IMESS DISSERTATION

Note: Please email the completed mark sheet to Year 2 coordinator (jiri.vykoukal@post.cz)

Please note that IMESS students are <u>not</u> required to use a particular set of methods (e.g. qualitative, quantitative, or comparative) in their dissertation.

Student:	Shuanging Cao
Dissertation title:	Carbon Emissions, Economic Growth and Sustainable Development in Central and Eastern Europe

	70+	69-65	60-61	59-55	54-50	<50
	A	B	C	D	E	F
Knowledge *Knowledge of problems involved, e.g. historical and social context, specialist literature on the topic. Evidence of capacity to gather information through a wide and appropriate range of reading, and to digest and process knowledge.*	91					
Analysis & Interpretation *Demonstrates a clear grasp of concepts. Application of appropriate methodology and understanding; willingness to apply an independent approach or interpretation recognition of alternative interpretations; Use of precise terminology and avoidance of ambiguity; avoidance of excessive generalisations or gross oversimplifications.*		85				
Structure & Argument *Demonstrates ability to structure work with clarity, relevance and coherence. Ability to argue a case; clear evidence of analysis and logical thought; recognition of an argument´s limitation or alternative views; Ability to use other evidence to support arguments and structure appropriately.*		85				
Presentation & Documentation *Accurate and consistently presented footnotes and bibliographic references; accuracy of grammar and spelling; correct and clear presentation of charts/graphs/tables or other data. Appropriate and correct referencing throughout. Correct and contextually correct handling of quotations.*	95					
Methodology *Understanding of techniques applicable to the chosen field of research, showing an ability to engage in sustained independent research.*		85				

ECTS Mark:	68/B	**Charles Mark:**	88/B	**Marker:**	Jaromir Baxa
Deducted for late submission:			*No*	**Signed:**	
Deducted for inadequate referencing:				**Date:**	5.9.2024

MARKING GUIDELINES

A (UCL mark 70+) = A (Charles mark 91-100 - excellent): *Note: marks of over 80 are given rarely and only for truly exceptional pieces of work.*
Distinctively sophisticated and focused analysis, critical use of sources and insightful interpretation. Comprehensive understanding of techniques applicable to the chosen field of research, showing an ability to engage in sustained independent research.

B (UCL mark 69-65) = B (Charles mark 81-90– very good)
C (UCL mark 64-60) = C (Charles mark 71-80 – good): A high level of analysis, critical use of sources and insightful interpretation. Good understanding of techniques applicable to the chosen field of research, showing an ability to engage in sustained independent research. 65 or over equates to a B grade.

D (UCL mark 59-55) = D (Charles mark 61-70 – satisfactory)
E (UCL mark 54-50) = E (Charles mark 51-60 – sufficient): Demonstration of a critical use of sources and ability to engage in systematic inquiry. An ability to engage in sustained research work, demonstrating methodological awareness. 55 or over equates to a D grade.

F (UCL mark less than 50) = F (Charles mark 0-50 - insufficient): Demonstrates failure to use sources and an inadequate ability to engage in systematic inquiry. Inadequate evidence of ability to engage in sustained research work and poor understanding of appropriate research techniques.

Please provide substantive and detailed feedback!

Comments, explaining strengths and weaknesses (*__at least 300 words__*):

Shuanging Cao focused on the dependence of carbon emissions and economic growth in CEE countries, with an attempt to find out whether the countries of our regions achieved decoupling of emissions and economic growth, what are the main drivers of the emissions, and what makes a value-added of this work, whether there is any difference in the drivers of emissions when we look at the consumption-based emissions rather than at production-based emissions. The thesis relies on panel regressions, estimated using two alternative algorithms, the fixed effects, and the PCSE method. The results confirm the hypothesis that emissions still increase with economic growth, but at least their mutual sensitivity is lower than it used to be before the year 2000.

The thesis has logical structure and is written reasonably well, although from time to time it is evident that the author is at an early stage of her professional growth, as more advanced authors would probably focus on slightly different aspects here and there. It is perhaps most evident in the description of the methodology, which is sometimes quite lengthy, but then, when the author moves to a discussion about the alternative estimator, to the Prais-Winsten regression with Panel-Corrected Standard Errors (PCSE), a more thorough description of the method and a comparison to other estimators dealing with cross-sectional dependence would have been helpful for the reader to assess the credibility of the method. However, the regressions are conducted correctly, specification tests are provided and, from this perspective, there's not anything important to complain about.

Some space for improvement is related to design of the models. The author discusses the question whether the CEE countries are positioned before or after the peak of the environmental version of the Kuznets curve, claiming that the peak has probably not been reached yet. I do not find this particular remark justified by the regression analysis that contains, if I'm not mistaken, just the log of GDP among the regressors – and not (log GDP)^2 that is necessary to be able to fit the potentially non-linear relationship between emissions and growth. From my own experience, adding the second power of the logarithm of GDP can also make a big difference for the estimation of other parameters as well. Then, after estimating the coefficients at the linear and quadratic terms (+ constant), it should be possible to calculate the level of GDP where the predicted emissions are maximized, which could then provide an explicit result regarding the relative position of the CEE countries on the curve.

Furthermore, the findings suggest that the division into subgroups of countries is potentially more important than the distinction between emissions based on production or consumption and between alternative time periods. Still, I would love to see the estimates presented in Tables 17 and 18 – regressions on sub-samples before and after the year 2000 – also for country subgroups, and perhaps for the sample starting in 2010. I believe those results could be quite informative, since the dynamics of the CEE region was somewhat different before 2008 and after, and also because it has been shown that the coefficient at lnGDP differs quite significantly across country groups. Therefore, the coefficients for all countries can mask substantial heterogeneity, which is important when policy implications are derived from the study.

Despite those critical remarks, I enjoyed reading. The thesis sparked my curiosity, so well done.

I recommend the thesis for defense; I am inclined to grade the thesis on the borderline between A/B, depending on the thesis defense.

Specific questions you would like addressing at the oral defence (*__at least 2 questions__*):

1) I was somewhat surprised that urbanization is found to contribute to higher CO2 emissions. Why is this so? I would expect that if people live in the city, in smaller houses, they do not need to travel that much, can create less emissions by heating their homes – so what might explain this finding?
2) Is there any test that would justify **not** including the (log GDP)^2 in the regression?