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Journal of Economic Theory 114 (2004) 1–30
JOURNAL OF Economic Theory
http://www.elsevier.com/locate/jet

A general equilibrium model of statistical discrimination

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Received 17 April 2001; final version received 7 November 2002

Abstract

We study a general equilibrium model with endogenous human capital formation in which *ex ante* identical groups may be treated asymmetrically in equilibrium. The interaction between an informational externality and general equilibrium effects creates incentives for groups to specialize. Discrimination may arise even if the corresponding model with a single group has a unique equilibrium. The dominant group gains from discrimination, rationalizing why a majority may be reluctant to eliminate discrimination. The model is also consistent with "reverse discrimination" as a remedy against discrimination since it may be necessary to decrease the welfare of the dominant group to achieve parity.

JEL classification: D82; J71

Keywords: Statistical discrimination; Inequality; Specialization; Human capital

1. Introduction

This paper studies a competitive model that can rationalize group inequalities as a result of statistical discrimination. Two distinguishable groups have identical distributions of productive characteristics, but may in equilibrium specialize. An equilibrium where groups specialize is characterized by differences in human capital investments, average wages and job assignments.

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0022-0531/$ - see front matter © 2003 Published by Elsevier Science (USA).
doi:10.1016/S0022-0531(03)00165-0

Unlike the previous literature on statistical discrimination there is a conflict of interest between groups in our model. Discrimination may be interpreted as one group exploiting the other by designating them as "cheap labor" in an unskilled job, which under quite general circumstances increases the average productivity of workers in the dominant group.

While thinking of discrimination in terms of exploitation seems natural to us, the previous literature on statistical discrimination has followed another path. Models differ a lot in details, but discrimination between identical groups is usually rationalized as a coordination failure. To generate discrimination in this way it suffices to construct a model with multiple equilibria. Discrimination is then explained as one group coordinating on a bad equilibrium and the rest of the economy being in a better equilibrium.

When discrimination is explained as pure coordination, it does not matter whether groups are competing for jobs in the same labor market or are living on separate "islands". That is, groups can be treated separately. This modelling strategy has been so dominant that separability between groups sometimes is taken to be a defining feature of the theory of statistical discrimination.

Models where statistical discrimination is a coordination problem are very tractable, an obvious advantage. However, the tractability comes at a cost of some implausible consequences. The dominant group would have nothing to lose if the disadvantaged group could solve the coordination failure, suggesting that economic policies aimed at excluding groups from certain professions (as in the US during the pre-civil rights era, in South Africa during the apartheid regime, and in many Southeast Asian countries today) would be irrational. Moreover, since parity can be achieved without harm to the dominant group one wonders how reverse discrimination would arise in a world where the problem is coordination.

While our model in many ways is closely related to other models of statistical discrimination, it is *not* a model of different groups coordinating on different equilibria. Discrimination can occur also if the model has a unique symmetric equilibrium. There is still an element of a self-confirming prophesy in that the roles of the groups may be reversed in different equilibria and that there always exists a symmetric equilibrium. The difference is that, in an equilibrium with group inequalities, the disadvantaged group cannot re-coordinate on a better equilibrium without a simultaneous re-coordination (on a worse outcome) by the other group.

The dominant group always gains from discrimination, explaining resistance towards measures intended to eliminate economic discrimination as well as why it may be in the self-interest of a dominant group to institutionalize discrimination.

1.1. Related literature

There is a large literature on statistical discrimination following the seminal contributions by Arrow [4] and Phelps [15]. One strand assumes exogenous differences in the precision of information, which creates a rationale for firms to