

Reviewer #2

Comments on "An enquiry into the Development of Science and Technology Parks in China" by Zhang Haiyang and Tetsushi Sonobe

The authors aim to detect to which extent agglomeration economies and congestion affect on-park and off-park firms in cities where national science and technology industrial parks (STIPs) are located. After some stylised facts about the 54 technology parks in China, e.g. number of firms and real output per worker in the 5 largest and the 5 fastest-growing parks, and a short description of the entry requirements into a STIP for high-tech firms, the advantages of being accepted to a technology park are presented. The theoretical approach is based on a profit maximization problem with two fixed input factors, labour (l) and capital (k), and a free input: a composite of land and infrastructure (g). The latter is only available up to a value of γ which marks the upper bound in case the profit maximization results in a higher value of land usage. For each city, there are two groups of profit-maximising high-tech firms: on-park and off-park firms. If γ is the amount of land used by a group of profit-maximizing firms, they are said to suffer from congestion. The empirical part of the paper seeks to estimate the production elasticities with respect to l and k as to determine whether congestion is a problem. Using fixed-effects and random-effects models separately for STIPs, no-STIPs and pooled data and comparing different periods over the whole period, they find suggestive evidence that congestion inside the STIPs is a problem.

Furthermore, they find that the productivity of both STIPs and no-STIPs is positively associated with FDI and the number of university teachers in the city.

The literature on technology parks in China is small and will probably not increase much since the Chinese government has reformed the policy for STIPs and now gives the tax privileges independent of the geographic location as long as the requirement for the high-tech firms are fulfilled. From this perspective, the paper could contribute to a clearer understanding of the impact of STIP policy on productivity change in these areas during the period 1988- 2008 and considering lagged effects even some years thereafter.

Regarding the logical structure of the paper, I think it is unwise to first formulate the goal to compare agglomeration effects and congestion if in fact there is no data available which could prove this.

After explaining all Steps in Section 3 very well, I suggest to include a very short explanation between equations (9) and (10) to highlight where the exponents come from.

On page 15 it is mentioned that the authors cannot see whether there are agglomeration economies which might lead to confusion because in the conclusion it is mentioned that firm productivity might suffer from congestion. Is it wise to say so when there is no comparison between agglomeration economies and congestion effects possible?

Furthermore, I was puzzled that the sum of elasticities $a+b$ was to be estimated, and then the authors decided that they excluded this term from the estimation. This appears somewhat inconsistent.