Sustainable Development, Trade and Environmental Economics

SS 2022

Instructor: Prof. Inmaculada Martínez-Zarzoso
Office Hours: by Appointment. Room: OEC 256
Email: imartin@uni-goettingen.de
Teaching Assistant: TBA
Office Hours: by Appointment. Room: TBA
Email: TBA

Course description

The seminar focuses on environmental economics in a globalized context within the framework of sustainable development. For this purpose, the seminar will cover different topics, starting from the sustainable development concept. The seminar will also explore, from an economic perspective, climate change as one of the main global environmental issues, considering the state of scientific evidence, energy use implications and policies related to climate change. This pattern will enable students to understand the complexity of sustainable development and environmental economics. Global environmental problems, such as global warming or deforestation, have received great publicity in recent times. Since most of them have a transboundary nature, they can only be addressed effectively through international cooperation. We will discuss the use of trade policy as an instrument for achieving significant reductions in carbon emissions and also whether trade policies can be effectively used as enforcement mechanisms to support environmental cooperation. In addition, we will discuss the ongoing negotiations on climate change and the environment that, similar to the trade case, will cover an increasing scope of environmental issues in future rounds of negotiation. The seminar is designed for students interested in the process of sustainable economic development and international economics, including students doing the Master in International Economics and in Development Economics.

Course requirements

To acquire 6 credit points students will have to write a research paper (70%), prepare a presentation, participate in the discussions and briefly discuss a paper of another student (which together accounts for the other 30%). For the grade of the presentation, it is crucial that you can very well explain the ideas, theoretical and empirical models included in your paper to your classmates.
Seminar seats are provided on a first come, first serve basis. In order to register for the course, it is necessary to follow two steps: First, register to the seminar on *www.studip.uni-goettingen.de* (Studip) within the period indicated below (Important deadlines). Second, choose a topic for your seminar paper (go to Forum and indicated your preferred topic(s), see next paragraph). Available topics are listed in the Syllabus. The syllabus can be found in folder *Documents*. Each topic is assigned on a first come first serve basis.
To choose a topic, students have to write the topic number (e.g. Topic 1) on the *forum/Allgemeine Diskussion/Add new topic*. The first person selecting each topic will get it (***check the forum before selecting a topic to see if it is still available***, please avoid choosing already selected topics). You can then start working on the seminar paper.

Eligible participants

The seminar is open to MA students in international economics, development economics, and business studies.

Research papers

The seminar papers must be written in English, comprising a maximum of 10 pages (12 pt, double spaced, excluding bibliography and appendix). In addition, a short abstract of about 150 words (key question, methodology and main results) has to be included. The papers should be analytical and critical, place in the appendix the result/models from other papers or from yourself that you discuss and use the literature listed below as a starting point and develop a coherent argument, drawing own conclusions. The paper should go beyond a pure summary of existing literature. Note that many titles in the literature list are relevant beyond the topic under which they are listed.

Presentations

The presentations should have a maximum (!) length of 15 min focusing on the main insights of the research papers. The speaker may use any visual device for his presentation (e.g. power point, pdf) and should be able to answer short questions during and after the presentation. Keep your audience in mind and prepare a well-structured, interesting and educational presentation. Do not in any case only read out your paper.

Discussions

In addition, each student will be assigned another paper, which he/she should briefly (5 min) discuss after the presentation. The discussion should be a critical reflection of the paper and presentation (content, structure, unclear points) and come up with two or three questions to start a discussion in the plenum. It is also expected that all other students have briefly gone through the papers of the other participants before the seminar, so that a good discussion after the presentations can take place. All papers will be available on Studip before the seminar.

Important deadlines (please also see schedule in Studip)

01.04.2022	Application period open on Studip
22.04.2022	Preliminary discussion 13:00–14:00 pm. Instructions to participate will be announced on Studip.
29.04.2022	Registration deadline in Flexnow (Prüfungsamt system, **not** the same as registering on Studip)
30.04.2022	Free slots offered to students on the waiting list
26.05. 2022	**Paper deadline**: students should hand in an electronic copy of their seminar papers until **5 pm** to (imartin@gwdg.de).
30.05.2022	Seminar papers and an overview of discussants uploaded on Studip.
02.06.2022	**Presentation deadline**: students should hand in an electronic copy of their ppt or pdf until **5 pm** to (imartin@gwdg.de).
03.06. - 04.06.2022	Block seminar with presentations and discussions (*details will be announced in due time on studip*).

