

Progress on the doctoral dissertation

Synopsis:

The work will deal with Multinational Corporations' (MNCs) tax avoidance, phenomenon consisting in MNCs shifting their profits from the countries in which they make profits to the ones so called "tax havens" (Hine and Rice (1994), Dharmapala and Riedel (2013), Dowd et al.(2017), Alstadsæter et al. (2018)) through off-shores and secrecy jurisdictions (Jansk y et al. (2021), Beer et al.(2018), Christensen (2012)). This process is estimated to cause a tax revenue loss of about US\$200-300 billions for various countries every year (Garcia-Bernardo and Jansk y (2021), Tørsløv et al.(2018)) and this is why it is of concern to losing countries. The research during these doctoral studies will focus on how the profits shifting flux is organized and how countries are differently affected by it. During this doctoral study, the aim will be to understand these phenomena addressing three research questions:

- The first one concerns how profit shifting affects developing countries in comparison with the developed ones, considering also the indirect costs (Gelos et al. (2011)). Previous studies have found that the first type of countries suffer higher net tax revenue losses from corporate tax avoidance by multinational corporations (Garcia-Bernardo and Jansk y (2021), Jansk y and Palansk y(2019), Giroud and Ivarsson (2020), Johannesen et al.(2019)). However, this research would go beyond the consideration of the tax revenue loss, including and considering also the indirect costs, like the high interest rates developing countries have to pay to issue debt or also the lack of tax revenue gains from investors dividends (often having their citizenship/residence in developed countries). These unexplored costs can shed a new light on the quantification of developing countries losses and their right to be taken into account in international decisions.
- The second one regards the description of profits paths through higher order dependencies in the ownership network. Until now it has been studied only considering that the probability to move from a node to another does not depend on the previous steps. Instead, considering also longer paths, we can have a better description on the profits' movements, uncovering how MNCs use crossing-points to avoid their profits being tracked. Those dependencies have been shown to be an important representation of the network to obtain more accurate network analysis results (Xu et al. (2016)), rather than only a first order dependency.
- The last question concerns the quantification of missing data in the ownership network and proposes a method for the reconstruction of part of it through machine learning techniques and network analysis, in particular using the so called "Meta-Paths", introduced by Sun et al. (2011). This is a way to recognize and quantify the lacks created by secrecy jurisdictions and to perform a more reliable analysis on the ownership network, which has been already successfully used, indeed, in some recent studies(Garcia-Bernardo, Fichtner et al. (2017), Nakamoto et al. (2020)) to identify tax havens and to understand the paths of profit shifting. Each of my PhD studies' three objectives is supposed to become a research paper that I am planning to work on and publish in leading academic journals in economics. Overall, I am to contribute to the development of empirical methodologies in economics and to state-of-the art research at the intersection of public, development and international economics.

Selective list of references:

- Alstadsæter, A., Johannesen, N. and Zucman, G. (Jan. 2018). 'Who Owns The Wealth In TaxHavens? Macroevidence And Implications For Global Inequality'. CEPI working paper series. University of Copenhagen. Department of Economics. The Center for Economic Behavior and Inequality (CEBI).
- Beer, S., Mooij, R. de and Liu, L. (2018). 'International Corporate Tax Avoidance: A Review of the Channels, Magnitudes, and Blind Spots. IMF Working Papers'. INTERNATIONAL MONET-ARY FUND.
- Christensen, J. (Apr. 2012). 'The hidden trillions: Secrecy, corruption, and the offshore interface'. Crime, Law and Social Change, 57(3).
- Dharmapala, D. and Riedel, N. (2013). 'Earnings shocks and tax-motivated income-shifting: Evidence from European multinationals'. Journal of Public Economics, 97.
- Dowd, T., Landefeld, P. and Moore, A. (2017). 'Profit shifting of U.S. multinationals'. Journal of Public Economics, 148.
- Garcia-Bernardo, J. and Jansk y, P. (2021). 'Profit Shifting of Multinational Corporations World-wide'. ICTD Working Paper 119.
- Garcia-Bernardo, J., Fichtner, J., Takes, F. W. and Heemskerk, E. M. (July 2017). 'Uncovering Offshore Financial Centers: Conduits and Sinks in the Global Corporate Ownership Network'. Scientific Reports, 7(1).
- Garcia-Bernardo, J., Jansk y, P. and Tørsløv, T. (Jan. 2021). 'Multinational corporations and taxhavens: evidence from country-by-country reporting'. International Tax and Public Finance.
- Gelos, R. G., Sahay, R. and Sandleris, G. (2011). 'Sovereign borrowing by developing countries: What determines market access?' Journal of International Economics, 83(2).
- Giroud, A. and Ivarsson, I. (Dec. 2020). 'World Investment Report 2020: International production beyond the pandemic'. Journal of International Business Policy, 3(4).
- Hines James R., J. and Rice, E. M. (Feb. 1994). 'Fiscal Paradise: Foreign Tax Havens and American Business*'. The Quarterly Journal of Economics, 109(1).
- Jansk y, P., Meinzer, M. and Palansk y, M. (2021). 'Is Panama really your tax haven? Secrecy jurisdictions and the countries they harm'. Regulation & Governance
- Jansk y, P. and Palansk y, M. (Oct. 2019). 'Estimating the scale of profit shifting and tax revenue losses related to foreign direct investment'. International Tax and Public Finance, 26(5).
- Johannesen, N., Tørsløv, T. and Wier, L. (Oct. 2019). 'Are Less Developed Countries More Exposed to Multinational Tax Avoidance? Method and Evidence from Micro-Data'. The World Bank Economic Review, 34(3).
- Nakamoto, T., Rouhban, O. and Ikeda, Y. (Jan. 2020). 'Location-sector analysis of international profit shifting on a multilayer ownership-tax network'. Evolutionary and Institutional Economics Review, 17(1).
- Piccio, S., Faccio, T., Kadet, J. M., Jansky, P., Cobham, A. and Garcia-Bernardo, J. (Mar. 2021). 'For a Better GLOBE. METR: A Minimum Effective Tax Rate for Multinationals'. Available at SSRN: <https://ssrn.com/abstract=3796030> or <http://dx.doi.org/10.2139/ssrn.3796030>.
- Sun, Y., Han, J., Yan, X., Yu, P. S. and Wu, T. (Aug. 2011). 'PathSim: Meta Path-Based Top-K Similarity Search in Heterogeneous Information Networks'. Proc. VLDB Endow., 4(11).
- Tørsløv, T. R., Wier, L. S. and Zucman, G. (June 2018). 'The Missing Profits of Nations'. National Bureau of Economic Research Working Paper Series, No. 24701. last version in 2020.
- Xu, J., Wickramaratne, T. L. and Chawla, N. V. (2016). 'Representing higher-order dependencies in networks'. Science Advances, 2(5).

Form and scope of the dissertation:

The dissertation will have between 100 and 200 standard pages. It will include three major sections, each answering one of the aforementioned questions.

Time schedule of progress on the dissertation:

-1st year of study:

Work on the first dissertation article with an expected title "Effects of profit shifting on developing countries, considering the weight of indirect costs".

-2nd year of study:

Work on the second dissertation article with an expected title "Higher-order network dependencies to find tax havens and the hidden paths of tax avoidance".

-3rd year of study:

Completion of the dissertation with the third article,

"Analysis and reconstruction of the missing data of the ownership network".

-4th year of study:

Finishing, Pre-defense, and Defense of the dissertation

State doctoral examination and doctoral thesis defence

Type	Code	Title, details	Ac. year
	JSZEE1	State Doctoral Exam	2023/2024
Doctoral dissertation defence	JOBEE1	Defence of Dissertation	2024/2025

