

# Report on "Exporting Firm Dynamics and Productivity Growth"

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**Summary and main contribution:** This paper provides the results of a dynamic Olley and Pakes decomposition of productivity gain for Chinese manufacturing exporting firms during the period 2005-2009. This paper provides pieces of evidence relative to Chinese productivity dynamics. Results show that an increase of about 16% in overall productivity is decomposed in nearly half of within-firm improvement and half of reallocation effect. Additional results are provided conditional on firm ownership, location and sectors.

While the decomposition of the source of productivity growth is always a pending question, such an analysis has to provide new evidence either because of a new methodology, new data, or a specific context (institutional or external shocks) which can change the dynamics of the productivity. The contribution of this paper comes mainly from the Chinese data results. The topic is obviously interesting since no other comparable results do exist but results have to be enriched by a deeper exploitation of the data and by arguing more the interpretation. More has to be done to raise the contribution of the paper at least by improving the quality, accuracy and strength of the interpretation. Moreover, additional statistics and justifications are needed to make the paper more solid. Last, some mistakes and approximations have to be corrected. More generally, the english of the paper has to be checked by native-speaking reviewers.

Follow some proposals to lead the changes that are needed.

## A. Introduction section

1. Give figures also on the change in overall productivity;
2. Mention that the "Schumpeter mechanism" means that the market is efficient : it is if the market works well that then "creative destruction" will happen.
3. Motivate the focus on export and on the period more convincingly. To justify your focus on exporters, the main question is : why considering only exporters to do the decomposition ? You have to justify it: either by saying that exporters' production is the main driver of Chinese production; and/or that they are the main source of productivity growth. And why this is specific to China (as you start to do).
4. Mistake: page 4: Petrin et al.'s results are in percentage points ! You have to reformulate. In general, harmonise the results of the different studies in terms of impact to make them comparable or say in what it is not comparable.
5. Reconsider the sentence "but few of them shed light on the empirical research of ...markets". First, the sentence is unclear: do you mean that there are few empirical analysis ? Second, if yes, this is not totally true because there is a lot of studies on exporters productivity and some of them explore the entry-exit aspect.
6. End the review on empirical results literature by yours and highlight your contribution relatively.

## B. Data section

1. Say whether the data have been already used in other studies.

2. Specify the extent of the data regarding information on ownership, sectors, export status, location. Give the demography of observations conditional on these characteristics.
3. Specifically on Chinese data, information on foreign ownership is important. This characteristic is going to drive the dynamics (affiliates, mergers) as well as the change in productivity. Combine the information on ownership with the one on export status.
4. In summary, tell us more about the sample of firms you are going to study.

### C. Section 3

1. How the estimation of productivity is done? Up to page 13, the reader is not sure about your productivity indicator. You have to define it.
2. Provide in this section statistics on productivity growth by type of firms, by export status, by main sectors, by ownership.
3. Among exporting firms, the share of foreign ownership is very important, amount of export value too. You may consider an export threshold, otherwise it is obvious that very small exporters are going to create a lot of noise. Tell us more about the distribution of export intensity among exporters. For instance, you observe that one over five exporting firms exits the market each year: how many have a very low export intensity; how many are going to re-enter the year after?
4. How do you treat mergers? It is really different from an exit in terms of reallocation process. Check whether the exiting firms during the period have been absorbed.
5. Provide a table of entry, exit and incumbents per year.
6. page 7: the sentence "First, the surviving ability Chinese firms..." has to be rewritten.
7. page 7: Exporters are bigger, more profitable, more productive. Lots of evidence from several empirical papers. Cite some of them and attach your observation to them.
8. page 8: Regarding the result on the turnover rate. Make comparisons with other results conditional on country development level. We would appreciate to ventilate the exit rate by export intensity quartile, by ownership; the entry rate by ownership...
9. Before Table 4: give explicitly the production function that is under the estimates of labor and capital coefficient.

### D. Section 4

1. Section 4, page 9: list the four parts before the equation.
2. Section 4, page 10: how is defined the market in "market share"?
3. The explanation of one of the result: "the entry effect is negative", is insufficient. You cannot just say it is the result of misallocation. It is more likely a problem of barriers to entry and you have to explore the cause of these barriers.
4. Section 4, page 12: Set that 1 and 2 are the periods.  $s$  is conditional on  $it$  on the top of the page, then  $s$  is conditional on  $S1$  or  $S2$  after (in equation 5 and 6). Make all coherent. Define  $X$  and  $E$ , even if you think it is explicitly exit and entry. Is  $\Delta\Phi$  the difference between period 1 and 2 ? Make it clearer.

## E. Section 5

1. The total growth rate has to be either the average annual growth rate, or the growth rate between 2005 and 2009. The sum is not a growth rate. Change the comment in consequence.
2. Mistake: Section 5 page 15: Table 6 is not coherent with Table 5 regarding the productivity growth rate in 2009 !
3. Section 5.2.1: Once you have 5 types of ownership, augment the discussion about the state owned firms and their characteristics to the other types of ownership. Provide statistics on the number of each, the productivity growth of each in the statistics part. Because you are focusing on exporters, you have to explain the relationship between ownership and the probability of being an exporter and of being an intensive exporter which could explain then your overall results on productivity unconditional of the ownership.
4. Identically, the location and the probability to be an intensive exporter is correlated. So given the distribution of the sample of firms into each region, overall results have to be discussed regarding the location distribution. In other words, results from section 5.2 should be used to interpret results from section 5.1.; given that you provide descriptive statistics on location, ownership and sectors on the overall sample. This should end the section 5 as a conclusion of the "Results" section.
5. Improve the interpretation and subsequent argument: "We find the surviving ability of exporters to be generally weak, but the longer the firms survive in foreign markets, the stronger they become." First, "but" is not needed, second, the second result is obvious, either you acknowledge that, as expected, results support that.. or you give an explanation of why it shouldn't be so.
6. "weak, slowly, turbulent" ... are all adjectives that contain poor information. Tell us relative to what it is "weak, slow, turbulent"...
7. The negative entry effect is not necessarily "a misallocation" effect, it can be the result of the lack of barriers to entry allowing less productive firms to enter.
8. The conclusion should first explain the drivers of the change in productivity and place with respect to other results in the literature the specificity of the authors' results. Then give some policy recommendations on what can be done first regarding the 5.2 results and the 5.1 results.

## F. Secondary Remarks:

1. Substitute the acronym DOPD in the abstract by its plain expression. Cite Melitz and Polanec (2015) here to be specific on the methodology.
2. In the abstract: It is at all not clear what you are doing: 1) you focus on exporting firms' change in productivity; 2) you analyse the source of this change by using an OP decomposition; 3) You found that "half.."; 4) "surviving ability" relative to what? 5) saying that "firm turnover is turbulent" is not a result, it brings nothing; 6)"market misallocation" is very general (see Haltiwanger), of course there is ! the question is : to which extent it is relative to other results in the literature, or relative to another time period, or in sectors comparisons, capital ownership comparisons...

**The Referee's Conclusions:** The authors have to provide more work and deeper interpretation to make the paper worth to be published.