Topics

Block I - Environment and development
Topic 1. Natural capital, sustainability and wellbeing

Topic 2. The Sustainable Development Goals
Topic 3. Environmental degradation and economic development
Topic 4. Income inequality and environmental quality
Topic 5. The economics of climate change
Topic 6. Drivers of environmental innovations
Topic 7. Environmental goods and services

Block II - Environment and trade
Topic 8. Environment and international trade
Topic 9. Trade liberalization and pollution havens
Topic 10. Foreign direct investment and pollution havens
Topic 11. Trade agreements and environmental agreements
Topic 12. Climate change controls and trade policy
Topic 13. International trade in waste

Block III - Environmental policies and regulation
Topic 14. National and regional policies to protect the environment
Topic 15. Post Kyoto: The Copenhagen and the Paris climate change negotiations
Topic 16. Migration and climate change
Topic 17. The Porter hypothesis: Environmental regulations, innovation and productivity
Topic 18. Local pollutants and its effects on air quality and health

Literature

The literature listed here should get you started on your topic. This means that apart from using the literature provided for each topic, you should perform your own complementary literature search. When using Working Papers from previous years, check whether those have already been published in a scientific journal, title might change slightly. Use preferably the published version.

Block I - Environment and development

Topic 1: Natural capital, sustainability and wellbeing

Barbier, E.B. and Burgess, J.C., 2017. The Sustainable Development Goals and the systems approach to sustainability. *Economics: The Open-Access, Open-Assessment E-Journal*, *11*(2017-28), pp.1-23.

Costanza, R., Daly, L., Fioramonti, L., Giovannini, E., Kubiszewski, I., Mortensen, L.F., Pickett, K.E., Ragnarsdottir, K.V., De Vogli, R. and Wilkinson, R., 2016. Modelling and measuring sustainable wellbeing in connection with the UN Sustainable Development Goals. *Ecological Economics*, *130*, pp.350-355.

Dasgupta, P., 2010. Nature's role in sustaining economic development. *Philosophical Transactions of the Royal Society*, Vol. 365, pp. 5-11.

Engelbrecht, H. J., 2009. Natural capital, subjective well-being, and the new welfare economics of sustainability: Some evidence from cross-country regressions. *Ecological Economics*, Vol. 69, No. 2, pp. 380-388.

Hoberg, N. and S. Strunz 2018. When Individual Preferences Defy Sustainability—Can Merit Good Arguments Close the Gap? *Ecological Economics* 143, 286-293.

Hughes, B. and P. Johnston, 2005. Sustainable futures: policies for global development. *Futures,* Vol. 37, pp. 813-831.

Lau, P., Sze, A., Wan, W. and Wong, A., 2022. The Economics of the Greenium: How Much is the World Willing to Pay to Save the Earth?. *Environmental and Resource Economics*, pp.1-30.

Naidoo, R., Gerkey, D., Hole, D., Pfaff, A., Ellis, A. M., Golden, C. D., ... & Fisher, B. (2019). Evaluating the impacts of protected areas on human well-being across the developing world. *Science Advances*, *5*(4), eaav3006.

Topic 2: The Sustainable Development Goals

Allen, C., Metternicht, G. and Wiedmann, T., 2018. Initial progress in implementing the Sustainable Development Goals (SDGs): a review of evidence from countries. *Sustainability Science*, *13*(5), pp.1453-1467.

Chapman, A. and Y. Shigetomi, 2018. Developing national frameworks for inclusive sustainable development incorporating lifestyle factor importance. *Journal of Cleaner Production* 200 (1), 39-47.

Griggs, D., Stafford-Smith, M., Gaffney, O., Rockström, J., Öhman, M.C., Shyamsundar, P., Steffen, W., Glaser, G., Kanie, N. and I. Noble, 2013. Policy: Sustainable Development Goals for people and planet. *Nature*, Vol. 495 No. 7441, pp. 305-307.

Koundouri, P., Theodossiou, N., Stavridis, C., Devves, S. and Plataniotis, A., 2022. *A methodology for linking the Energy-related Policies of the European Green Deal to the 17 SDGs using Machine Learning* (No. 2202). Athens University of Economics and Business.

