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**Master Seminar on**  
**“Resources, Innovation and Growth”**  
**Summer Term 2025**

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The seminar on “Resources, Innovation and Growth” is aimed at all Master students currently visiting or having visited the lecture on “Economic Growth”. The topics focus on the influence of resources on development and growth in closed and open economies where resources include not only natural resources but also labor and human capital, government expenditure and public infrastructure. Further topics are the sustainability of economic development and climate change.

Registration: You have to register online via ILIAS. The application is open from Friday, April 25, 11 a.m. until Monday, April 28, 10 a.m. The topics and places are allocated on a first-come first-serve basis.

Organizational Meeting: As soon as the program is ready, you will receive an invitation for an organizational meeting. In this meeting, we will clarify the contents and the key messages of the presentations and the seminar papers. Therefore, it is important that you have skimmed the relevant model before the talk.

Presentation: The presentations are limited to 20 minutes so that some time is left for discussion. The aim of the presentation should be that fellow students understand the core of the model, i.e. the topic to be explained and the method used to solve the model. Your task is fulfilled in the best possible way, if you succeed in inspiring other students for the topic. The presentations should be very focussed, possible extensions should be postponed to the critical discussion at the end.

Criteria for grading are (i) self-dependence in preparing the presentation and the seminar paper, (ii) clarity and persuasiveness of the presentation and the seminar paper, and (iii) taking an active part in the discussions.

***Topics:***

## Population Dynamics and Economic Development

- Brida, J.G., Accinelli, E. (2007), The Ramsey Model with Logistic Population Growth. *Economics Bulletin* 3, 1-8.
- Chu, A.C., Cozzi, G., Liao, C.-H. (2013), Endogenous Fertility and Human Capital in a Schumpeterian Growth Model. *Journal of Population Economics* 26, 181-202.

## Natural Resources, Recycling, and Economic Growth

- Smulders, S., Withagen, C. (2014), Growth Theory and 'Green Growth'. *Oxford Review of Economic Policy* 30, 423-446.
- Van der Ploeg, F., Withagen, C. (2012), Too Much Coal, Too Little Oil. *Journal of Public Economics* 96, 62-77.
- Van der Ploeg, F., Withagen, C. (2014), Growth, Renewables, and the Optimal Carbon Tax. *International Economic Review* 55, 283-311.
- Pittel, K., Amigues, J.P., Kuhn, T. (2010), Recycling under a Material Balance Constraint. *Resource and Energy Economics* 32, 379-394.
- Compagnoni, M., Stadler, M. (2021), Growth in a Circular Economy. University of Tübingen, Working Papers in Business and Economics, No. 145.

## Taxation, Government Expenditure, and Public Infrastructure

- Futagami, K., Morita, Y., Shibata, A. (1993), Dynamic Analysis of an Endogenous Growth Model. *Scandinavian Journal of Economics* 95, 607-625.
- Irmen, A., Kuehnelt, J. (2009), Productive Government Expenditure and Economic Growth. *Journal of Economic Surveys* 23, 692-733.

## Education, Innovation, and Growth

- Stadler, M. (2012), Engines of Growth: Education and Innovation. *Review of Economics* 63, 113-124.
- Stadler, M. (2013), Scientific Breakthroughs, Innovation Clusters and Stochastic Growth Cycles. *Homo Oeconomicus* 30, 143-162.
- Chu, A.C., Cozzi, G., Liao, C.-H. (2013), Endogenous Fertility and Human Capital in a Schumpeterian Growth Model. *Journal of Population Economics* 26, 181-202.

## Innovation, International Trade, and Growth

- Grossman, G.M. (1990), Explaining Japan's Innovation and Trade: A Model of Quality Competition and Dynamic Comparative Advantage. *Bank of Japan Monetary and Economic Studies* 8, 75-100.
- Grossman, G.M., Helpman, E. (1991), Quality Ladders and Product Cycles. *Quarterly Journal of Economics* 106, 557-586.
- Stadler, M. (2015a), Education, Innovation and Growth in Quality-Ladder Models of North-North Trade. *Modern Economy* 6, 1115-1128

- Stadler, M. (2015b), Innovation, Industrial Dynamics and Economic Growth. In: H.J. Ramser and M. Stadler (eds.), *Entwicklung und Perspektiven der Wirtschaftswissenschaft*. Tübingen: Mohr Siebeck, pp. 59-92.
- Glass, A. M., Saggi, K. (2002), Intellectual Property Rights and Foreign Direct Investment. *Journal of International Economics* 56, 387-410.
- Haruyama, T., Zhao, L. (2017), Trade and Firm Heterogeneity in a Schumpeterian Model of Growth. *Research in Economics* 71, 540-563.

### **Inequality and Economic Growth**

- Grossman, G.M., Helpman, E. (2018), Growth, Trade, and Inequality. *Econometrica* 86, 37-83.
- Chu, A.C. Cozzi, G., Fan, H., Furukawa, Y., Liao, C.-H. (2019), Innovation and Inequality in a Monetary Schumpeterian Model with Heterogeneous Households and Firms. *Review of Economic Dynamics* 34, 141-164.

### **Unemployment and Economic Growth**

- Aghion, P., Howitt, P. (1994), Growth and Unemployment. *Review of Economic Studies* 61, 477-494.
- Van Schaik, A.B.T.M., De Groot, H.L.F. (1998), Unemployment and Endogenous Growth. *Labour* 12, 189-219.

### **Pollution, Environmental Kuznets Curves, and Economic Growth**

- Brock, W.A., Taylor, M.S. (2005), Economic Growth and the Environment: A Review of Theory and Empirics. In: Aghion, P., Durlauf, S. (eds.) *Handbook of Economic Growth*. Vol. IB, Amsterdam, 1749-1821.
- Brock, W.A., Taylor, M.S. (2003), The Kindergarten Rule of Sustainable Growth. NBER Working Paper No. 9597.
- Stokey, N.L. (1998), Are there Limits to Growth? *International Economic Review* 39, 1-31.
- Hartman, R. and Kwon, O.-S. (2005), Sustainable Growth and the Environmental Kuznets Curve. *Journal of Economic Dynamics and Control* 29, 1701-1736.

Other topics in innovation and industrial economics will be accepted.