Seasonality of Births in Europe and the USA: A Comparative Approach

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Background

- The analysis of the distribution of births per day in all developed countries in the world suggests a reduced importance of weekend effects.
- Until the end of the first post-war decade, births were more or less evenly distributed across the week days of the month. However, due to a gradual change towards a continuous reduction of births on Sundays, particularly in Southern European countries, a trend started to appear, which was more pronounced in the 2000s.
- The phenomenon is related to practices of the medical profession, who, for obvious reasons, plan their working hours especially regarding deliveries by caesarean section.
- The intensity and the starting time of this phenomenon significantly differ between countries, when compared with other European countries, led to a gradual decline of deliveries on Sundays in most countries of central and western Europe.
- In the Northern European countries, the percentage of deliveries on Sundays, a trend originated in the late 60's in most countries of central and western Europe.
- In the 1980s, this trend was interrupted in most countries, there was a gradual increase of deliveries on Saturdays and Sundays.
- The drop of deliveries in the two last week days has apparently resulted to a rapid rise of deliveries in the other week days, especially Saturdays.

Aim of this work

To do a comparative analysis of the daily fluctuations of the total number of births in the developed countries, with emphasis on the Southern European countries.

Daily coefficients of births

For measuring the appearance of the daily coefficients of births, we use the following index:

\[ \frac{B_t}{B_i} \]

Where:
- \( B_t \) is the total count of births taken place the \( t \)-th day of the month of year \( y \);
- \( B_i \) is the total count of births taken place the \( i \)-th day of the month of year \( y \);
- \( k \) is the number of days \( i \) at year \( y \).

Findings

- Historical data provide an evidence that until the middle 60's, there was no tendency towards a growing differentiation of deliveries by week days, i.e. Saturdays and Sundays.
- Thereafter, the daily life born deliveries in the developed countries, resulted to a reversal of this trend in recent years.
- Roughly the same trends characterized the Nordic countries and the Netherlands, that are representative of the various patterns and intensities, especially regarding deliveries by caesarean section.
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References

CURTIN, S., M PARK, M. (1999) “National Vital Statistics Report Trends in the post war decades, in these countries were much lower in the early 80's. Thereafter, in the Netherlands the values of the intensity of the week started to increase until the early 90's, and from 81,9 for Sundays and 86,2 for Saturdays in 1987 to 84,6 for Sundays and 89,0 for Saturdays in 1996.


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