Course of study

Scheduled date of the state doctoral examination: November 2022

Scheduled date of the pre-defence: November 2023

Scheduled date of the defence of the dissertation: May 2024

Duties – study plan

Type	Code	Title, details	Ac. year
Course	JED109	Institutional Economics and Economic Policy I	2021/2022
Course	JED110	Institutional Economics and Economic Policy II	2021/2022
Course	JED511	Teaching Assistantship (Full) A	2021/2022
Course	JED209	Applied Banking and Finance I	2022/2023
Course	JED210	Applied Banking and Finance II	2022/2023
Course	JED511	Teaching Assistantship (Full) A	2022/2023
Course	JED511	Teaching Assistantship (Full) A	2022/2023
Course	JED511	Teaching Assistantship (Full) A	2023/2024
Course	JED511	Teaching Assistantship (Full) A	2023/2024
Course	JED511	Teaching Assistantship (Full) A	2024/2025
Course	JED511	Teaching Assistantship (Full) A	2024/2025
Course	JED511	Teaching Assistantship (Full) A	2021/2022
Grant	---	Grant activities Application to the Grant Agency of the UK competition with an expected topic "Profit shifting by multinational corporations: data reconstruction, higher-order dependencies and indirect costs". In case my project will not be accepted for financing, I will submit new application in subsequent years of study. Application to the Grant Agency of the UK competition with an expected topic "Profit shifting by multinational corporations: data reconstruction, higher-order dependencies and indirect costs". In case my project will not be accepted for financing, I will submit new application in subsequent years of study.	2021/2022
Academic teaching	---	Teaching assistantships Teaching WS 2020/2021: JEB101 Principles of Economics I(1 TA slot - seminars)	2021/2022
Publication	---	Effects of profit shifting on developing countries: The underexplored role of indirect costs (IES WP publication) Publication of an IES WP, of the paper with an expected title "Effects of profit shifting on developing countries: the underexplored role of indirect costs". This WP will be a joint work with my supervisor Petr Jansky.	2021/2022
Publication	---	Effects of profit shifting on developing countries: The underexplored role of indirect costs (Scopus submission) Submission to a foreign journal listed in the Scopus database. The paper will be based on my diploma thesis, with an expected title "Effects of profit shifting on developing countries: The underexplored role of indirect costs". In case of very positive reviews on the IES WP version, we first plan to submit to the famous journal Science (5-year IF = 51.433). In case of rejection in this journal or in case of less positive reviews from IES WP we send the paper to Nature Human Behaviour (5-year IF = 15.294), followed by the Journal of Science Advances, Proceedings of National Academy of Sciences, and Scientific Reports (all Scopus journals with impact factor equal or lower than 13.117).	2021/2022
Training	---	Methodological seminar for PhD students In the 1st year of study, I will attend a methodological seminar for teaching	2021/2022
Other	---	BT and MT opponency: Throughout the entire duration of my study I will serve as an opponent of Bachelor's and Master's theses.	2021/2022
Other	---	Defenses I commit myself to attend doctoral defenses with the minimum average attendance of 50% during the whole period of my study. In each academic year I visit at least 50% of the defenses. I am aware that participation at defenses of less than 50% may lead to a reduction of my evaluation by the Doctoral council at the end of each academic year.	2021/2022
Other	---	Study documents Till May 31 of each academic year, I deliver my "Annual assessment of fulfilling the ISP" + "Supplement", in which I further specify the intended course of my doctoral studies in the next academic year. In case of terminating my study interruption I will fill in the required documents ("Annual assessment of fulfilling the ISP" + "Supplement" for the next academic year) within a month from the end of my study interruption period.	2021/2022
Publication	---	Higher-order network dependencies to find tax havens and the hidden paths of tax avoidance (IES WP submission) Submission to the IES WP series with an expected title "Higher-order network dependencies to find tax havens and the hidden paths of tax avoidance"	2022/2023
Publication	---	Higher-order network dependencies to find tax havens and the hidden paths of tax avoidance (Scopus submission) Submission o a foreign journal listed in the Scopus database with an expected title "Higher-order network dependencies to find tax havens and the hidden paths of tax avoidance".	2022/2023
Publication	---	Analysis and reconstruction of the missing data of the ownership network (IES WP submission) Submission to the IES WP series with an expected title "Analysis and reconstruction of the missing data of the ownership network"	2023/2024
Publication	---	Analysis and reconstruction of the missing data of the ownership network (Scopus submission) Submission o a foreign journal listed in the Scopus database with an expected title "Analysis and reconstruction of the missing data of the ownership network"	2023/2024
Training	---	Doctoral Seminar I will attend a doctoral seminar in each semester.	2023/2024
Training	---	Doctoral Seminar I will attend a doctoral seminar in each semester.	2023/2024
Conference	---	By the end of the 4th year of study, I will actively participate in at least two international scientific conferences.	2024/2025
Training	---	Doctoral Seminar I will attend a doctoral seminar in each semester.	2024/2025
Training	---	Doctoral Seminar I will attend a doctoral seminar in each semester.	2024/2025

Duties specific for the field of study

Publications and other study obligations required for admission to the state doctoral examination:

By the end of the 3rd year I enroll for the state doctoral exam (SDE) so that I pass the SDE not later than by the end of the 4th year. Not later than two months before the SDE I deliver all materials demonstrating compliance with the conditions for admission to the SDE. These conditions are:

- Having published or accepted for publication one scientific article (in that case I attach the postprint or a well verifiable confirmation of acceptance for publication) in a scientific journal included in the Scopus database (or in a journal with a non-zero impact factor from SSCI, SCI databases). If an article for SDE is published in a journal with an Article Influence Score (AIS) of less than 0.1, the relevant committee will assess the quality of the article (using the three-year average AIS at the time the article is accepted for publication; if this is not available two-year average or current AIS is used). In addition, at least one scientific article in a series of at least IES Working Papers Series quality (in that case I submit a request to the chairman of the Doctoral Council for consideration). An alternative condition for publication duty is one research article published or accepted for publication in a scientific journal with a score of at least "B" according to the internal methodology of measuring the quality of scientific journals at IES FSV UK (see Director's Measure 1/2016 "Research" and the document Journal Evaluation at IES FSV UK). Only articles accepted for publication when the student studies the PhD at the IES will fulfil this condition. All articles must be affiliated to IES FSV UK. Only articles in Economics, Finance and closely related fields will be accepted.
- One successful grant activity as the principal investigator or two unsuccessful grant activities (where in at least one of the grant activities I have to be the main researcher and not only a co-researcher) in the framework of the GA UK grant competition (i.e. according to the rules set by the Doctoral Council).
- Four semesters of completed doctoral seminars.
- Four "Teaching Assistantships" (TA) in at least two different classes.
- Completion of a methodology teaching seminar for doctoral students.
- Fulfilment of the special requirements of the Doctoral Council (if there are any).

Publication and study obligations required for admission to the defense:

At the time of submission of my application to the pre-defense and defense I commit myself to have:

- Passed the state doctoral examination.
- One research article published or accepted for publication in a scientific journal with a score of at least "B" according to the internal methodology for measuring the quality of scientific journals at IES FSV UK (see Director's Measure 1/2016 "Research" and Journal Evaluation at IES FSV UK). Alternatively, at least two articles published or accepted for publication in scientific journals included in the Scopus database or in scientific journals with non-zero impact factor from the SSCI and SCI databases. If an article for defense is published in a journal with an Article Influence Score (AIS) of less than 0.1, the relevant committee will assess the quality of the article (using the three-year average AIS at the time the article is accepted for publication; if this is not available two-year average or current AIS is used). These articles do not have to be part of the dissertation thesis. Only articles accepted for publication when the student studies the PhD at the IES will fulfil this condition. All articles must be affiliated to IES FSV UK. Only articles in Economics, Finance and closely related fields will be accepted.
- Eight "Teaching Assistantships" (TAs) in at least two different classes.

At the time of submission of my application to the pre-defense, I commit myself to have the dissertation thesis at least in the following form:

- At least one dissertation article is fully finished (the supervisor approved the final version as a dissertation chapter), the second article is almost finished (the student processed the last supervisor's comments and awaits its approval) and the third article is elaborated. The elaborated article has at least a clear structure, methodology, goal of the research and a significant work has already been done.

BT and MT opponency:

Throughout the entire duration of my study I will serve as an opponent of Bachelor's and Master's theses.

Methodology teaching seminar for PhD students:

I will participate at a methodology teaching seminar for first year PhD students during the 1st year. If the seminar was not attended within the course of the first year, I will attend the seminar during the 2nd year.

Defenses:

I commit myself to attend doctoral defenses with the minimum average attendance of 50% during the whole period of my study. In each academic year I visit at least 50% of the defenses. I am aware that participation at defenses of less than 50% may lead to a reduction of my evaluation by the Doctoral council at the end of each academic year.

Study documents:

Till May 31 of each academic year, I deliver my "Annual assessment of fulfilling the ISP" + "Supplement", in which I further specify the intended course of my doctoral studies in the next academic year. In case of terminating my study interruption I will fill in the required documents ("Annual assessment of fulfilling the ISP" + "Supplement" for the next academic year) within a month from the end of my study interruption period.

Obligations in case of a study stay:

In case of a study visit/stay, I will apologize in advance to the coordinator of dissertation defenses so that my absence could be excused. I will also in advance send a request to the Doctoral Council for possible consideration of study requirements, which I plan to fulfil during my visit/stay.

Approval of plan

Supervisor

doc. Petr Janský, M.Sc., Ph.D.

31.10.2021

Student

Valeria Secchini

31.10.2021

Approved by CDS.

Approved by Subject Area Board of doctoral study programme (field of study) on: 31.10.2021

Chair of Subject Area Board

prof. Ing. Evžen Kočenda, M.A., Ph.D., DSc.

31.10.2021

Study programme guarantor

prof. Ing. Evžen Kočenda, M.A., Ph.D., DSc.

31.10.2021