Journal of Economic Behavior & Organization
Vol. 49 (2002) 549–572

JOURNAL OF
Economic Behavior
& Organization

www.elsevier.com/locate/econbase

Will you marry me? A perspective on the gender gap

Ronel Elul[a,*], José Silva-Reus[b], Oscar Volij[c]

[a] *Department of Economics, Brown University, Providence, RI 02912, USA*
[b] *Departamento de Fundamentos del Análisis Económico, Universidad de Alicante, Alicante, Spain*
[c] *Department of Economics, Iowa State University, Ames, IA 50011-1070, USA*

Received 10 January 2000; received in revised form 29 January 2001; accepted 9 August 2001

Abstract

This paper develops a general equilibrium model of the gender wage gap. The difference in earnings is a consequence of a demographic regularity—that men tend to marry younger women—which may limit women's labor mobility and, hence, their average earnings. However, couples are always free not to marry, and do so only if it is in each's self-interest. The intrafamily allocation of resources is determined via non-cooperative bargaining; this leads to interesting interactions between the game played by husband and wife on the one hand, and the competitive environment in which they are immersed on the other.

The predictions resulting from this model's interplay between locational choice and family bargaining are consistent with the observation that the increasing stress put by women on their careers over the past 30 years has been contemporaneous with reductions in both marriage rates and the gender gap. The model provides insight into the consequences of this for the relative welfare of men and women, as well as exploring its wider economic implications.

JEL classification: J12; J16

Keywords: Gender gap; Family bargaining; Household models; OLG models

1. Introduction

The aim of this paper is to develop a general equilibrium model which explains the *gender wage gap*—that is, the observed difference in wages between men and women. We model this difference as being the outcome of a process whereby individuals endogenously choose

* Corresponding author. Tel.: +1-401-863-3836.
E-mail addresses: elul@aya.yale.edu (R. Elul), alasur@merlin.fae.ua.es (J. Silva-Reus), oscar@volij.co.il (O. Volij).

0167-2681/02/$ – see front matter
PII: S0167-2681(02)00006-9

their occupations, and not as the result of any intrinsic difference between the sexes, nor of discrimination. This does not mean that we do not believe that such differences (or discrimination, for that matter) do not exist, or are insignificant; we are only interested in showing that it is possible to explain the gender gap without appealing to them. In addition, by setting this model in a general equilibrium framework, we highlight the interaction between the family decision making process and the competitive market in which it is immersed.

We base our explanation on a demographic fact—that men tend to marry younger women, and show how this can result in an observed gender gap.[1] This is the only distinction which we posit between men and women. As a result of this difference, however, men choose their occupation and location before their potential spouses do, and so married women are left with less flexibility in these choices, with consequent lower income on average. Yet all of this occurs endogenously; women are not required to marry, and in fact do so only when it proves beneficial to them. Thus, a gender gap arises only when the parameters of the economy are such that women are willing to accept a lower wage.

Our explanation of the gender gap is consistent with several empirical regularities: firstly that the wage gap is greatest between married men and women and, second, that differences in earnings between men and women are rarely reflected in overt and explicit discrimination, in which a woman receives a lower salary for doing precisely the same work, but rather in a more subtle form involving sorting across occupations.[2] The model also provides some insight into why the decrease in the gender wage gap of the past 30 years has occurred contemporaneously with increasingly delayed marriages and declining marriage rates. More specifically, consider the suggestion by Costa and Kahn (2000) that the co-location problem has become more severe in the past 30 years, as women place more stress on career and less on family. They use this to explain the growing concentration of two-career families in large cities (where matching two jobs is easier), but it suggests more generally an increase in the cost for women of being tied to the city chosen by their husband. In the context of our model this should lead to the reductions in the marriage rates (and in the gender gap) which have in fact been observed. Further discussion of the empirical underpinnings of our model is provided in the following sections.

The outline of the paper is as follows. Section 2 presents the basic outline of the model. Section 3 reviews some empirical evidence which supports our model. Section 4 briefly surveys the related literature on the modeling of the gender gap and discusses the contribution of our paper. In Section 5, we develop the model in full generality. Section 6 then discusses the notion of equilibrium used in this paper, which is illustrated by numerical examples in Section 7. The main results of the paper are presented in graphical form in Section 8. The proof of existence of equilibrium is given in the appendix.

2. Outline of the model

We begin with a simple rational-expectations general equilibrium model with overlapping generations as in Diamond (1965). We assume that there are two cities, denoted cities I and

[1] This assumption is discussed in the following sections.
[2] See Gunderson (1989) for a summary of the evidence on the gender gap.