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Creative capital in production, inefficiency, and inequality: A theoretical analysis

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ABSTRACT

We analyze inefficiency and inequality associated with the use of creative capital to produce a final good. We first study a case in which the creative capital units are perfect substitutes in the production of the final good. We show that the equilibrium outcome is inefficient and that there is too little application of effort. Second, we define an indicator of inequality and show that an increase in inequality enhances efficiency and that it is possible to achieve complete efficiency. Third, we focus on the case where the individual creative capital units are perfect complements and show that the equilibrium outcome is inefficient with too little effort application. Finally, we contend that our theoretical results provide a possible rationale for the observed income inequality in cities and regions in which the activities of the creative class constitute a large part of all economic activities.

1. Introduction

1.1. Overview of the issues and the literature

An outcome of the academic and the popular writings of the urbanist Richard Florida[1] is that both regional scientists and urban economists are now very familiar with the twin notions of the *creative class* and *creative capital*. In his prominent tome titled *The Rise of the Creative Class*, Florida (2002, p. 68) explains that the creative class "consists of people who add economic value through their creativity." This class is made up of professionals such as doctors, lawyers, scientists, engineers, university professors, and, notably, bohemians such as artists, musicians, and sculptors. From the standpoint of urban and more generally regional economic growth and development, these people are significant because they possess creative capital which is the "intrinsically human ability to create new ideas, new technologies, new business models, new cultural forms, and whole new industries that really [matter]" (Florida, 2005, p. 32).

As pointed out by Florida on several occasions, the creative class is important because this group gives rise to ideas, information, and technology, outputs that are important for the growth and development of cities and regions. Hence, in this era of globalization,

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[1] See Florida (2002, 2005) and Florida, Mellander, and Stolarick (2008).

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cities and regions that want to be successful need to do all they can to draw in members of this creative class because this class is the principal driver of economic growth.

Is there any difference between the well known concept of human capital and Florida's newer notion of creative capital? To answer this question, first observe that in empirical work, the notion of human capital is generally measured with education or with education based indicators. Even so, Marlet and Van Woerkens (2007) have rightly pointed out that the accumulation of creative capital does *not* always depend on the acquisition of a formal education. Put differently, while the creative capital accumulated by some members of Florida's creative class (doctors, engineers, university professors) does depend on the completion of many years of formal education, the same is not always true of other members of this creative class (artists, painters, poets). Individuals in this latter group may be innately creative and hence possess creative capital despite having very little or no formal education.

As such, we agree with Marlet and Van Woerkens (2007) and contend that there is little or no difference between the notions of human and creative capital when the accumulation of this creative capital depends on the completion of many years of formal education. In contrast, there can be a lot of difference between the notions of human and creative capital when the accumulation of this creative capital does not have to depend on the completion of a formal education. Because creative capital is of two types it is a *more* general concept than the notion of human capital.[2]

Critiquing the notions of the creative class and creative cities, Peck (2005) claims that the use of creative strategies in creative cities has done little to ameliorate problems stemming from the existence of what he calls socio-spatial *inequality*. Donegan and Lowe (2008, p. 46) have forcefully put forth the view that creative class theory has a “dark side” to it because cities that have a larger creative talent pool are also likely to have greater *income inequality*. This point has also been emphasized by Reese and Sands (2008). The findings of these three studies notwithstanding, Arribas-Bel, Kourtit, and Nijkamp (2015) point out that social and ethnic diversity may act as an “attraction force” for visitors seeking to enjoy the vibrancy of inner city areas in a metropolis like Amsterdam.

Lorenz (2011) looks at regional education and training systems in the context of what he calls creative forms of work organization. He points out that *inequalities* in access to high quality work environments can be reduced only with the employment of lifelong learning policies. Leslie and Catungal (2012) contend that the pursuit of ideas stemming from Richard Florida's creative class theory by many municipal governments has not only deepened class inequality but that specific features of what they call the “creative city” have resulted in the maintenance and even the exacerbation of class, gender, and racial *inequalities*.

Siemiatycki (2013) focuses on Oshawa, Ontario and points out that policies designed to attract creative class workers to this “lagging region” have resulted in some achievements but they have also given rise to growing concerns about poverty, homelessness, and *inequality*. Finally, Liu and Xie (2013) use data for 1998, 2000, 2005, and 2008 and show that provinces in China with a larger creative economy also tend to have a higher level of *wage inequality* between workers in the creative and other sectors of the economy.

Two points are now worth emphasizing. First, a central claim made by the papers discussed in the preceding three paragraphs—and indeed by many other studies—is that there is a *connection* between income inequality in particular and inequality more generally and cities and regions in which the activities of the creative class constitute a large part of all economic activities. Second, even though many observers have commented on the nexus between income inequality and cities and regions in which the activities of the creative class are a large proportion of all economic activities, to the best of our knowledge, *no one* has provided a microeconomic rationale for the existence of income inequality in the types of cities and regions that we have just mentioned.

1.2. Contributions of our paper

Given this lacuna in the literature, in our paper, we focus on a stylized production process in a region that uses creative capital—provided by members of the resident creative class—to produce a final good. Of particular interest to us are the twin notions of *inefficiency* and *inequality* associated with the use of creative capital in this production process. In this regard, we first analyze a case in which the individual creative capital units are perfect substitutes in the production of the final good. We show that the equilibrium outcome is *inefficient* and that there is too *little* application of effort by the individual creative capital units. Second, we define an indicator of inequality and show that increasing inequality in the output shares received by the various creative capital units *enhances* efficiency and that it is possible to achieve complete efficiency in the allocation of the various creative capital units. Third, we concentrate on the case where the individual creative capital units are perfect complements and show that the equilibrium outcome is, once again, *inefficient* with too *little* effort application by the individual creative capital units. Finally, consistent with the discussion in the last paragraph of Section 1.1, we contend that our theoretical results provide a possible rationale for the observed income inequality in cities and regions in which the activities of the creative class make up a large part of all economic activities.

The remainder of this paper is organized as follows. Section 2 delineates our theoretical framework in detail. Section 3 discusses inefficiency in input allocation for the case in which the various creative capital units are perfect substitutes in the production of the final good. Section 4 first defines an indicator of inequality and then shows that increasing inequality in the output shares received by the individual creative capital units raises efficiency in input allocation and that full efficiency is an attainable goal as far as the allocation of the various creative capital units is concerned. Section 5 first conducts an exercise similar to that conducted in Section 3 except that the individual creative capital units are now assumed to be perfect complements. Next, this section notes that our theoretical results in Sections 3 through 5 provide a possible rationale for the observed income inequality in cities and regions

[2] This observation is in agreement with Michalko's (2001) conceptualization of creativity as the ability to view problems, situations, and challenges in novel ways and to explore original and less traveled pathways in response to the above mentioned challenges. See Pratt (2008) and Balducci (2011) for more on these ideas.