

COMPARISON OF MATERNAL MORTALITY RATE, CHILD MORTALITY RATE IN EUROPEAN AND AFRICAN COUNTRIES AND EXPLANATION OF THIS

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Abstract

Maternal mortality rate and child mortality rate are statistical details. Maternal mortality rate is a figure which tells us the number of maternal deaths per 100,000 live births. The children mortality rate is the number of deaths of infants under one year of age per 1,000 live births in a given population. Deaths of children are divided into three groups according to the age of the child's death. The first group is infant mortality from 0-1 year. The second group is neonatal mortality from 0-28 days and the last group is post-neonatal mortality from 29 days - 1 year. Through the numbers of the maternal and child mortality, we can easily determine the level of health care in the country. Furthermore, we can find out a country's wealth and political situation. This work contains a comparison of maternal mortality rate and child mortality rate in European and African countries, using graphical representations of statistical data and tables.

Key words: maternal mortality rate, infant mortality rate, neonatal mortality rate, post-neonatal mortality rate

JEL Code: I15, I18

Introduction

When we look back to the past we can see that maternal mortality rate and child mortality rate decreases. The reasons why the child mortality rates have significantly declined is caused by many reasons. For example improvements in basic health care, technological development in medical tools, better nutrition or increase in standard of living. The same factors also affect maternal mortality rate. As we know, this reality is mainly concerns to the developed countries. On the other hand the vast majority of countries, for example in Africa, are developing countries and the healthcare system or standard of living is very low. This work contains comparison between developed countries and developing countries. The differences are very significant. We compare six countries from Africa and six countries from Europe

each other. This choice is not random. We have chosen three most developed countries from Europe and three the least developed European countries. This criterion is the same for African countries. The decisive factor for determination of a development of a country was GNI (Gross National Income) per capita. GNI was measured as an average in PPP (Purchasing Power Parity). The comparison of the countries is shown in a chart. The first step is to make an analysis of time series. It is understood to calculate an average, mean and quotient. The second step is to forecast trend and to choose a model i.e. curve with approximation. The final step is to make individual forecast for the next period based upon the best model fitted.

Tab. 1: Gross National Income (in USD)

The least developed African countries		
Congo, Dem. Rep.	COD	350
Liberia	LBR	520
Eritrea	ERI	580

The most developed African countries		
Botswana	BWA	14560
Mauritius	MUS	14760
Equatorial Guinea	GNQ	24110

The least developed European countries		
Ukraine	UKR	7080
Albania	ALB	8900
Bulgaria	BGR	13980

The most developed European countries		
Switzerland	CHE	52320
Norway	NOR	62970
Luxembourg	LUX	64410

Source: <http://www.worldbank.org/>

All data were found on the value serious website or in books and processed in the following charts

