

Report on Master Thesis

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Title of the thesis:	Measuring Efficiency of Hospitals in the Czech Republic

OVERALL ASSESSMENT (provided in English, Czech, or Slovak):

In this thesis, the author compiled an unbalanced 9-year panel of 99 Czech hospitals and applied deterministic (non-parametric) and stochastic (parametric) methods using two special software packages to measure their cost-efficiency. This is an outstanding piece of independent scholarly work applying state-of-the-art methods in productivity analysis on an original dataset. Its extent and precision by far outperforms recent literature on Czech data (see Dlouhy et al 2007) that examines just a single cross-section on a limited sample for 22 hospitals, without any environmental variables.

What I especially appreciate is a preliminary analysis in Section 4 that tackles collinearity in output variables and potential outliers. The author shows how dimensionality of outputs can be effectively and simply reduced and also finds that potential outliers are in fact observations with specific value of certain dummies (teaching and large hospitals), hence generate extra motivation for frontier analysis that directly incorporates these dummies as efficiency determinants.

Besides providing robust efficiency scores and rankings of hospitals, a novel message is that variable returns to scale assumption (under deterministic method) generates rather unstable results, unlike constant returns to scale or stochastic frontier method (see, inter alia, Table 5.13). Results concerning optimal size, profit status and teaching-status on p. 64 are of immense policy relevance.

There are only very minor issues, such as typo in "accounting" on p. 41, the vector should be $x = (x_1, \dots, x_n)$ on p. 42, notation (1) on p. 48 should be reserved only for equations, "5.5." on p. 52 has an extra dot, and typo "declie" in Table 5.25 on p. 73. I would only cast doubt on the interpretation of the sign of the unemployment rate (increases cost-efficiency). The author states that this reveals precautionary measures taken by individuals in the districts, but it may be a reflection of lower district-specific wage costs for outsiders (or servicing companies). Although the district wages are controlled by district salaries, this variable need not to capture full effect as labor markets can be dual and average salary may capture only the primary labor markets with insiders.

I strongly recommend the thesis for Dean's award. The thesis is nearly finished for submitting to the IES Working Papers (possibly leaving out Section 2 that only introduces the methodology).

SUMMARY OF POINTS AWARDED (for details, see below):

CATEGORY	POINTS
<i>Literature</i> (max. 20 points)	20
<i>Methods</i> (max. 30 points)	30
<i>Contribution</i> (max. 30 points)	28
<i>Manuscript Form</i> (max. 20 points)	19
TOTAL POINTS (max. 100 points)	97
GRADE (1 – 2 – 3 – 4)	1

NAME OF THE REFEREE: Martin Gregor, PhD

DATE OF EVALUATION: 9. 6. 2010

Referee's Signature