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**An economic evaluation of public financing of in
vitro fertilization (IVF) in Israel**

THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE M.B.A DEGREE

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APRIL 2017

Abstract

Scientific background: Israel offers full public funding for in vitro fertilization (IVF) to any Israeli woman irrespective of her marital status or sexual orientation, until she has two children with her current partner. The number of treatment cycles funded publicly is unlimited, but the age of the woman that is entitled to such treatment is limited to 45 for the purpose of oocyte retrieval. We are currently dealing with two main trends: life expectancy is increasing and women around the world are becoming more educated and more integrated in the labor market. This is the leading cause for women to postpone the entry age for pregnancy, which affects the declining crude birth ratio in most Western countries. These trends affect the level needed to maintain a stable population size.

Objective: To evaluate the public expenses for an individual during her/his lifetime, from birth resulting from IVF against her/his lifetime financial contribution to the Israeli economy.

Working hypotheses: 1) The financial contribution of the individual will be greater than the total public expenses (including public funding of IVF) for the same individual throughout her/his life. 2) The use of the IVF technology in women who have a higher chance of getting pregnant (for example, a third child to a woman that gave birth twice in the past, using IVF), may be an effective way to increase the number of people who will participate in the employment market in Israel.

Methods: Formulas were derived to estimate the country's public expenses on health, education, welfare and an individual's lifetime income in Israel. In addition, the indirect contribution to the economy of the individual was taken into account. The objective function is to maximize the total net contribution (economic benefit) of the individual to society so it will exceed the total public expenses of the country on the same individual. The calculations were based on data collected from the literature and data from Israel. In addition, a number of assumptions were made to help estimate the data. The annual expenses before delivery (per person) and the annual expenses at birth (per person) were estimated. When there was a dilemma in choosing between two cost estimates, when it came to expenses - the higher

amount was used, and when it came to incomes - the lowest, thus the calculations are conservative.

Results: The study findings showed that the financial contribution of the individual was greater than the total public expenses on the same individual throughout her/his lifetime. The country's highest public expense was on education, then on healthcare, after that on welfare and last on public funding of IVF.

Study importance: To the best of my knowledge, this is the first study to examine the economic benefit of an individual who was born with the assistance of IVF technology, to the Israeli economy. The study results may help decision-makers in deciding whether to reduce or expand the current public funding of treatments.

Possible policy recommendations: The study may also help decide whether there is room to initiate restrictions for use of this technology in women, such as limiting the age for treatment, limiting the number of cycles, or alternatively expand the use of the technology, such as funding fertility treatments for a third child and more in a family.

Keywords: in vitro fertilization (IVF) , public funding of IVF, public expenses on education, public expenses on health care, public expenses on welfare and the individual's income.