1 Life expectation of infant in Africa

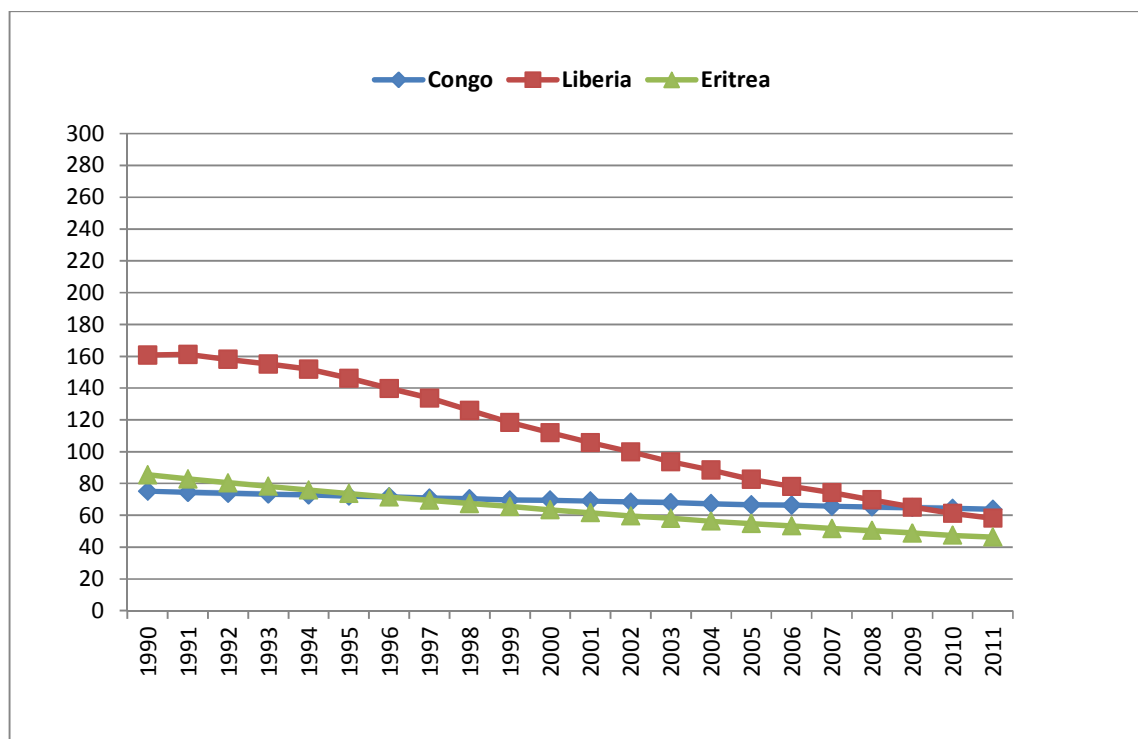
Due to the lack of adequate medicine and nourishing intervention many of infants die at the time of birth. Of the 10 million, 4 million die within first month of life, half of these within the first 24 hours.

The highest risk of death in the first month of life has Sub-Saharan Africa. This country shows the least progress. The risk of a child dying completing the first year of age was in 2011 in Africa (68 per 1,000 live births), about six times higher than in Europe (11 per 1,000 live births). This information was provided WHO.

1.1 Infant mortality rate (0-1 year) per 1,000 live births)

The first chart shows infant mortality rate from 1990 to 2011. Three of the least developed countries of Africa are situated in the chart. As we can see all the curves are decreasing with the passing years. This is caused by many facts. One of the causes is the involvement of many organizations helping people in developing countries. The organizations which help in the countries are for example World Health Organization, Red Cross or Unicef..