Naidoo, R., & Fisher, B. 2020. Reset Sustainable Development Goals for a pandemic world. *Nature*, 198-201.

Sachs, J.D., 2012. From Millennium Development Goals to Sustainable Development Goals. *The Lancet*, Vol. 379, No. 9832, pp. 2206-2211.

Sachs, J., Koundouri, P., et al., 2021. Transformations for the Joint Implementation of Agenda 2030 for Sustainable Development and the European Green Deal - A Green and Digital, Job-Based and Inclusive Recovery from the COVID-19 Pandemic. Report of the UN Sustainable Development Solutions Network, available at: https://resources.unsdsn.org/transformations-for-the-joint-implementation- of-agenda-2030-the-sustainable-development-goals-and-the-european-green-deal-a-green-and-digital-job-based-and-inclusive-recovery-from-covid-19-pandemic.

Sachs, J. D., Schmidt-Traub, G., Mazzucato, M., Messner, D., Nakicenovic, N., & Rockström, J. (2019). Six transformations to achieve the sustainable development goals. *Nature Sustainability*, *2*(9), 805-814.

Sen, G. and Bingqin, L. 2019. The Digital Silk Road and the Sustainable Development Goals, in Sen, G., Leach, M. and Gu, J. (Eds) The Belt and Road Initiative and the SDGs: Towards Equitable, Sustainable Development, IDS Bulletin 50.4, Brighton: IDS

UN. 2015. Transforming Our World: the 2030 Agenda for Sustainable Development, United Nations, New York.

UN. 2019. The Sustainable Development Goals Report, 2019. United Nations, New York.

UNSDSN. 2015. Indicators and a Monitoring Framework for the Sustainability Development Goals, United Nations Sustainability Development Solutions Network, New York.

Topic 3: Environmental degradation and economic development

Carson, R. T., 2010. The Environmental Kuznets Curve: Seeking empirical regularity and theoretical structure. *Review of Environmental Economics and Policy*, Vol. 4, No. 1, pp. 3-23.

Copeland, B.R. and M.S. Taylor, 2004. Trade, growth and the environment, *Journal of Economic Literature,* Vol. 42, No. 1: pp. 7-71.

Galeotti, M., Lanza, A., and M. C. L. Piccoli, 2011. The demographic transition and the ecological transition: Enriching the Environmental Kuznets Curve hypothesis. IEFE Working Paper Series-ISSN 1973-0381.

Kijima, M., Nishide, K., and A. Ohyama, 2010. Economic models for the Environmental Kuznets Curve: A survey. *Journal of Economic Dynamics and Control*, Vol. 34, No. 7, pp. 1187-1201.

Meng, L. and B. Huang, 2018. Shaping the Relationship Between Economic Development and Carbon Dioxide Emissions at the Local Level: Evidence from Spatial Econometric Models, *Environmental and Resource Economics* 71(1), 127–156.

Selden, T. M. and D. Song, 1994. Environmental quality and development: is there a Kuznets Curve for air pollution emissions? *Journal of Environmental Economics and Management*, Vol. 27, pp. 147–162.

Stern, D. I., 2004. The rise and fall of the Environmental Kuznets Curve, *World Development*, Vol. 32, No. 8, pp. 1419-1439.

Stern, D. I., 2010. Between estimates of the emission-income elasticity, *Ecological Economics*, Vol. 69, pp. 2173-2182.

Stern, D. I. 2017. The environmental Kuznets curve after 25 years. *Journal of Bioeconomics*, *19*(1), 7-28.

Topic 4: Income inequality and environmental quality

Berthe, A. and Elie, L. 2015. Mechanisms explaining the impact of economic inequality on environmental deterioration. *Ecological Economics* 116, 191-200.

Boyce, J. 1994. Inequality as a cause of environmental degradation. *Ecological Economics*, 11(3), pp.169-178.

Fremstad, A., & Paul, M. 2019. The impact of a carbon tax on inequality. *Ecological Economics*, *163*, 88-97.

Grunewald, N., Klasen, S., Martinez-Zarzoso, I. and Muris, C. 2017. The Trade-off between Income Inequality and Carbon Dioxide Emissions", *Ecological Economics 142*, 249-256.

Islam, S. 2015. Inequality and Environmental Sustainability. DESA Working Paper No. 145. New York: United Nations: Department of Economic and Social Affairs.

