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Dynasties in professions and the role of rents and regulation: Evidence from Italian pharmacies☆

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ABSTRACT

This paper provides causal evidence concerning the role of rents in explaining dynasties in professions. It focuses on the Italian pharmacist labor market, and exploits discontinuities (established by law) in the relationship between the number of pharmacies that should serve a city and the population. Using a regression discontinuity design, it shows that a reduction in rent, proxied by the pharmacy-to-population ratio, has a significant and negative impact on the propensity of pharmacists' children to follow their parents' career. In contrast, pharmacy rents do not affect the career choices of non-pharmacists' children, who face higher entry barriers (i.e. they do not inherit the family business). Further evidence shows that rents and lower exposure to competition are associated with stronger family ties also among other professions and within firms.

1. Introduction

There is abundant empirical evidence, recently reviewed by Black and Devereux (2011) and Corak (2013), indicating a positive correlation in income across generations. Similarly, several papers – with Lentz and Laband (1989) and Laband and Lentz (1992) being among the first – document the tendency of children to be employed in the same occupation as their parents. Beyond the existing literature, there are countless anecdotal stories about dynasties in professions in every city and historical period.

Examining the mechanisms behind career following, a stream of literature (e.g., Bowles et al., 2005; Björklund et al., 2006; Sacerdote, 2011) has largely focused on nature versus nurture, i.e., the relative importance of an individual's innate qualities (nature) versus the role of personal experiences, such as family upbringing, peer group, and other environmental factors (nurture). These factors might favor the transmission of occupation-specific human capital within the family and therefore intergenerational persistence in professions (and incomes). Beyond these factors, career following may also be related to pure nepotism and other (unfair) benefits that result from parents' positional advantage (hereinafter rents).[1]

The aim of this paper is to identify the role played by rents in dynasties in professions, focusing on those favored by regulation. The idea is that regulations that are restrictive and hostile to competition provide market power to incumbents, constitute barriers to entry and generate rents. Rents in turn represent the economic prerequisite for socially undesirable behaviors, such as nepotism and family favoritism.

Disentangling career following motivated by an intergenerational transfer of occupation-specific human capital (through either nature or nurture) from that caused by positional rents is extremely challenging from an empirical point of view. In an ideal experiment, one would examine the occupational choices of two identical children randomly assigned to a different treatment: in the first case, the parent works in a perfectly competitive market; in the second, the parent has the same profession but benefits from positional rents that protect him or her from competition and generate extra returns. The likelihood that the second child will follow in his or her parent's footsteps would be much greater, *ceteris paribus*, than that of the first child. This difference is entirely attributable to positional rents. The impact may pass through

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[1] Unsurprisingly, the term nepotism comes from Italian *nepotismo* – the Latin root meaning nephew – originating in the Middle Ages with papal nepotism. Indeed, several popes assigned important positions, such as cardinal, to their nephews as they were unable to have children due to their vows of chastity.

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multiple channels. First, rent extraction from the parent's profession alters the relative returns of occupations, thus affecting the child's choice. Second, the parent's positional rents lower entry barriers into the same profession. Third, in a less competitive environment there is more room for inefficient behaviors (e.g., the within-family transmission of the business even in the presence of low-talented children) because the cleansing role of the market is lessened.[2]

To obtain clean evidence of the nexus between rents and career following, this study focuses on the profession of pharmacists in Italy. Italy provides an interesting study case because it is one of the most immobile societies (Mocetti, 2007; Corak, 2013) and one of the most regulated economies (OECD, 2011) among developed nations. Therefore, regulation and positional rents may help to explain the lower degree of social fluidity in the country. Moreover, the labor market for pharmacists has peculiar features that are useful for the identification of strategies. First, pharmacists are primarily engaged in the retail trade and the ownership of the pharmacy is a key element of the profession. However, entry to the pharmacy market is highly regulated (see more on this below) and pharmacists' children benefit from privileged access because inheriting the family business is one of the most common ways of owning a pharmacy.[3] Second, and more interestingly, the economic rent of a pharmacy (i.e., market power proxied by the number of pharmacies per thousand residents) is highly heterogeneous across cities, reflecting a demographic criterion stated by Law 475/1968. Namely, the law establishes a set of population thresholds at which the number of pharmacies that should operate in a city changes discontinuously.

The dataset consists of a sample of young people for whom we observe, among other variables, whether they are enrolled in a pharmacy program at a university (i.e., their propensity to become pharmacists) and whether they are children of a pharmacist. These data are matched with the number of existing pharmacies at the city level.

The empirical strategy uses the economic rent function induced by the regulation to construct instrumental variable (IV) estimates of the (observed) economic rent. This identification strategy – similar to the method of Angrist and Lavy (1999) – exploits the fact that the regressor of interest is partially determined by a known discontinuous (non-linear and non-monotonic) function of an observed covariate (population). This represents an application of the regression discontinuity design. The analysis is replicated for both pharmacists' children and all the other children, exploiting the fact that the two groups have different likelihoods of entering the profession (i.e., pharmacists' children may inherit the business and benefit from privileged access). The application of the regression discontinuity design to the pharmacy market in Italy is shared with Calzolari et al. (2013); they find that the variation in the number of pharmacies at the local level is associated with the degree of competition and the capacity of pharmacists to extract a surplus from less elastic buyers.