Fig. 1: The least developed African countries



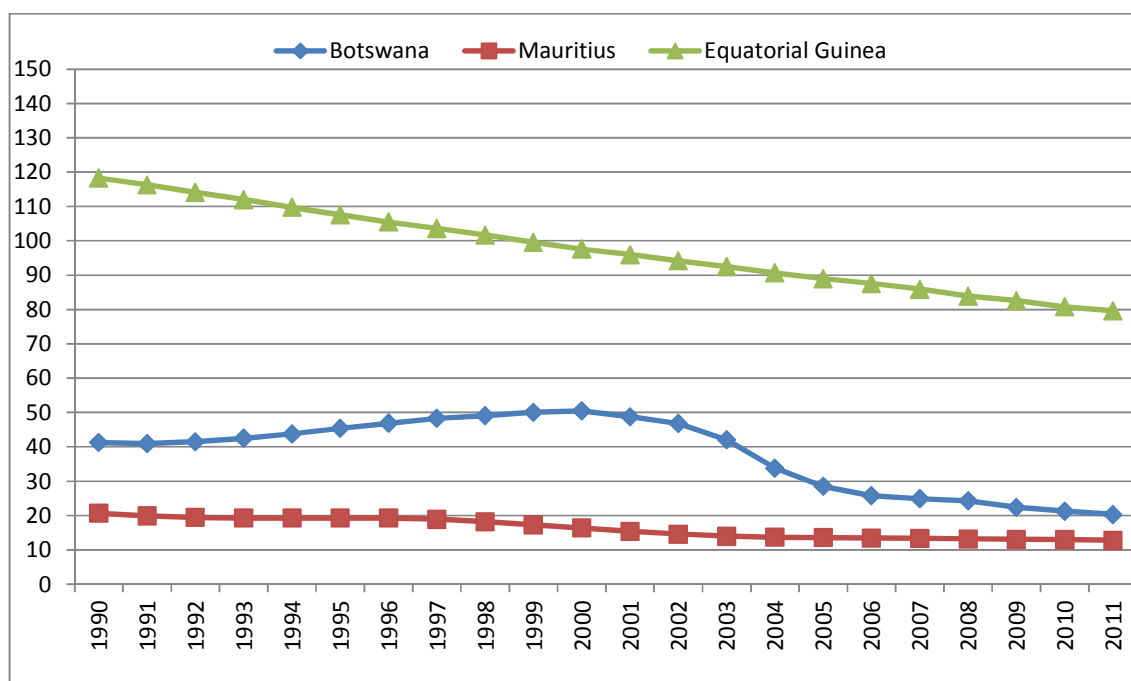
Source: www.epp.eurostat.eu

2 The most developed African countries

The most developed countries of Africa are Botswana, Mauritius and Equatorial Guinea. The mortality rate is significantly lower at the contrast to previous chart. The blue curve represents Botswana. This country is called one of the most infected countries with HIV/AIDS in Africa.

This disease has spread very quickly especially in countries like Botswana. In a report Botswana Human Development 2000 called Towards an AIDS – free generation is written that without adequate treatment and care, a third of the adult population could be dead in 8-12 years. This situation has much in common with infant mortality. Assumption to the future is alarming. When so many adult people die we can assume that many of orphans will remain. Many of those children are infected with HIV and without a special treatment will in nearby years die. As we see the blue line varies. From year 1990 to 1993 is relatively stable but from year 1994 to 2000 significantly increases. This might be caused by various diseases or epidemics.

Fig. 2: The most developed African countries

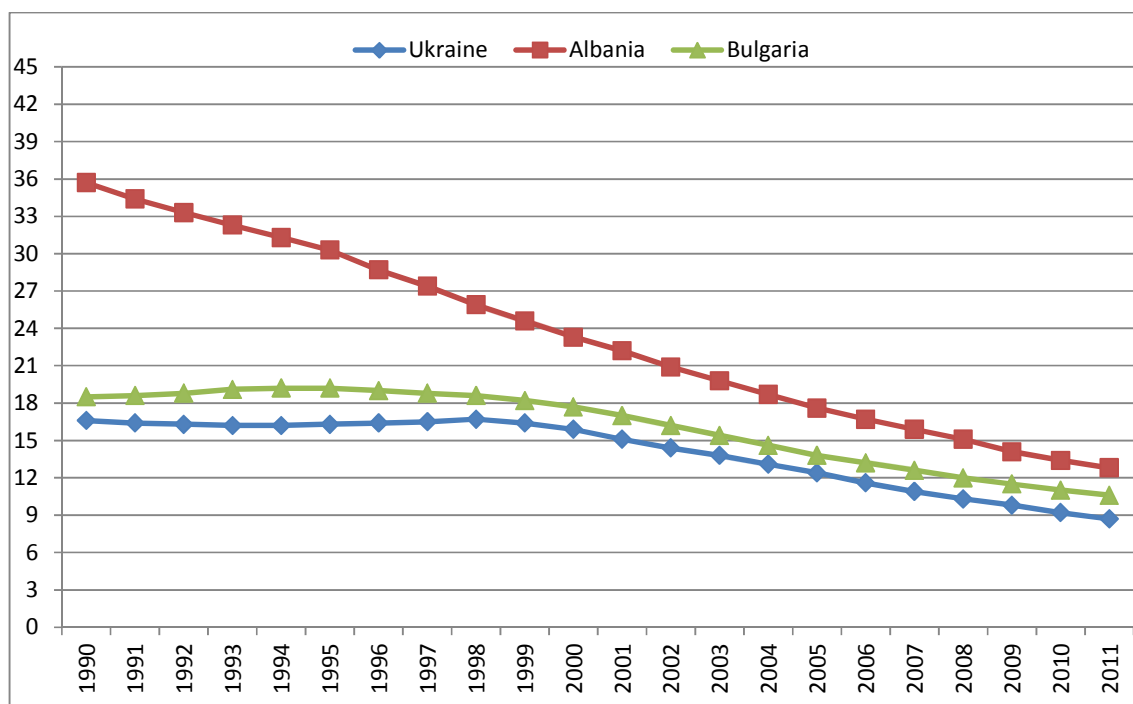


Source: <http://www.worldbank.org/>

3 The least developed European countries

The least developed European countries have noticeably lower infant mortality, compared to the least developed African countries. Total mortality rate in these countries is lower than in African countries, due to better living conditions and better medical care. The highest infant mortality from Europe has Albania. The major problems in this country are infectious diseases, poor hygiene, energy shortage and low quality of infrastructure.