Jorgenson, A., Schor, J., & Huang, X. 2017. Income inequality and carbon emissions in the United States: a state-level analysis, 1997–2012. *Ecological Economics*, *134*, 40-48.

Kashwan, P. 2017. Inequality, democracy, and the environment: A cross-sectional analysis. *Ecological Economics* 131, 139-151.

Torras, M. and J. K. Boyce, 1998. Income, inequality, and pollution: A reassessment of the Environmental Kuznets Curve. *Ecological Economics*, Vol. 25, No. 2, pp. 147-160.

Wan, G., Wang, C., Wang, J. and Zhang, X., 2022. The income inequality-CO2 emissions nexus: Transmission mechanisms. *Ecological Economics*, *195*, 107360.

Topic 5: The Economics of climate change

Balint, T., Lamperti, F., Mandel, A., Napoletano, M., Roventini, A., & Sapio, A. 2017. Complexity and the economics of climate change: a survey and a look forward. *Ecological Economics*, *138*, 252-265.

Berger, L., & Marinacci, M. 2020. Model Uncertainty in Climate Change Economics: A Review and Proposed Framework for Future Research. *Environmental and Resource Economics*, 1-27.

Dasgupta, P., 2007. The Stern Review's economics of climate change. *National Institute Economic Review*, Vol. 199, pp.4-7.

Fox, N. J., & Alldred, P. 2020. Economics, the climate change policy-assemblage and the new materialisms: towards a comprehensive policy. *Globalizations*, 1-11.

IPCC, 2014. Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, R.K. Pachauri and L.A. Meyer (eds.)]. IPCC, Geneva, Switzerland, 151 pp.

Nordhaus, W., 2007. A review of the Stern Review on the economics of climate change. *Journal of Economic Literature*, Vol. XLV, pp. 686-702.

Nordhaus, W. 2019. Climate change: The ultimate challenge for economics. *American Economic Review*, *109*(6), 1991-2014.

Stern, N. 2008. The economics of climate change. *The American Economic Review*, Vol. 98, No. 2, pp. 1-37.
UNFCCC (United Nations Framework Convention on Climate Change), 2015. The Paris Agreement: http://unfccc.int/paris_agreement/items/9485.php.
Weitzman, M. L. 2009. On modelling and interpreting the economics of catastrophic climate change. *The Review of Economics and Statistics*, Vol. 91, No. 1, pp. 1-19.

Topic 6: Drivers of environmental innovations

Afshari, H., Searcy, C. and Jaber, M.Y., 2020. The role of eco-innovation drivers in promoting additive manufacturing in supply chains. *International Journal of Production Economics*, *223*, p.107538.
Cainelli, G., D'Amato, A. and Mazzanti, M., 2020. Resource efficient eco-innovations for a circular economy: Evidence from EU firms. *Research Policy*, *49*(1), p.103827.
Costantini, V., F. Crespi, A. Palma, 2017. Characterizing the policy mix and its impact on eco-innovation: A patent analysis of energy-efficient technologies, *Research Policy*, 46, Issue 4, 799-819.
Del Río González, P. 2009. The empirical analysis of the determinants for environmental technological change: A research agenda. *Ecological Economics*, *68*(3), 861-878.
Hanley, A. and Semrau, F.O., 2022. Stepping up to the mark? Firms' export activity and environmental innovation in 14 European countries. *Industry and Innovation*, pp.1-29.
Horbach, J. 2008. Determinants of environmental innovation—New evidence from German panel data sources. *Research policy*, *37*(1), 163-173.
Hojnik, J. and M. Ruzzier, 2016. What drives eco-innovation? A review of an emerging literature, *Environmental Innovation and Societal Transitions*, 19, 31-41.

Topic 7: Environmental goods and services

De Melo, J., & Solleder, J. M. 2020. Barriers to trade in environmental goods: How important they are and what should developing countries expect from their removal. *World Development*, *130*, 104910.
Demirel, P., Li, Q. C., Rentocchini, F., & Tamvada, J. P. (2019). Born to be green: new insights into the economics and management of green entrepreneurship. *Small Business Economics*, *52*(4), 759-771.
Kuik, O., Branger, F., & Quirion, P. 2019. Competitive advantage in the renewable energy industry: Evidence from a gravity model. *Renewable Energy*, *131*, 472-481.
Sestini, R., & Pugliese, D. 2020. To buy or to do it yourself? Pollution policy and environmental goods in developing countries. *Journal of Industrial and Business Economics*, 1-31.
Sinclair-Desgagné, B. 2008. The environmental goods and services industry. *International Review of Environmental and Resource Economics*, *2*(1), 69-99.
Zugravu-Soilita, N. 2019. Trade in Environmental Goods and Air Pollution: A Mediation Analysis to Estimate Total, Direct and Indirect Effects. *Environmental and Resource Economics*, *74*(3), 1125-1162.

