# Report on “Essays on managerial pay” by Teodora Paligorova

Reviewed by: Martin J. Conyon

This thesis consists of three separate essays. Each essay is organized around the theme on executive compensation. The first essay deals with so-called tournament theories of incentives and executive pay. The second essay deals with gender differences in executive compensation. The final essay deals with Sarbanes-Oxley and executive compensation. The first two essays used data from the Czech Republic to test various hypotheses about executive compensation. The final paper uses data from the United States to test how CEO pay and performance changes with the passage of the Sarbanes-Oxley act. This is an excellent doctoral thesis, containing original ideas and executed to a very high standard. It was a pleasure to read!

## General comments

Executive compensation is a central theme in the corporate governance literature. Each of the essays presented here has a strong possibility of making a valuable and meaningful contribution to the literature. The thesis was engaging, very well structured and insightful. The author should be congratulated on her efforts.

The thesis was properly motivated. Most of the existing executive compensation literature deals mainly with Anglo-Saxon corporate governance structures and is often tested using US data. The first two essays, which used Czech data, provide important evidence on the role of compensation and incentives in the transition economies. As the author takes this research forward to it would be inclined to stress this aspect of the thesis much more.

The structure of the thesis is good. It is clear how each of the three essays is linked by a common theme. It is also clear how each of the essays stands alone and makes its own contribution. I envision that it will be fairly straightforward for the author to take each chapter and submit each to a high-ranking journal for potential publication. I have given some hints throughout where she might think about sending the papers.

The main contribution of this thesis is empirical. The author uses modern econometric techniques as appropriate. Chapter 1, which focuses on tournament theory, uses panel data (fixed effects) econometric and quantile regression methods. Chapter 2, which focuses on gender differences, uses propensity score matching techniques. Chapter 3, which focuses on United States executive compensation, uses two-stage regression and difference in difference techniques. Overall, the methods employed in this thesis are appropriate and consistent with contemporary analyses of executive compensation.

There are a few limitations with this thesis. Let me stress that these are only minor quibbles, and do not detract from the high quality of this research. First, the thesis is slightly terse; at times I was hoping for more discussion and expansion of various points. Second, perhaps a more complete literature review could have been attempted focusing on the strengths and weaknesses of each papers reviewed.

One piece of advice that I would give in how to revise these chapters for journal articles is to perhaps consider much more the institutional context of the Czech Republic. There is a slight danger that in its current form some of the papers may be seen as a ‘replication study’ using Czech data. I don't believe this to be the case, but to reassure the potential future reviewers I would be inclined to develop hypotheses about how the context of a transition economy modifies the underlying theory.

**Chapter 1. Managerial compensation and tournaments.**

This essay contributes to the field of personnel economics. It is an empirical test of tournament theory, exemplified by Lazear and Rosen. There are few such papers which use business data to test tournament models, and so this is an important contribution to the existing literature. The essay uses data from Czech managers and tests of various hypotheses related to the tournament theory, namely convexity of the pay-level relation, the pay-contestant relation, and the performance pay variation relation.

The chapter is well-structured and easy to read and follow. The literature review covers the main contributions to the area. A more critical evaluation of the extant literature could have been attempted. However, this is a minor point……

The data consists of about 33,000 Czech managers from 2001 in about 1900 firms. The author finds that executive compensation increases throughout the corporate hierarchy, consistent with tournament theory. The convexity hypothesis of tournament theory is confirmed. Figure 1 was especially intuitive in showing this important result. The finding was established using fixed effects and median regression, as well as OLS techniques. The author finds that the tournament prize is positively correlated with the number of contestants in the tournament. Again, this is consistent with theory. Finally, there is some evidence also of a positive correlation between firm performance [measured as return on assets] and the coefficient of variation of compensation. Again, this is consistent with theory (if you think that pay-gaps create motivation that is not is not destroyed by sabotage effects).

Overall, this is an interesting set of findings, which fit nicely into the existing literature on tournament theory. The hypotheses that are considered in the paper have appeared elsewhere in the literature (problem of mere replication charge?); but that prior literature has not considered the role of tournaments in transition economies. As the author revises this chapter for potential publication, I would be inclined to see whether there are unique and new hypotheses that could be developed. A clear strength of this paper is that it is testing the role of tournaments in a transition economy. I would be inclined to stress this aspect much more as the paper develops. Perhaps other hypotheses could be developed, taking into account the transition nature of the economy?

A potential outlet for this paper is clearly the Journal of Labour Economics. The subject matter off the paper clearly falls within the remit of personnel economics and some of the prior literature has appeared in this journal.

**Chapter 2. Female manages and their wages in Central Europe.**

This essay focuses on gender gaps in the executive compensation. There are only a handful of papers that have addressed this issue with an exclusive focus on managerial labor markets, and so this paper is a welcome addition to that literature.