Fig. 3: The least developed European countries

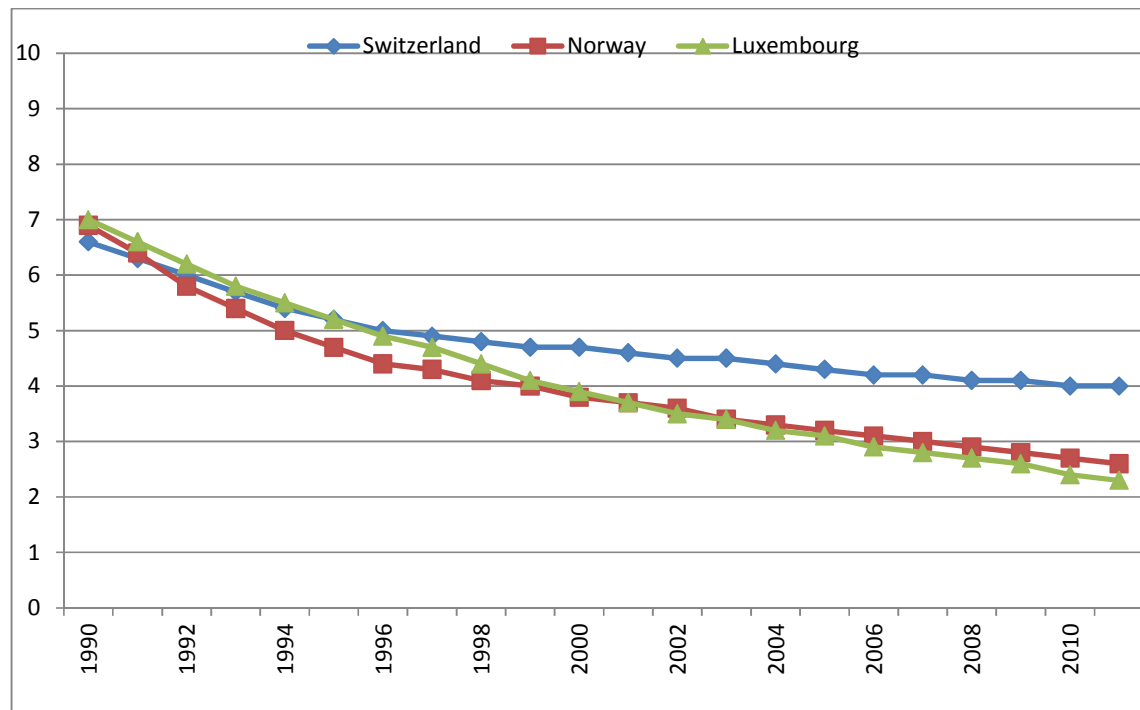


Source: <http://www.worldbank.org/>

4 The most developed European countries

Switzerland, Norway and Luxembourg are the countries with the lowest infant mortality rate in Europe. All the three countries have something in common – living conditions in these countries are high at the level in international comparison. Switzerland, Norway and Luxembourg have also advanced social policy and modern health care. Each of the curves begins approximately in the same point - in 1990 the infant mortality is about 7 deaths per 1,000 live births. All the curves are decreasing instead of Switzerland. The blue (Swiss) curve since 1998, has been decreasing only slightly.