Block II - Environment and Trade

Topic 8: Environment and international trade

Antweiler, W., Copeland, B. R. and M. S. Taylor, 2001, Is free trade good for the environment? *American Economic Review*, Vol. 91, No. 4, pp. 877-908.
Cherniwchan, J., Copeland, B.R. and Taylor, M.S., 2017. Trade and the environment: New methods, measurements, and results. *Annual Review of Economics*, *9*, pp.59-85.
Cherniwchan, Jevan, 2017. Trade liberalization and the environment: Evidence from NAFTA and U.S. manufacturing, *Journal of International Economics 105* (2017) 130–149.

Copeland, B. R., 2005. Policy endogeneity and the effects of trade on the environment. *Agricultural and Resource Economics Review*, Vol. 34/1, pp. 1-15.

Frankel, A. J. and A. K. Rose, 2005. Is trade good or bad for the environment? Sorting out the causality. *The Review of Economics and Statistics*, Vol. 87, No. 1, pp. 85-91.

Forslid, Rikard, Toshihiro Okubo, and Karen Helene Ulltveit-Moe. 2018. Why are firms that export cleaner? International trade, abatement and environmental emissions. *Journal of Environmental Economics and Management* 91, 166-183.

Grossman, G. M. and A. B. Krueger, 1993. Environmental impacts of the North American Free Trade Agreement, in: The U.S.-Mexico Free Trade Agreement, P. Garber (ed.) Cambridge, MIT Press.

Holladay, J.S. and LaPlue III, L.D., 2021. Decomposing changes in establishment-level emissions with entry and exit. *Canadian Journal of Economics/Revue canadienne d'économique*.

Richter, P.M. and Schiersch, A., 2017. CO2 emission intensity and exporting: Evidence from firm-level data. *European Economic Review*, *98*, pp.373-391.

Topic 9: Trade liberalization and pollution havens

Barrows, G. and Ollivier, H., 2018. Cleaner firms or cleaner products? How product mix shapes emission intensity from manufacturing. *Journal of Environmental Economics and Management*, *88*, pp.134-158.

Barrows G, Ollivier H. Foreign demand, developing country exports, and CO2 emissions: Firm-level evidence from India. Journal of Development Economics. 2021 Mar 1;149:102587.

Candau, F. and Dienesch, E., 2017. Pollution haven and corruption paradise. *Journal of environmental economics and management*, *85*, pp.171-192.

Ederington, J., Levinson, A. and J. Minier, 2005. Footloose and pollution-free, *Review of Economics and Statistics*, Vol. 87, No. 1: pp. 92-99.

Forslid, R., Okubo, T., & Sanctuary, M. 2017. Trade liberalization, transboundary pollution, and market size. *Journal of the Association of Environmental and Resource Economists*, *4*(3), 927-957.

Kellenberg, D. K., 2009. An empirical investigation of the Pollution Haven effect with strategic environment and trade policy. *Journal of International Economics*, Vol. 78, No. 2, pp. 242-255.

Levinson, A. and M. S. Taylor, 2008, Unmasking the pollution haven effect, *International Economic Review*, Vol. 49, No. 1, pp. 223-254.

Marconi, D., 2012. Environmental regulation and revealed comparative advantages in Europe: is China a pollution haven? *Review of International Economics*, Vol. 20, No. 3, pp. 616-635.

Millimet, D. L. and J. Roy, 2012. Empirical tests of the Pollution Haven hypothesis when environmental regulation is endogenous. *Journal of Applied Econometrics*, DOI: 10.1002/jae.2451, pp. 1-26.

Mulatu, A., Gerlagh, R., Rigby, D., and A. Wossink, 2010. Environmental regulation and industry location in Europe. *Environmental and Resource Economics*, Vol. 45, No. 4, pp. 459-479.

