Estimation of Value of Life for Turkiye with a Model Approach Depending on Net Present Value

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Introduction

- The value of life is a marginal benefit of preventing death within a certain period of life.
- However, under limited supply of resources or infrastructure, it is important to estimate value of life.
- The Theory of Human Capital (HCT) is based on investments in human health which can reduce morbidity and mortality, as well as which improve the macro and microeconomic outcomes of societies[1].
- The purpose of this analysis is to carry out a model for estimating the value of life for Turkiye depending on HCT.

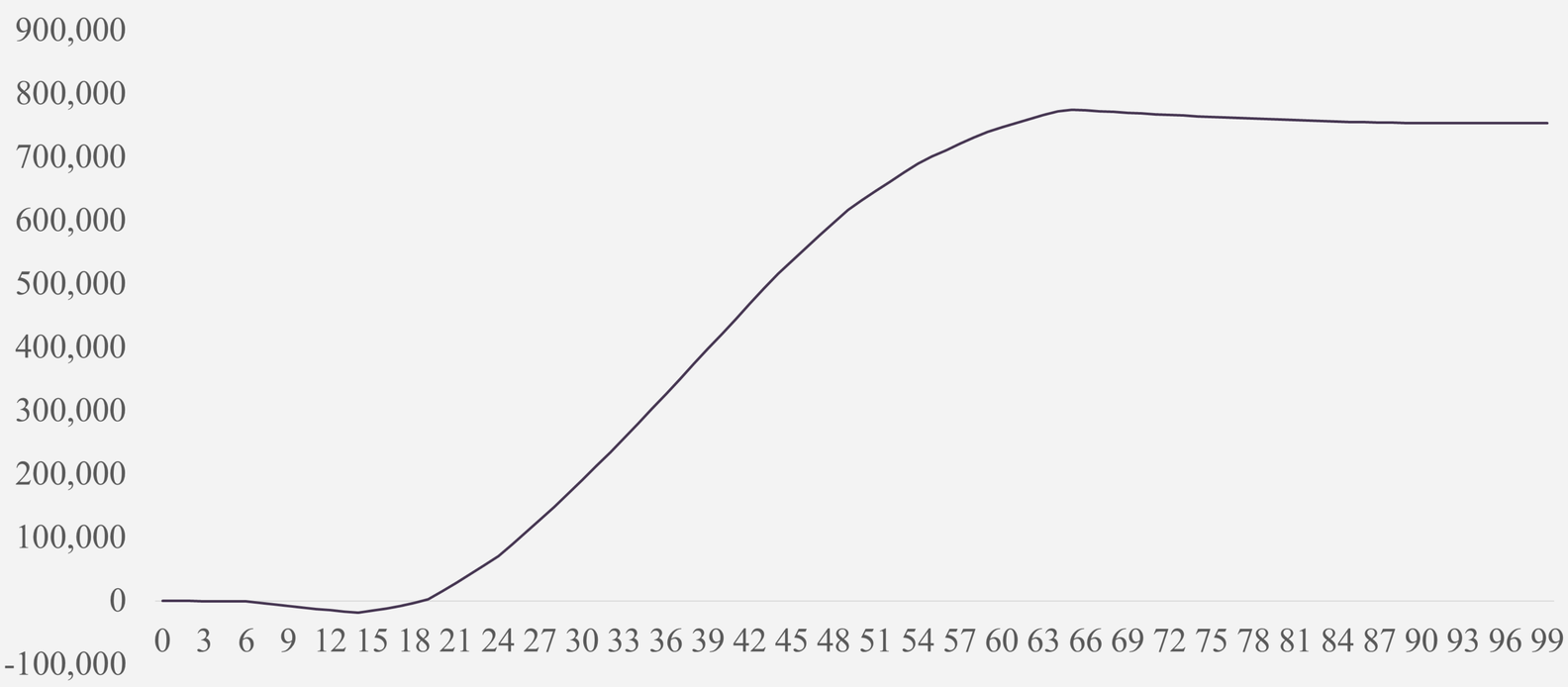
Results

- Estimated produced economic value for lifetime for Turkiye was found to be PPP$ 753.319 which was 21.15 times of GDP PPP per capita.
- Estimated produced economic value for Turkiye were calculated for each decade as PPP$ -10.334, PPP$ 15.316, PPP$ 190.471, PPP$ 421.560, PPP$ 631.742, PPP$ 747.050, PPP$ 768.826, PPP$ 758.917, PPP$ 753.519, PPP$ 753.319 for the 1., 2., 3., 4., 5., 6., 7., 8., 9 and 10 decades, respectively

Methods

- Net present value (NPV) of the taxes and expenditure of governments were calculated depending on population demographics and economics data as population distribution by age, employment compliance according to age, age of school enrollment, education years, year of retirement, unemployment rate, annual wage entry, healthcare expenditure, education expenditure, etc.
- The estimated produced economic value for the lifetime period for Turkiye was assumed as the value of life. In addition, each decade's NPV was calculated.
- The economic data for the model was taken from TURKSTAT, World Bank, UNESCO, OECD and WHO

NPV per Capita



Cost of Early Dead

Total NPV per Capita		
753,319		
Age	**NPV by Age**	**Cost of Early Dead**
10	-10,334	763,654
20	15,316	738,004
30	190,471	562,849
40	421,560	331,759
50	631,742	121,578
60	747,050	6,269
70	768,826	-15,507
80	758,917	-5,598
90	753,519	-199
100	753,319	0

Conclusions

- Value of life is estimated by a hypothetical model based on NPV with taxes and expenditure of government for each individual for a lifeterm.
- Model approaches included value of life for each decade of age, which can guide for marginal benefit of preventing premature deaths.
- This may be a guide for health policy authorities to prioritize the treatment options for different decades.
- NPV based alternative payment models would require additional research, infrastructure, and policy change to implement at scale

References

1. Kockaya, G., Yenilmez, F. B., & Tuna, E. (2016). Estimation Of Value Of Life With A Model Approach Depending On Net Present Value For Turkey. Value in Health, 19(7), A477.

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