Fig. 4: The most developed European countries



Source: www.epp.eurostat.eu.europa

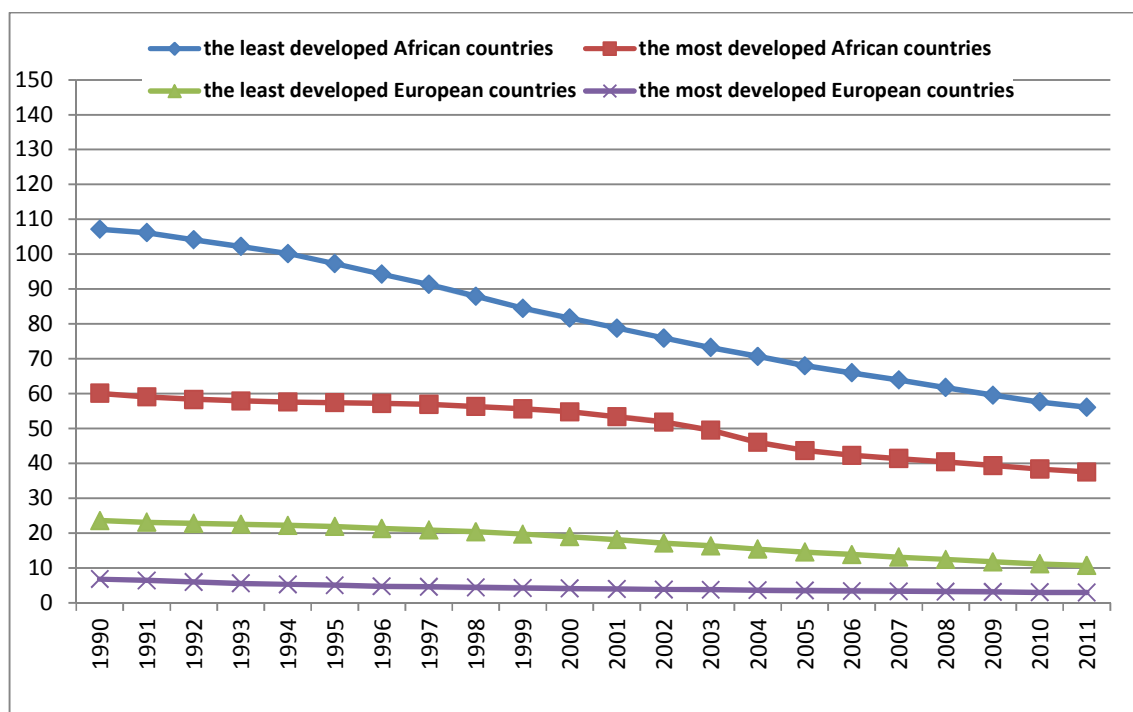
5 Trends of the countries-infant mortality rate (0-1) per 1,000 live birth

5.1 Trends of all analyzed countries

This chart shows all the surveyed countries. The blue curve represents Congo, Liberia and Eritrea, the red curve represents Botswana, Mauritius and Equatorial Guinea. Ukraine, Albania and Bulgaria have a green curve and the last purple curve represents Switzerland, Norway and Luxembourg. Here we can see huge differences between European and African countries. If we focus on the differences between individual curves we see that the difference between the least developed countries of Europe and the most developed countries of Europe is not so perceptible. The difference between blue and red curve is already apparent.

Most striking difference is seen on the purple and blue curve in 1990, when the infant mortality per 1,000 live births amounted about 8 deaths on the purple curve and about 110 deaths on the blue curve.

