



Original Research

Pharmacists' earnings: Their level and distribution

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Abstract

Background: From a methodological perspective, the central tendency and the spread of an earnings distribution are independent outcomes. Theoretically, they may be related to each other.

Objective: Explore the direction and magnitude of the effect of changes in the mean of pharmacists' wage-and-salary earnings on earnings inequality. Specifically, the probe focused on whether an increase in the central tendency led to a wider or a narrower spread.

Methods: The original data were collected using a survey questionnaire mailed to pharmacists in South Florida, USA. Earnings means and inequality indicators were calculated in a previous study for 41 groupings of pharmacists in 16 categories. Using ordinary least squares, a model was tested depicting five indicators of wage-and-salary earnings inequality (log earnings variance, coefficient of variation, lower median share, 90-10 decile ratio, and Gini coefficient) as a function of the earnings mean. Separate sets of equations were developed for all pharmacists in the data set and for only full-time pharmacists.

Results: A relationship was found between the central tendency and the dispersion of pharmacists' earnings, and this relationship was mediated by whether or not part-time pharmacists were included in the analysis. Higher levels of earnings led to less inequality for all pharmacists, but the opposite effect was observed for full-time pharmacists: higher earnings levels led to greater inequality in the distribution.

Conclusion: The mechanics of the earnings generation process of full-time pharmacists are different from those of part-time pharmacists. The opportunity cost of leisure, which is a determinant of practitioners' number of hours worked, affects patterns of earnings and also may affect other labor outcomes.

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Introduction

Wage-and-salary earnings can be analyzed using two different paths: mean and spread. The mean measures the central tendency of the distribution, that is, the most representative value for a

group of workers. It is useful for comparing the earnings of hospital versus retail pharmacists, managers versus clinicians, etc., and is affected by workers' stock of human capital and job-related preferences as well as employers' characteristics and market constraints.¹

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The second path in which earnings can be analyzed pertains to their spread throughout a group of practitioners. Regardless of the central tendency, a broader distribution of workers with presumably similar characteristics is indicative of heterogeneity in its composition, that is, inequality in wages and salaries. This inequality is influenced by numerous factors in the interplay of workers' supply and demand, availability of information, and inefficiencies of the labor market in its search for equilibrium. (Inequality does not necessarily mean inequity.) Thus, for a group of practitioners, four extreme outcomes are possible: mean earnings may be relatively high/low and the distribution may be relatively narrow/broad.

Although methodologically the central tendency and the spread of an earnings distribution are independent outcomes, contingent upon whose wages and salaries are being described, one might argue that, theoretically within a profession, they are related to each other. This may be particularly the case in pharmacy, where clearly defined educational and training requirements, standardized board exams and certifications, and relatively strict practice regulations contribute to making professional services fairly substitutable among practitioners²; in other words, workers possess very similar characteristics. The purpose of this paper was to explore the effect, if any, of mean wages and salaries on inequality in the distribution of earnings experienced by pharmacists; specifically, the probe focused on whether an increase in the central tendency (i.e., the mean) of the distribution led to wider or narrower dispersion (i.e., more or less inequality).

Theoretical arguments

The relationship between generation of income and inequality has been researched extensively.^{3–6} Most of the work examines national income from all sources, that is, a macroeconomic perspective, and uses dynamic models in which income growth over time, rather than income at a given time, is addressed. The focus here was considerably narrower, seeking to explore if and how higher wage-and-salary earnings are conducive to more or less inequality in the pharmacy profession within a static, not dynamic, analysis. Several arguments pertaining to this relationship are worth reviewing. These arguments are presented as conjectures that might explain possible links between the earnings central tendency and its dispersion.

Until recently the pharmacist workforce has been characterized by a shortage of labor supply, a shortage that persists in some areas, due in part to an expected massive retirement of baby boomers. It also has been characterized by a growing demand for prescriptions, the emergence of new professional roles for pharmacists, and the ongoing reform of the health care system. In order to attract workers qualified to fit organizational requirements, employers may be forced to pay newly hired pharmacists higher wages and salaries than those paid to current employees, a phenomenon known as wage inversion.⁷ Or wage raises to retain staff may not be uniformly applied to reflect merit criteria. In either case, an increase in mean wages and salaries could cause greater observed disparity.

Another argument in support of the impact of the central tendency on the spread of the earnings distribution among groups of pharmacists centers on special skills acquired by new graduates not shared by their older peers. Today's pharmacy school curricula offer courses beyond the traditional pharmacology and practice fields of study; they place increased emphasis on pharmacy management, pharmacoeconomics, communication at all levels, and counseling techniques, all of which give recent graduates an advantage over their predecessors. In addition, proportionately more recent graduates are pursuing a residency program immediately after graduation,⁸ thus entering the workforce better equipped to cope with the rapidly shifting need to provide cost-effective clinical services rather than comply with merely dispensing responsibilities. Many employers, motivated to keep up with the changing priorities of the profession, may be willing to pay a premium for the willingness and ability to perform emerging professional tasks, while more experienced pharmacists, perhaps comfortable in their current positions and/or reluctant to acquire new skills or take on new roles, may remain at stagnant earnings levels. The greater mean earnings, brought about by the higher wages and salaries of the clinically oriented recent graduates capable of carrying out a wider scope of tasks, could lead to greater inequality through broader dispersion.

A third way in which generational differences may mediate changes in earnings levels and inequality has to do with the distinctive labor characteristics and preferences of Generation Y pharmacists, who constitute the majority of new graduates. Members of this age group are known

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