Wages and the City. Evidence from Italy

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Abstract

We analyze empirically the impact of urban agglomeration on Italian wages. Using micro-data from the Bank of Italy's *Survey of Household Income and Wealth* for the years 1995, 1998, 2000 and 2002 on more than 22,000 employees distributed in 242 randomly drawn local labor markets, we test whether the structure of wages varies with urban scale. We find that every additional 100,000 inhabitants in the local labor market raises earnings by 0.1 percent. The use of a geographical approach enables us to state that this effect decays very rapidly with distance, losing significance beyond approximately 12 kilometers. We also find that urbanization does not affect returns to experience and that it reduces returns to education and to tenure with current firm, while providing a premium to worker supervisors.
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1. Introduction

While the evidence on the magnitude of the labor-productivity gains generated by agglomeration is fairly consistent across countries, the findings on the extent to which these gains accrue to workers show considerable variation. Thus, while the elasticity of average labor productivity with respect to employment density is estimated to be 5 percent in the US and 4.5 percent in Italy, France, Germany, Spain and the UK (with no significant difference across countries; Ciccone (2002) and Ciccone and Hall, 1996), the estimates of urban wage premia vary widely both across and within countries, depending on the agglomeration variable and dataset

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used. For instance, the elasticity of wages is about 2 percent with respect to employment density in the French zones d'emploi (Combes et al., 2003); it is 2.7 percent with respect to the US Statistical Metropolitan Area (MSA) population level (Wheeler, 2001); and it amounts to 10 percent when it is calculated with respect to the Japanese Standard Metropolitan Employment Area population (in real terms, the elasticity is negative; Tabuchi and Yoshida, 2000). Furthermore, while Diamond and Simon (1990) find that every additional 1 million inhabitants in the US MSAs increases wages by 1–2 percent, Yankow (2006) obtains a 19 percent wage premium in the MSAs with more than 1 million inhabitants (falling to 6 percent after removing the time-invariant unobserved heterogeneity). Similarly, Glaeser and Maré (2001) find that in the MSAs containing at least one municipality with more than 500,000 inhabitants earnings are 24–28 percent higher than in rural areas, even though after controlling for individual-specific effects the wage premium from moving between metropolitan and non-metropolitan areas is reduced to about 4.5 percent.[1] Finally, the effect of agglomeration economies on wages attenuates with distance. In particular, the externalities arising from occupation specialization decay after 1.5 miles, those due to human capital depth after 3 miles, and those due to occupation diversity after 9 miles (Fu, 2007).

Thus, *urbanization*[2] estimates vary widely not only across- but also within-studies, largely because of the presence of self-selection into the largest cities: the time-invariant unobserved heterogeneity can explain up to 1/2–4/5 of the urban wage premium estimated by OLS. In this respect, the Italian case may be of interest, casting some light on the importance of selection in other countries, because the limited mobility of Italian workers reduces the likelihood that urbanization estimates are biased by sorting into the largest markets. Moreover, the National Institute of Statistics enables the estimation of agglomeration effects within self-contained territorial units (see Section 3), reducing further the potential problems of self-selection. Indeed, none of our sample's individuals moved their residence across local labor markets (LLMs) in the period considered in this paper (1995–2002). There are mainly two reasons for why Italians are less mobile than, for instance, Anglo-Saxons. First, because they are more strongly tied to the place of residence of their family of origin. Apart from the obvious cultural differences, this is probably due to a worse welfare-system, often requesting siblings to take care of the elderly and grandparents to take care of grandchildren. Second, because the imperfections of the housing market increase workers' moving costs, reducing the likelihood of migration. Indeed, the sub-optimal size of the private rented sector (due to the presence of rent controls and to the lack of laws protecting landlords' property) together with the high transaction costs for buying and selling a house lower home-owners' propensity to move (in Italy almost 80 percent of the households owner-occupy; see Section 4.1.1 and Di Addario (2006, 2007) for a more thorough discussion on these issues).

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[1] In Yankow (2006) the premium declines to 8 percent in the MSAs with a population between 250,000 and 1 million inhabitants (4 percent after controlling for the time-invariant unobserved heterogeneity); in Glaeser and Maré (2001) it falls to 13–19 percent in the MSAs not containing any municipality with at least 500,000 inhabitants.

[2] In this paper we use the term *urbanization* as a synonymous of urban agglomeration, and the term *localization* to broadly mean industrial agglomeration, similarly to Rosenthal and Strange (2004), who take the former to represent the economies arising from the city itself, and the latter as the externalities from the spatial concentration of activity within a certain industry. Unlike us, other authors take urbanization to mean product variety or inter-industry size (i.e., *Jacobs externalities*), and localization to mean "sectoral specialization" or industry size (i.e., *Marshall-Arrow-Romer or MAR externalities*). While industry/occupation diversity and industry/occupation concentration have been empirically contrasted within the same study (see, for instance, Fu, 2007), the externalities typical of a city (not necessarily industrial) and those arising from industry (not necessarily urban) have not, so that the magnitude of urbanization and localization effects cannot be easily compared.