This paper documents that the propensity for pharmacists' children to become pharmacists (15.9%) is remarkably higher than that for the rest of the population (1.3%). Notably, parental education and familiarity with the medical field explain only a minor portion of the difference (the corresponding figure is 4.5% among the children of doctors or somewhat related professions). Conversely, the empirical findings suggest that positional rents (the inheritability of the business and the economic rents guaranteed by favorable pharmacy-to-population ratios) play a major role in this decision. Specifically, the study finds that career following among pharmacists' children is around 4 percentage points higher in cities just below the thresholds (where rents are higher), corresponding to one fourth of the predicted probability of becoming a pharmacist. In contrast, the impact of economic rents is negligible for non-pharmacists' children, thus suggesting that entry barriers and the inheritance of the family business heavily affect career choices and intergenerational persistence among pharmacists.

The findings extend beyond the pharmacist profession and are generalizable to other occupations in which the presence of rents – due to the regulation or characteristics of the market – may provide room for nepotism and family favoritism. Indeed, this paper shows that dynasties among members of professions (including architects, engineers, legal professionals, etc.) are more widespread in countries where those professions are highly regulated and that the family succession rate within firms is higher in those sectors that are less exposed to international competition.

To the best of our knowledge, this paper is the first to focus on the role of regulation and rents in the literature on inequality and intergenerational mobility. Indeed, the overwhelming majority of existing empirical studies that examine the factors responsible for the observed intergenerational persistence are focused on nature versus nurture and on the mediating role of the education system (Black and Devereux, 2011). Surprisingly, the role of regulation, which may heavily affect economic returns and barriers to entry in certain professions, is largely neglected.[4] A further novel element of this study is the empirical strategy, which allows the identification of a causal nexus (from rents to career following), thus overcoming the descriptive approach prevailing in previous studies on occupation persistence. From a policy perspective, the findings indicate that the role of family background may be considerable in adulthood and not only in relation to upbringing. Therefore, any policy that removes guild privileges and reduces rent positions in the labor market may increase social fluidity and lead to a better allocation of resources across occupations.[5]

The remainder of the paper is organized as follows. Section 2 briefly reviews the literature and examines the relation between rents and intergenerational mobility. Section 3 describes the institutional details of the pharmacist labor market. Sections 4 and 5 address the data and empirical strategies respectively. Section 6 reports the results and Section 7 offers concluding remarks.

2. Background discussion

Intergenerational persistence in socio-economic status has been observed in all of the societies studied thus far, although there is considerable cross-country variation (Corak, 2013). Existing estimates of the extent to which sons' earnings correlate with those of their fathers (i.e., elasticity of intergenerational earnings) are particularly pronounced in Italy, where approximately half of the economic advantage that high-earning fathers have over low-earning fathers is transmitted to their sons.

Cross-profession variation in intergenerational persistence is also considerable but largely uninvestigated. Basso and Labartino (2011) provide descriptive evidence on family connections across professions in Italy using the distribution of surnames within a profession as an indicator. According to their results, family connections are strongest among doctors, pharmacists, and lawyers.[6]

The cross-occupation heterogeneity in intergenerational persistence and the higher relevance of dynasties in certain professions may be attributed to a number of aspects that are difficult to isolate from each

[2] Bandiera et al. (2009), using a field experiment, find that managers favor the workers with whom they are socially connected when faced with low-powered incentives (and that this has a detrimental effect on the firm's overall performance). Bloom and Van Reenen (2010) show that competition improves management practices, with badly run firms exiting more speedily from the market.

[3] In principle, parents may sell the pharmacy to extract all future rents and transfer the resources to their children, who can then choose the educational and professional career that better fits their attitudes and skills. In fact this rarely happens. First, the within-family inheritability of the business implies that the present value of the pharmacy also includes the future rents of the descendants; therefore, the market price of a pharmacy may become unaffordable, especially in the case of liquidity constraints. Second, the pharmacy can be sold only to other pharmacists, making the market very tiny.

[4] See Kleiner and Krueger (2013) for an analysis of occupational licensing in the U.S.

[5] Smeeding et al. (2011) argue that the existing literature provides few clues concerning the role of labor market institutions. Equality of opportunity has primarily been pursued by democratizing access to education, whereas there is almost no research on the functioning of the market and the rules defining access to occupations.

[6] See Figure A1 in the online appendix. See also Lentz and Laband (1989) and Laband and Lentz (1992) for evidence of career following among doctors and lawyers, respectively, in the U.S. Long and Ferrie (2013) provide evidence on occupational mobility in the long run in the U.S. and Britain.