

The Wage Premium of Foreign Ownership: Evidence from European Mergers and Acquisitions

Comments on Referee 2

We would like to thank the referee for his/her well-taken comments, which we found extremely useful. We think that the comments have helped to improve the paper significantly. Below, we describe how we have responded to the points raised. We hope that the revised paper meets the expectation of the referee.

1. Contribution of the paper (*“In the introduction the authors should be more explicit about their contribution to the existing literature and especially explain what distinguishes their paper from previous contributions such as Almeida (2007) and Girma and Goerg (2007).”*):

On pages 1 and 2 of the revised manuscript we state clearly now that this paper complements the previous contributions by applying firm level data for a cross-section of firms. This approach allows to investigate potential wage premia differences across Western and Eastern European countries. Our empirical analysis, later on, indeed suggests that the wage effects are substantially larger for firms located in the latter group of countries and thus heterogeneity across countries can be substantial. From a policy point of view, this result implies that cross-border M&As might be one potential driving force behind a (potential) catching-up process in Eastern European countries.

2. Framing of the paper (*“Title and abstract suggest that the authors study effects of globalization on wages, but this paper only analyzes effects of international M&A and no other aspects of globalization such as exports, FDI, and offshoring.”*):

We totally agree with this comment (and comments 1 of the invited reader and the editor, respectively) and re-phrased our introduction accordingly. In particular, we now stress more explicitly that our paper is about the wage effects of (cross-border) M&As, which is only one important phenomenon of globalization. Moreover, we changed the title of the paper to *“The Wage Premium of Foreign Ownership: Evidence from European Mergers and Acquisitions”* and also modified the abstract and the conclusions accordingly. Please consult these sections for more details on our modifications.

3. Wage information in the data (*“The data bases AMADEUS and ZEPHYR seem to be well suited to study effects of M&A on outcome variables such as productivity, profits, investment etc. However, the information on wages (only average wages) is much less detailed than in other empirical studies on this topic.”*):

We agree that a matched employer-employee data set would be preferable, since such data would allow to investigate the impact of M&As on individual workers. Some single country studies which are able to use such data, therefore, obtain very interesting and heterogeneous (within-firm) wage effects of M&As. To our knowledge, matched employer-employee data are, unfortunately, not available for a cross-section of various countries. For this reason, our paper is limited to analyze the impact of M&As on firm-specific average wages. By way

of contrast, M&A data from a cross-section of countries allow to investigate potentially heterogeneous wage effects across firms located in different countries. For this reason, our paper intends to augment the already existing single-country evidence with results for countries which are at different stages of development and for different average wage levels.

Apart from that, we additionally focus on alternative outcome variables in order to figure out some possible driving forces behind the observed wage premium of foreign ownership. Please consult our reply to the next comment below for further details on this issue.

4. Potential causes for the M&A induced wage effects (*“The lack of information on employee characteristics in the data set makes the results somewhat difficult to interpret. Do wages in acquired firms rise because existing workers receive higher wages or because there is a change in the average skill level after acquisition (e.g. due to a layoff of low skilled employees)? What are the theoretical mechanisms driving the results? What explains the heterogeneous effects across the wage level distribution? To explain the findings, it might help to see how M&A affect other outcome variables such as productivity, profits and capital intensity or to show at least how they change after the merger in descriptive statistics”*):

The revised version of the paper includes a new Section 3.3 where we discuss some potential sources for the estimated wage premium of foreign ownership. More precisely, we apply our baseline DID propensity score matching approach to five alternative outcome variables such as employment, capital intensity, productivity, sales and profits (see also comment 3 of referee 1). The corresponding results provide some potential reasons for the observed positive wage effects but are not able to fully explain them. For this reason, we conclude that our data leave some open questions for potential further research. For further details on this analysis please see Section 3.3 of the revised manuscript.

5. Measurement of wage growth (*“How exactly is wage growth defined in the matching estimates? Is it measured from the year before the acquisition or at the year of acquisition? Is it measured in percentage points? The interpretation is not in line with descriptive statistics. In Table 1 0.075 is interpreted as 7.5%, but in Table 3 a point estimate of 3.45 is interpreted as 3.45%.”*):

We agree with you that the initial version of the paper is not very explicit about the measurement of wage growth for M&A targets. For this reason, we now added a sentence explaining that wage growth for acquired firms is solely calculated for the first year after the respective transaction took place. Thank you also very much for pointing us to the inconsistency of the wage growth illustration in Table 1 of the paper. In the revised version we now modified its illustration accordingly.

