Argentinian mortality data quality assessment

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May 2019
Population: 45 MM -> 10% of Latin America (UN, 2015)
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No annual series. Available death data: 1990-2015
Why

- Population: 45 MM -> 10% of Latin America (UN, 2015)
- No annual series. Available death data: 1990-2015
- International researchers use and compare Argentinian mortality
Objectives and Method

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  • Test raw data to construct a life table serie with HMD protocol
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  - Test *raw* data to construct a *life table serie* with HMD protocol

- **Method:**
Objectives and Method

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Method:
- Sources and tabulations
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Method:

- Sources and tabulations
- HMD protocol
- Multidimensional quality checks respect HMD profile and other estimates
Unknown data:
Ages: Max 1.8% in 1993
Sex: Max 1.4% in 1997
Year Ocurr: Max. 1.4% in 1997
Deaths by Sex in Argentina

- Males Ocurrence Raw
- Males Ocurrence modified
- Females Ocurrence Raw
- Females Ocurrence modified

Year:
- 1990
- 1993
- 1996
- 1999
- 2002
- 2005
- 2008
- 2011
- 2014

Deaths:
- 0
- 100000
- 150000
- 200000

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Raw data

Ocurrence data
Some Indirect Measures

- DDM (ggb and seg methods): >99%. As good as HMD censuses
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- DDM (ggb and seg methods): >99%. As good as HMD censuses
- Age-Heap in Pop & Deaths: reasonably indexes in HMD profile
Portion of Lower Triangles by Province. Argentina

- Buenos Aires: 40% of total deaths

Source: raw data
Alternative estimations

Estimations of Lower Triangle Portion. Females, Argentina

- Smooth by age
- HMD Regression for 1990–2015

Source: raw data
Infant mortality (q0). HMD Countries and Argentina. Females


q0: 0.000, 0.010, 0.020, 0.030

IQR(HMD)

Own, HMD, CM.org (Smooth), Lambda (midp), WPP (midp), INDEC
Life Expectancy at 65

Life expectancy at Age 65. HMD Countries and Argentina. Females
Life Expectancy at 80

Life expectancy at age 80. HMD Countries and Argentina. Females
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Structure

Rates

Lexis Surface of log-rates. Females. Argentina

Lexis Surface of log-rates. Males. Argentina
Mortality rates in HMD Countries and Argentina. Females. Years>1989

Age

log(m)

-12 -10 -8 -6 -4 -2 0

0 20 40 60 80 100

Own

HMD

Percentiles 10, 50, 90
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Structure

Infant and Adult

1q0 and 45q15
HMD Countries and Argentina. Years>1980

log(1q0) vs log(45q15)

- Own
- HMD
- Lambda
- WPP
- INDEC

Males
Females
45q15 and e65
HMD Countries and Argentina. Males. Years>1980

- Own
- HMD
- Lambda
- WPP17
- INDEC

Source: Based in Wilmoth (2012) and HMD LT
Fit log-quad. Females, 2005–2009

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Census and Oficial Population

Census and Oficial Estimates of Population

General Omission: 2.75% in 2001, 1.99% in 2010
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- First Conclusion:
  - Raw Data seems suitable for period modelling starting in 1995
Ci auguriamo che l’opera incominciata con pochi materiali nostrani possa essere continuata per una lunga serie d’anni, onde ritrarne più tardi tutto quel frutto che può arrecare.

**Figure:** Luigi Perozzo (1880)

Thanks!