2011                X2012                X2013
 Min.   : 34030589    Min.   : 34300083    Min.   : 34568211
 1st Qu.:173101294    1st Qu.:174399542    1st Qu.:175703606
 Median :312172000    Median :314499000    Median :316839000
 Mean   :230801726    Mean   :232532722    Mean   :234271474
 3rd Qu.:329187294    3rd Qu.:331649042    3rd Qu.:334123106
 Max.   :346202589    Max.   :348799083    Max.   :351407211
     X2014
 Min.   : 34834841
 1st Qu.:177003920
 Median :319173000
 Mean   :236005227
 3rd Qu.:336590420
 Max.   :354007841
> quantile(data$X2014)
       0%        25%        50%        75%       100%
 34834841  177003921  319173000  336590421  354007841
> var(data$X2014)
[1] 3.065551e+16
> hist(data$X2014)
> plot(data$X2014)
> table(data$X2014)

 34834841 319173000 354007841
        1         1         1
> quantile(data$X1969)
       0%        25%        50%        75%       100%
 21448073  111416537  201385000  212109037  222833073
> var(data$X1969)
[1] 1.223221e+16
> hist(data$X1969)
> plot(data$X1969)
> table(data$X1969)

 21448073 201385000 222833073
        1         1         1
```