

# Effects of political choices in the greek mortality rate

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## Abstract

In this short article an attempt is made to look closer at the mortality rate in Greece, during the ongoing century. An excess is found, not consistent with a statistical fluctuation, from 2011 until today.

## Keywords

Deaths — Mortality Rate — Violence — Greece

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## Introduction

There's a lot of discussion on violence in literature. In this article, I want to discuss a violence, that to my surprise is not acknowledged by the majority of the population. This is the violence, in the form of policy choices, that lead a significant part of the population towards malnutrition, poverty, homelessness, despair. I'm using statistical tools, described below, to show that these effects are real and beyond any fluctuation that the data can have.

I invite any recommendations to be brought to my knowledge and I'd be more than happy to re-consider the data analysis.

## 1. Data

The data considered here are coming from the official statistical agency of the greek government [?]. From there, one can download the number of deaths from 1932 to 2018, both as absolute numbers and normalised per 1'000 people. This is illustrated in figure 1, starting from year 1960.

The assumption that made is the following. One can use the data up to a certain year, describe the trend of the data and then predict the future, assuming a system where no significant changes are made on.

## 2. Statistical analysis

Even from figure 1, it is evident that there is an increase from the year 2010 onwards. A change of slope, that in this section,

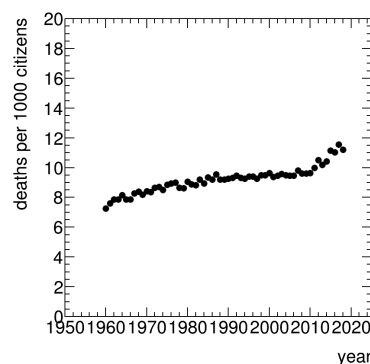


Figure 1. Number of deaths, normalised per 1'000 people.

will show that is not compatible with a statistical fluctuation. For this, we create consecutive fits to data. The baseline of the fits are the data starting from the year 1960, up to a year after 2000 and then extrapolating to the next. Then the percentage of deviation (data vs extrapolation from fit) is calculated. Of course, one has to keep in mind, that the uncertainties of the numbers closer to where the fit ends, are more concrete with smaller uncertainty.

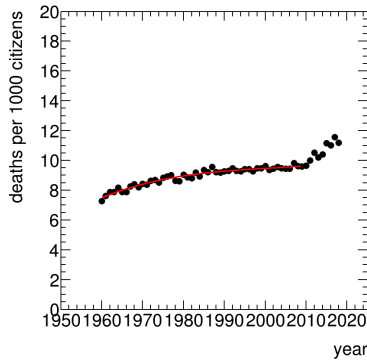
An example fit, on the range 1960 - 2009 is shown in figure 2.

The results are summarised in table 1. There's a clear trend, that starting from the year 2011, the deviation of the fit from the data is significant.

Trying to illustrate the result of the study, a three dimensional plot is made and shown in figure 3.

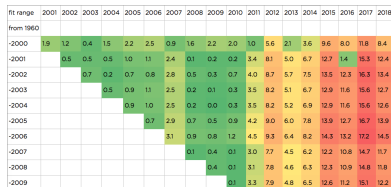
## 3. Summary

It's clear that, the extrapolation made for the periods 2000 to 2008 are very well in agreement with a data fluctuation. From the year 2010 on wards there is a clear increase of the number of deaths. The author will await for more statistics, to see if this trend indicates a change of slope, or it will return back to the trend that was consistent for about 40 years (1960-2000).



**Figure 2.** Number of deaths, normalised per 1'000 people, with the fit superimposed.

fit range from 1960	Years where the extrapolation is compared with the measurement [%]																	
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
- 2000	1.9																	
- 2001		0.5																
- 2002			0.5															
- 2003				0.7														
- 2004					0.2													
- 2005						0.5												
- 2006							0.9											
- 2007								2.9										
- 2008									3.1									
- 2009										0.1								
											0.4							
												0.1						
													0.1					
														0.1				
															0.1			
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																		0.1



**Figure 3.** Extrapolation vs data difference in % for the different fits. A clear increase is shown, consistently for all cases, for the year 2011-2018.

It is unclear to the author, how come this study was not brought forward by a journalist or members of the government, with a possible explanation. As a last sentence, I'd like to report that the austerity measures in Greece, started on 2011.

### Acknowledgments

I'd like to acknowledge the efforts of the people in Greece, constantly fighting for a change, against the authoritarian policies carried out for at least the years that I'm active and able to follow politics.