Juvenile imprisonment and human capital investment

Leonid V. Azarnert

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Abstract This paper analyzes the effect of juvenile imprisonment on educational investment incentives. The model shows that if some adolescents are likely to be in trouble with law, their chances to complete education and thus the expected value of investment in their human capital are negatively affected. As a consequence, their parents not only optimally invest less in the offspring’s education but also give birth to more children. The analysis helps to understand why some minority groups who for exogenous reasons are more likely to be convicted of crime exhibit higher reproduction rates and lower levels of education. It also demonstrates that prison education may have unintended adverse consequences.

Keywords Imprisonment · Human capital · Fertility · Economic growth

JEL Classification I2 · J1 · K4 · O1

1 Introduction

Some people are more likely to be convicted of a crime than others. For example, in the US, young Americans of African descent have long been considered as a notorious example of individuals convicted of more crimes than other Americans (e.g., [7, 8, 14, 15]). It has been widely agreed that a young African-American male is more likely to go to jail than go to college [19, 20]. More recent examples originate from Europe, most notably, France and the Netherlands, where people of North African and Middle Eastern descent are well over-represented in crime. At the same time...
time, their educational achievements are relatively modest and their reproduction rates are relatively high as compared to the original Europeans.

Various aspects of the economics of crime have long been carefully studied in economics.\(^1\) Studying crime within a human capital framework has also attracted attention in recent years. For example, Imai and Krishna [13] estimate a life cycle model with exogenous wage growth and employment and with endogenous criminal choices and criminal skill accumulation. Huang et al. [12] incorporate a first-stage educational decision in an equilibrium search framework with legitimate and criminal opportunities. Lochner [16] models decision to work, to commit crime, and to make costly investments in human capital in an investment model of human capital formation.

This article analyzes the effect of a possible imprisonment of adolescents on the incentives to invest in their human capital. It discusses the issue in the context of a simple model with endogenous fertility that borrows elements from Galor and Tsiddon [11], Morand [17], and Azarnert [1, 2]. The main point of departure of this paper from the previous literature is that it examines the consequences of deleterious effects of a student’s (possible) ex post incarceration—and hence the termination of his studies—upon his (and his family’s) ex ante human-capital investment incentives. The basic theme is that if, for some exogenous reason, a group of adolescents are likely to be in trouble with law, then this adversely affects their chances of completing education. In turn, this reduces their ex ante returns to human capital investments which discourages them at the margin. As a consequence, as consistent with the traditional quantity–quality tradeoff of endogenous fertility models,\(^2\) their parents not only optimally choose to invest less in the offspring’s education but also give birth to more children.\(^3\)

This basic result that the present model applies to the topic of juvenile crime, in general, is valid for any impediment to the effectiveness of parental educational input on human capital investment and in a more general setting can be applicable to any situation when children choose how much effort to exert in school on the basis of their perceived future returns to schooling. Thus, for example, it has long been argued in the literature on disadvantaged groups that if a group of youths, for any reason, perceive the opportunity structure differently from others, they consequently tend to put less effort and commitment into their school work. Correspondingly, their rational parents invest fewer resources in their education. Although this explanation seemed to be very plausible in the past, at present, the widespread expansion of Affirmative Action poses additional questions that to a certain extent can be answered if the differences with respect to crime are taken into consideration. On the other extreme, Orazem and Tesfatsion [18] analyze a situation when children base their school effort on their parents’ after-tax (transfer) returns to schooling. In their model, income redistribution reduces each child’s perceived net returns to schooling.

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\(^1\)See, for example, the collection of articles in the 2004 Summer issue of the *International Economic Review* and references therein.

\(^2\)Starting with the initial formulation of Becker and Lewis [6], economic thought has produced endogenous-fertility growth models exuberantly. Some references can be found, for example, in Galor [9] and Azarnert [3].

\(^3\)Galor and Moav [10] directly analyze the consequences of different weights given to quality of children in the individuals’ preferences in the context of natural selection and growth.