Najjar, N. and Cherniwchan, J., 2020. Environmental Regulations and the Clean-Up of Manufacturing: Plant-Level Evidence. *Review of Economics and Statistics*, pp.1-45.

Topic 10. FDI and pollution havens

Cole, M. A. and R. J. R. Elliott, 2005. FDI and the capital intensity of 'dirty' sectors: A missing piece of the Pollution Haven puzzle, *Review of Development Economics*, Vol. 9, No. 4: pp. 530-548.

Cole, M. A., R. J. R. Elliott and P. G. Fredriksson, 2006. Endogenous Pollution Havens: Does FDI influence environmental regulations? *Scandinavian Journal of Economics*, Vol. 108, pp. 157-178.

Demena, B.A. and Afesorgbor, S.K., 2019. The effect of FDI on environmental emissions: Evidence from a meta-analysis. *Energy Policy*, p.111192.

Keller, W. and A. Levinson, 2002. Pollution abatement costs and foreign direct investment inflows to US states, *Review of Economics and Statistics*, Vol. 84, No. 4, pp. 691–703.

Lee, K. D., Lee, W., and K. Kang, 2013. Pollution Haven with technological externalities arising from foreign direct investment. *Environmental and Resource Economics*, Vol. 51, No. 1, pp. 1-18.

Rezza, A. A., 2013. FDI and pollution havens: Evidence from the Norwegian manufacturing sector. *Ecological Economics*, Vol. 90, pp. 140-149.

Wagner, U. J. and C. D. Timmins, 2008. Agglomeration effects in foreign direct investment and the pollution haven hypothesis, *Environmental and Resource Economics*, Vol. 43, No. 2, pp. 231-256.

Xing, Y. and C. D. Kolstad, 2002. Do lax environmental regulations attract foreign investment? *Environmental and Resource Economics*, Vol. 21, No. 1, pp. 1-22.

Topic 11. Trade agreements and environmental agreements

Baghdadi, L., I. Martinez-Zarzoso and H. Zitouna, 2013. Are RTA agreements with environmental provisions reducing emissions? *Journal of International Economics*, Vol. 90, pp. 378-390.

Berger, A., Brandi, C., Bruhn, D. and Chi, M. (2017) Towards "greening" trade? Tracking environmental provisions in the preferential trade agreements of emerging markets. Discussion Paper / Deutsches Institut für Entwicklungspolitik ISSN 1860-0441.

Monteiro, José-Antonio, 2016. Typology of environment-related provisions in regional trade agreements, WTO Staff Working Paper, No. ERSD-2016-13.

Nuñez-Ramos, T. and Martínez-Zarzoso, I. 2018. "Are International Environmental Policies Effective? The Case of the Rotterdam and the Stockholm Conventions", *Economic Modelling*, forthcoming.

UNEP, 2008. Register of International Treaties and Other Agreements in the Field of the Environment. United Nations Environmental Programme.

Topic 12: Climate change controls and trade policy

Chang, N., 2013. Sharing responsibility for carbon dioxide emissions: A perspective on border tax adjustments. *Energy Policy*, Vol. 49(c), pp. 850-856.

Dechezleprêtre, A., Glachant, M. and Y. Ménière, 2013. What drives the international transfer of climate change mitigation technologies? Empirical evidence from patent data. *Environmental and Resource Economics*, Vol. 54, No. 2, pp. 161-178.

Elliott, J., Foster, I., Kortum, S., Jush, G. K., Munson, T. and D. Weisbach, 2013. Reaching international cooperation on climate change mitigation: Unilateral carbon taxes, border tax adjustments and carbon leakage. *Theoretical Inquiries in Law*, Vol. 14, pp. 207-307.

Ederington, J. and J. Minier, 2003. Is environmental policy a secondary trade barrier? An empirical analysis. *Canadian Journal of Economics*, Vol. 36, pp. 137–154.

Farrokhi, F. and Lashkaripour, A. 2021. Can Trade Policy Mitigate Climate Change? Purdue University, mimeo. Paper presented at NBER Future of Globalization Conference.

Farrahi Moghaddam, R., Farrahi Moghaddam, F. and M. Cheriet, 2013. A modified GHG intensity indicator: Toward a sustainable global economy based on a carbon border tax and emissions trading. *Energy Policy*, Vol. 00, pp. 1-25.