6. Balancing property, common support and alternative estimators (*“It would be good to have some information about the quality of the matching, such as balancing tests and information about the common support condition. It would also be interesting to compare the results of the propensity score matching to other matching estimators and results from OLS/fixed effects regressions.”*):

When revising the paper we follow all of these suggestions. To start with, and also in line with comment 1 of the first referee we now report balancing property statistics in Table A.1 in the Appendix. A brief discussion of this table is provided on page 11 of the revised

manuscript. There, we also state that the common support criteria is fulfilled for all 432 M&A cases available in our final dataset.

The revised version of the paper includes a new Table 4 which provides some robustness checks. Here, we again follow your suggestion and apply two alternative estimators. More precisely, the upper two blocks of Table 4 provide results based on simple OLS and from nearest neighbor matching. Both alternative estimators include all variables from the probit model either as additional controls or matching variables. For the matching procedure we apply the approach proposed by Abadie, Drukker, Herr and Imbens 2004 and Abadie and Imbens 2006, adjust our estimates for the bias stemming from non-exact matching and apply exact-matching within industry-country-year cells. The results obtained from these alternative estimates clearly point to the robustness of our baseline results. For further details, please see Table 4 in the manuscript and the discussion on page 13.

7. Interpretation of the sub-sample results (*“The results in Table 3 are somewhat confusing. For instance, there is a significant effect of all M&A on wages in the full sample M&A-50, but there is no significant effect of cross-border or domestic M&A and the coefficient are smaller in magnitude. Should the effect of all M&A not be a weighted average of the effects of domestic M&A and cross-border M&A?”*):

You are right. In Table 2 of the revised manuscript we report the estimation results corresponding to our propensity score model. In this Table we indicate that apart from the variables discussed in detail we also include country-, industry- and year-fixed effects. Although, this approach increases the likelihood that matched firms are located in the same country it is not entirely guaranteed that this is truly the case. A careful inspection of our sub-sample analysis reveals that some matched controls are not located in the same country and, thus, our control groups are sometimes slightly different. Evidently, this change in the composition of the control group also alters our ATT estimates.

8. Sample composition and sample selection (*“Why are there no firms from Austria, Finland, the UK and other countries in the sample? The sample selection should be discussed in more detail, also regarding the importance of missing values in key variables.”*):

We fully agree that the small number of M&As might be puzzling at a first glance. For this reason, we now offer a more extensive data description in Section 2.1 and especially put our focus on the sample composition. In particular, at the end of this section we offer three reasons for the small amount of M&As. Here, we explain that the quality of the AMADEUS varies both over its longitudinal as well as its cross-country dimensions implying that we have to exclude some M&A cases from our analysis. Footnote 4 provides one specific example for this problem. Finally, in line with empirical evidence we also argue that the small number of cases reflects the massive shift of (cross-border) M&A activities into service industries accompanied by decreasing relevance of M&As in manufacturing industries.

9. Comparison of sample figures with aggregate statistics (*“Is the high wage growth rate of 20% in some regions in line with aggregate statistics?”*):

Notice that the high growth wage rate of 20% is calculated for the small sample of M&A targets located in Eastern European economies. For this reason the figures corresponding to the non-acquired control group firms are more representative. Here, we observe some

years with year low or even negative average real wage growth rates (e.g., 2000 to 2002) and three years with high wage growth rates. It is important to add that all of these firms operate in manufacturing industries implying that the economy-wide aggregate statistics are not very informative for this specific group of firms.

10. Reference to previous literature (*“In table 7 the authors talk about previous research on M&A. The relevant papers should be cited explicitly.”*):

In the revised version of the paper we substantially changed and extended the discussion of our estimation results. Thereby, we compare more carefully now our estimation results with previous literature. In a similar vein, we explicitly discuss how our results can augment the already existing evidence which is solely based on single-country datasets. Please see Section 3.2 and the new Section 3.3 for a detailed discussion of our estimation results.

References

- Abadie A., Drukker D., Herr J. L., and Imbens G. W. 2004, ‘Implementing matching estimators for average treatment effects in Stata’, *Stata Journal* **4**, 290–311.
- Abadie A. and Imbens G. W. 2006, ‘Large sample properties of matching estimators for average treatment effects’, *Econometrica* **74**, 235–267.