There are two really quite unique features about this paper. First, it provides the first empirical evidence that I have seen on the gender wage-gap for executives in transition economies. Second, in addition to the standard Blinder wage decomposition, which is the hallmark of these kinds of studies, the paper also uses so-called propensity score matching methods. The use of this econometric technique, which allows one to potentially disentangle causal effects from non-random data, is very important. These two contributions are substantial enough to make this paper unique.

The data used in this study are managers at Czech firms. The data include both high-level and middle level managers, and so it is slightly different from samples of US data. US data, typically focus is on the five highest-paid officers in the firm. This might make comparisons between the United States and the Czech Republic difficult to make, although I applaud the author's efforts in trying to do so.

The essay finds that women are severely underrepresented in the upper echelons of Czech firms. The data show that only about 7% of managers are females. The full wage gap for top level managers is about 55%, 43% for middle managers and 22% for ordinary employees. Using the standard Blinder decomposition method, with a full set of individual and firm level controls, the respective conditional gaps fall to 30%, 25% and 20%. The propensity score matching exercise adds to the insights. The standard Blinder decomposition does not cater for the fact that women may run different types of firms than men. The propensity score method helps in this regard. I think that the use of matching methods is quite important in this context. What it seems to be able to do is allow the author to say something about selection / sorting effects. In the standard gender wage decomposition that occurs in the literature such selection effects are effectively ignored. That is, the male—female indicator variable is treated as exogenous.

The analysis in this essay is very good and the paper makes an important contribution to the literature on executive pay and gender differences as well as the literature on executive pay in transition economies. Potential outlets for this research would include the Journal of Labour Economics or the Industrial and Labor Relations Review. Important papers have appeared there and this would be a nice juxtaposition.

I have only the few minor quibbles with this essay. First, once again it is a bit terse in places and I think aspects of the chapter could have been expanded. Second, I am not wholly convinced about the policy conclusions of the paper. Other policies may be feasible, and these have not been considered by the author and ruled out. Going forward, I would recommend sorting out these small issues.

**Chapter 3. Corporate governance and executive pay: evidence from a recent reform**

This chapter differs from chapters 1 and 2, because the focus is on the United States data rather than Czech data. The chapter deals with an important economic question, mainly how a policy change, in this case Sarbanes-Oxley, affects compensation/monitoring outcomes. The background to this study is the failures in US corporate governance represented by Enron. The paper attempts to discriminate between two leading theories of executive compensation: the principal agent model (contacting) and that managerial power (skimming) model.

The research hypotheses in this paper are well conceived. The author identifies a treatment group of firms with weak board of director oversight and a control group, companies with strong board oversight. The Sarbanes-Oxley act is then used as an exogenous event to identify the effect monitoring on the link between pay and performance. One would expect to observe effects in the treatment group, but not in the control group, since the control group is already in compliance. The research strategy is well conceived and is consistent with contemporary econometric techniques. Difference in difference estimators are used. One might argue whether Sarbanes-Oxley is truly an exogenous event and whether the measures of board independence truly reflect monitoring capabilities etc., but nevertheless, the basic research design is properly conducted.

Overall, the results presented in this chapter seem sensible, and are consistent with previous research. The results indicate that there is a positive pay for performance link.

The pay-for-performance link is stronger in firms in the treatment (low monitoring) group than in the non-treatment (high-monitoring) group after the implementation of Sarbanes-Oxley. The pay-for-performance link therefore increases in companies with weak board oversight after the implementation of Sarbanes. It is also observed that there is no effect of Sarbanes in firms that were already in compliance, inasmuch as they already had strong oversight. The author also documents that after the passage of Sarbanes-Oxley, so called 'pay for luck', measured as industry wide movements in performance, disappears. This is consistent with the managerial power or skimming hypothesis. CEOs are reported for positive industry shocks, but are not penalized for negative industry shocks.

Overall, this is a very interesting chapter, and it is very carefully executed. It uses contemporary econometric methods to identify the importance of corporate governance on the link between pay and performance. One concern a reviewer might have is that the measure of performance used throughout this chapter is return on assets (ROA). This is an accounting-based measure and is only one dimension of company performance. Going forward (but not to be done for this thesis) I would recommend a sensitivity analysis using other performance metrics (market based measures – stock returns, Tobins Q etc). In addition, the regression strategy includes modeling <u>current</u> executive compensation as a function of firm performance. As the author rightly notes in the analysis, there are other ways of measuring the concept often financial incentives, for example, the methods used by John Core and his colleagues. However, these are just quibbles at this stage, and even perhaps a matter of taste since what has already been done in the thesis is clearly of a high standard.

**Conclusion**

This thesis contributes to the literature on corporate governance and executive compensation.  The author has produced three clear and distinct essays.  These have the potential to be published in leading journals.  I would like to wish to Teodora Paligorova success with her future research career.