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:	Zhuoran Wang
Dissertation title:	A study on the relationships among foreign direct investment, innovation and economic growth in European countries from 1998 to 2021

	70+	69-65	64-60	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.*			63			
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.*			60			
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.*			60			
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.*				55		
Methodology *Understanding of techniques applicable to the chosen field of research, showing an ability to engage in sustained independent research.*		62				

ECTS Mark:	C/62	**Charles Mark:**	C/75	**Marker:**	Vilém Semerák
Deducted for late submission:	No			**Signed:**	Electronically signed, Vilém Semerák
Deducted for inadequate referencing:				**Date:**	September 8th, 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_):

Summary:

The author's objective is stated clearly "this thesis aims to econometrically assess and discuss the complex relationship between FDI, innovation, and economic growth", and so are the hypotheses. The paper attempts to map relationships between FDI, innovation and economic growth and then uses econometrics (panel-data-based) in order to test the relationships on a sample of macroeconomic data covering 30 countries and 24 years retrieved from the WDI database.

The paper suffers from significant problems with language. This impairs (together with a not-too-efficient organisation of the sections) the quality and contribution of the literature review, but it might even discourage some readers.

The methodology is based on panel regressions implemented in two main versions (simple fixed effects and then a panel with a lagged explained variable estimated via Arellano & Bond) applied on multiple specifications (which mainly differ in the presence/absence of one key variable), with additional modifications (tests on subsamples of the countries, replacement of some of the explanatory variables with their lagged values).

While I positively acknowledge the attempts to provide some additional robustness tests, the overall impression of the econometric section is not too convincing. As if the author mechanically applied a few standard procedures again and again, without thinking too much about the actual underlying model and its implications. I would prefer to see there more indications that the author seriously considered reversed effects (and related endogeneities) or that the author was aware of possible problems with omitted variable biases or spurious results. All this means that while the author shows that there are some relationships among the variables, many readers are not likely to be convinced that the provided evidence is sufficiently solid.

Final conclusion: the submitted paper suffers from significant language problems. It is based on quantitative empirical methods (and the methods are similar to methods implemented in other papers and theses), but they appear to be implemented and interpreted less carefully and clearly than one would expect at this level. The resulting level of analysis is closer to a bachelor thesis than a Master-level paper.

Additional and more detailed comments:

Language quality:

Some sections look like machine translated (e.g. the introduction), incomplete sentences or very strange terms can be found in the text (p. 1, "new crown epidemic") or like having been finished hastily and carelessly; there are many imprecisely, vague and carelessly formulated statements.

Literature review:

The literature review is organised inefficiently. While the author divided into logically appearing sections which deal with innovations or economic growth, the author does not go too deep and often, instead of additional research, returns to the same contributions (in similar words) in the different sections - so e.g. Schumpeter, Solow or Romer get mentioned repeatedly at a very similar general level. Some sections thus make a rather repetitive impression, while others are very brief – and appear incomplete. For example, in the network theory and network effects (p. 14), more or less just the name is provided, but no real details on the methods and results are provided.

The literature review mixes texts of different quality; the author does not care whether a prediction was made 20 or more years ago and still mentions it using the original tense without providing any critical feedback. The author's attempts to describe trends and development are also not quite consistent – in some cases, the author discusses longer-run trends and, in some, seems to be distracted by the description of latest cyclical issues (section 1.1.3 on p. 5).

Text organisation

It seems that it would be possible to make the text shorter and easier for orientation relatively easily. Many of the

results (tables with the results of the regressions, correlation matrices) could have been presented in a more efficient form (with some additional results possibly appearing in an appendix).

Methodology:

Similar methods have been used in growth regressions for decades; with the right specification and correct implementation and interpretation they can be considered quite adequate for a Master-level thesis. However, there are a few weaker points which reduce the contribution of the empirical section of the paper.

The author does not explain why the specification with the GMM estimator suddenly includes the lagged explained variable (GDP) although it was not mentioned in the original equations. Often, students first explain why they believe that the lagged explained variable might be useful, then they explain possible problems with OLS estimators and end up with GMM. This kind of logical sequence I was missing the paper. It also seems that the author believes that the GMM provides a powerful solution to all troubles with endogeneity – which is not so likely. In fact, the GMM has its weaknesses too.

The specification clearly suffers from reversed causality issues (larger GDP might provide resources for R&D investment), omitted variable issues and measurement issues (our ability to measure actual innovations is imperfect). The robustness tests based on lags of selected variables are only very partial solution. This is not a criticism of this particular paper, the aforementioned issues are relevant for many such econometric attempts, including the ones published in journals – what is important is to realise that the results (esp. of the OLS version) are simply partial correlations and not estimates of causal effects of the tested determinants.

Other issues:

In spite of relatively weak results, the author still decided to include a section with policy recommendations. Many of the claims in this section are too general, often based on a relatively loose or stretched interpretation of the previously presented results. In fact, in my opinion, it might have been better to either omit this section (and use the additional space for a deeper literature review or additional analysis) or at least provide references to the literature that might provide additional support for the conclusions.

There are also quite a few minor imprecisions in the text, e.g.:

- Euro was officially launched in 1999 (not 1998).
- "Internal growth" probably should have been "endogenous growth" (p. 10)
- Transition did not happen between 2004 and 2007 (as the author seems to suggest on p. 30). In fact, the most severe transition-related shocks and changes had happened prior to 1998.
- On pages 32 and 33 the author calls explanatory variables explained variables.

Specific questions you would like addressing at the oral defence (_at least 2 questions_):

1. Please explain the logic of Figure 2-1. Should not some of the relationships be more complicated? Are there possibly important linkages omitted from the diagrams? Are

2. If you assume that all the tested variables can be relevant, what is the point of testing your models (2), (3), (4), (5) separately? Should not all the simpler models be considered incomplete (and as such they might be possibly providing biased results)?

3. Why did you use five correlation matrices (pages 39-42) if they mostly include the same variables? Would it not be more efficient to use one slightly larger matrix that would cover all the combinations of variables?

4. Your regression is based on a relatively long sample. Should we be worried about possible issues with the non-stationarity of some of the variables?