Fig. 5: Trends of all analyzed countries



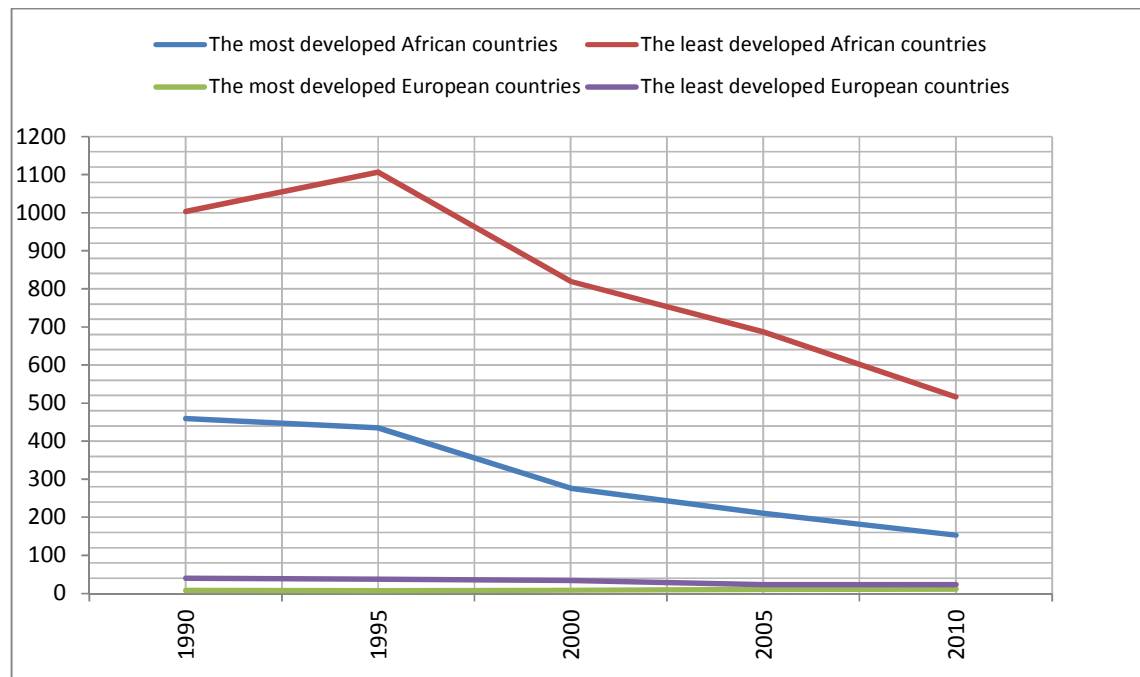
Source: <http://www.worldbank.org/>

6 Maternal mortality rate

6.1 Trends of all analyzed countries – maternal mortality rate

With the progress of medicine and rising level of health care system, decreases maternal mortality rate. In the following chart is captured maternal mortality rate in five-year intervals from 1990 to 2010. Each of three countries is represented by a curve. The highest maternal mortality rate is in Congo, Liberia and Eritrea. The maternal mortality rate is approaching to 1150 deaths per 100,000 live births. That's the top of the red curve in 1995. The red and blue curves are steeply declining unlike purple and green curves which are stable or slightly declining. More visible changes are seen on the curves which represent the less developed countries. Over the years, these countries show a greater change than the developed countries, which are mostly stagnating or there is a slight improvement or deterioration.

Fig. 6: Maternal mortality rate per 100,000 live births-trends



Source: www.epp.eurostat.ec.europa.

Conclusion

Future prospects for African countries are not too optimistic. Infant mortality is slowly decreasing but it is still high enough. The problem is not just infant mortality, but overall it's the wrong approach of the government to the citizens of the country. Low informed people about HIV infection and ignorance of the use of contraceptives. These facts belong to the main causes of the continuous cycle of poverty, high infant and maternal mortality in African countries. On the other hand these problems are not just in African countries. Many European countries are also struggling with poverty and poor living condition. The solution is not to give to developing countries cash grants. The grants fall into hands of African dictators, the inhabitants of the country get nothing from grants, the dictators buy what they see reasonable, for example weapons. Africa is in any case very rich in a natural resources and human potential for the future. Cooperation with African countries would be advantageous for Africa and also for other countries from Europe. It is necessary to open markets to African countries.

References

Book

Preston, H. P., Heuveline P., Guillot M., (2001): „Demography: Measuring and Modeling Population Processes“

Electronic resources

Index mundi

available from <<http://www.indexmundi.com/map/>>,

date 7. 11. 2012

Impact

available from <<http://www.immpact-international.com/>>,

date 21. 8. 2012

The World Bank

available from <<http://data.worldbank.org/indicator/NY.GNP.PCAP.PP.CD>>,

date 7. 11. 2012

Millennium Development Goals Indicators

available from <<http://unstats.un.org/unsd/mdg/SeriesDetail.aspx?srid=562>>,

Date 7. 11.2012

Botswana Human Development Report 2000

available from

<http://hdr.undp.org/en/reports/national/africa/botswana/botswana_2000_en.pdf>,

Date 7. 11.2012

Living space,

available from <http://www.swissworld.org/en/people/families/living_space/>,

date 7. 11. 2012

Ivana Haslingerová: „Rozvojové země nepotřebují peníze, ale otevření trhů“

available from <<http://www.fragmenty.cz/archiv/iy286.htm>>,

date 7. 11.2012

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