

Report on Dissertation

by Mr. Malgorzata Walerych:
“The Aggregate and Distributive Effects of Emigration”

Dear members of the examination committee:

March 28, 2021

It is my pleasure to comment on Malgorzata Walerych’s dissertation entitled “The Aggregate and Distributive Effects of Emigration”, which evaluates the aggregate and the distributive effects of the large emigration outflow from Poland to other EU member states after the 2004 EU enlargement and which I read with great interest.

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In this dissertation Mrs. Walerych puts particular emphasis on the aggregate and distributional consequences of high-skill emigration. The dissertation starts with a short introduction where the main hypotheses are formulated followed by a comprehensive review of the literature on international migration, with a particular emphasis on emigration, in Chapter 1. Chapter 2 lays out the two-country model with heterogeneous agents and an endogenous migration choice – I will summarize some key elements of the model below. Chapter 3 proceeds by presenting the main results from the quantitative analysis and Chapter 4 investigates the role of some model elements for the findings. A conclusion summarizes the thesis and points to fiscal implications as a key missing element. All graphs and tables are relegated to an addendum after the list of references. The appendix also includes technical details on the solution algorithm.

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Let me summarize some model elements, which are central to the analysis. To investigate the aggregate and distributional consequences of high skill emigration from Poland after the EU enlargement of 2004 Mrs. Walerych develops a two-region model of international migration with an endogenous wage premium between the high and the low skilled triggered by complementarities between skills and capital in aggregate production - and thus by an imperfect substitutability between high- and low-skilled labor -, and international capital mobility. Model region H is Poland, modeled as a small open economy, and region F is the receiving region standing in for the EU and thus consisting of a 28 country aggregate. In order to trace out an entire distribution the author further augments the model with idiosyncratic labor

productivity risk. The model individual households are finitely lived and in each period they face idiosyncratic and age specific survival risks. The model thus features the Imrohroglu (1989) – not cited – type of overlapping generations elements and combines those with a production structure as in Krusell et al. (2000), and additional elements relevant to the specific research question with an endogenous migration choice and according fixed costs to migration. Importantly, while the focus of the analysis is on an unexpected shock to the economy through the opening up of the labor market by the EU enlargement, the author studies the full transition of the economy induced by this event towards the long-run steady state.

Without the slightest doubt, this is a very strong thesis, and within the chosen environment, Mrs. Walerych has conducted the analysis with great care and exposes the findings in a very concise and understandable manner. In my view, the key innovative channels and contributions to the migration literature are to combine a capital skill complementarity framework with a quantitative model of overlapping generations to investigate the aggregate and distributional role of emigration. With these modeling choices Mrs. Walerych develops a very powerful tool to study interesting and crucially important questions. Importantly, Mrs. Walerych does not restrict her analysis to the long-run (or short-run), but characterizes the transitional dynamics of the economy, which is important for a full welfare analysis of the effects. It should also be emphasized that from a technical perspective this is quite a demanding task.

For the remainder of my report, my main emphasis will be on aspects that I either did not fully understand or that would extend the analysis beyond the current status quo with elements that might be regarded as important for the specific short and long-run questions at hand. While this list may read as a very critical commentary, it should be interpreted as constructive and should in no way undermine the strong contribution Mrs. Walerych has made in her very read worthy analysis.

Reading through the introduction it would be helpful to the reader if the formulated hypothesis would be linked more closely to modeling choices made, which would provide a better guidance to the reader for the overall thesis. One aspect that I have not fully understood and that remained unclear to me also after skimming back and forth through the thesis is how the open economy dimension of the small open economy sending country H is treated and how I should think about internal model consistency with the receiving country F being modeled as a closed economy. Just now that I look at the thesis again I read the description that the home country is viewed as “infinitely” small relative to the receiving foreign country so that also from the perspective of the foreign country the capital in- or outflows to the foreign country can be ignored. This point needs emphasis in the introduction, because the small open economy dimension is not unimportant for understanding the welfare consequences.

Related, the equilibrium equation for the interest rate in the home country as well as the wage premium expression between high and low skilled workers need to be provided in closed form. Both expressions would provide useful guidance for an interpretation of the results. Unlike in a standard model with a Cobb-Douglas production function - where the world interest rate pins down the capital intensity (the ratio of capital to labor) –with the important feature of a capital skill complementarity in production this is not the case in the current study. With the relative scarcity of high skilled labor induced by the migration outflow, the impact on the capital intensity is ambiguous – it increases because of the outflow of labor and decreases because less capital is employed in production. The results show that quantitatively the capital intensity is more or less stable along the transition (slightly increasing in the long-run) and thus the key mechanism on relative wages is the relative scarcity of workers to the effect that wages of the skilled increase whereas those of the unskilled decrease along the transition. This is the key trigger for the inequality consequences.

Reflecting about missing elements, then - aside from the fiscal effects which Mrs. Walerych briefly mentions in her concluding discussion; it is not only a pension system that is missing but also overall government spending on some public good G which could (or could not) be neutral for direct utility – the key mechanism undiscussed is human capital adjustments, which are emphasized as important in the brain drain literature. In the present context with the important capital skill complementarities in the current model – or, related, the imperfect substitutability of skilled and unskilled workers -, in fact, this seems to be a crucial element. By the increasing relative wages of skilled workers incentives for human capital formation of those who stay increase. This relative scarcity mechanism may well turn around the detrimental long-run effects on output and welfare.

In light of this channel and the key role of relative factor price movements for driving inequalities a remaining question is on the importance of income shocks for the question at hand. The distributional consequences are driven across types - and not within them - and no specific insurance instrument is in the focus of the analysis. So, how much would results change if the variance of income shocks would be set to zero (or to a number very close to zero)? Would this imply technical difficulties in solving for the transition - because the behavior of the model is less smooth – or could it work and would it thus be a feasible alternative to formulate a two-type of household – skilled and unskilled - model for the analysis? If so, then the extension with an endogenous human capital channel could be technically doable along the transition and would constitute an interesting follow-up project to pursue.

In terms of motivating the thesis, it would be interesting to know more about data. Given that the EU enlargement is now 15 years ago, what is known in the most stylized possible manner about the evolution of per capita wages and the distribution of wages between different types of workers since?

Finally, as minor comments, in my view tables and figures should be placed in the main text and not relegated to an appendix, which forces the reader to move back and forth across the document. Also, the equilibrium definition strikes me as an important element, which I prefer to be placed in the main text.

As already emphasized above, my constructive comments on the thesis should not be meant to undermine the impressive contribution of Mrs. Walerych. Without any doubt this is a very strong thesis, which should receive the highest possible grade. I therefore recommend accepting the thesis with distinction, and I do wish Mrs. Walerych all the best for her professional future.

Please contact me any time if you need further information on this important matter.



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