Goulder, L. H., 2013. Markets for pollution allowances: What are the (new) lessons? *The Journal of Economic Perspectives*, Vol. 27, No. 1, pp. 87-102.

Jacob, M., Steckel, J. C., Klasen, S., Lay, J., Grunewald, N., Martínez-Zarzoso, I., Renner, S. and Edenhofer, O. (2014), "Feasible Mitigation Actions in Developing Countries", *Nature Climate Change* 4, 961-968.

Metcalf, G. E. 2020. An emissions assurance mechanism: adding environmental certainty to a US carbon tax. *Review of Environmental Economics and Policy*, *14*(1), 114-130.

Peters, G. P. and E. G. Hertwich, 2008. CO_2 embodied in international trade with implications for global climate policy. *Environmental Science and Technology*, Vol. 42, No. 5, pp. 1401-1407.

Whalley, J., 1991. The interface between environmental and trade policies. *The Economic Journal*, Vol. 101, No. 405, pp. 180-189.

Topic 13: International trade in waste

Baggs, J., 2009. International trade in hazardous waste. *Review of International Economics*, Vol. 17, No. 1, pp. 1-16.

Kellenberg, D., 2012. Trading wastes. *Journal of Environmental Economics and Management*, Vol. 64, pp. 68-87.

Kellenberg, D. and A. Levinson, 2014. Waste of effort? International environmental agreements. *Journal of the Association of Environmental and Resource Economists*, Vol. 1, No. 1, pp. 135-169.

D'amato, A., Paleari, S., Pohjakallio, M., Vanderreydt, I., Zoboli, R., 2019: Plastics waste trade and the environment, ETC/WMGE, Copenaghen 50. [http://hdl.handle.net/10807/146947].

Nuñez, T. and Martínez-Zarzoso, I. (2019) "Are International Environmental Policies Effective? The Case of the Rotterdam and the Stockholm Conventions", *Economic Modelling* 81, 480-502.

Qu, S., Guo, Y., Ma, Z., Chen, W.Q., Liu, J., Liu, G., Wang, Y. and Xu, M., 2019. Implications of China's foreign waste ban on the global circular economy. *Resources, Conservation and Recycling*, *144*, pp.252-255.

Sun, M. 2019. The effect of border controls on waste imports: Evidence from China's Green Fence campaign. *China Economic Review*, *54*, 457-472.

Block III - Environmental Policies and Intervention

Topic 14: National and regional policies to protect the environment

Åström, S., Tohka, A., Bak, J., Lindblad, M., and J. Arnell, 2013. Potential impact on air pollution from ambitious national CO2 emission abatement strategies in the Nordic countries–environmental links between the UNFCCC and the UNECE–CLRTAP. *Energy Policy*, Vol. 53(C), pp. 114-124.

Best, R., Burke, P. J. and Jotzo, F. 2020. Carbon Pricing Efficacy: Cross-Country Evidence *Environmental and Resource Economics* 77, pp. 69-94.

Brunel, C., and A. Levinson, 2013. Measuring environmental regulatory stringency. *Review of Environmental Economics and Policy*, Vol. 10, No. 1, pp. 47-67.

Dudek, C. M., 2013. Transmitting environmentalism? The unintended global consequences of European Union environmental policies. *Global Environmental Politics*, Vol. 13, No. 2, pp. 109-127.

Green, J. F. 2021. Does carbon pricing reduce emissions? A review of ex-post analyses *Environ. Res. Lett.* **16** 043004, pp. 1-17.

Greenstone, M., He, G., Li, S. and Zou, E.Y., 2021. China's war on pollution: Evidence from the first 5 years. *Review of Environmental Economics and Policy*, *15*(2), pp.281-299.

Hovi, J. and B. Holtsmark, 2006. Cap-and-trade or carbon taxes? The feasibility of enforcement and the effects of non-compliance. *International Environmental Agreements: Politics, Law and Economics*, Vol. 6, No. 2, pp. 137-155.

Kahn, J. R. and D. Franceschi, 2006. Beyond Kyoto: a tax-based system for the global reduction of greenhouse gas emissions. *Ecological Economics*, Vol. 58, No. 4, pp. 778-787.

Keen, Michael & Kotsogiannis, Christos, 2014. "Coordinating climate and trade policies: Pareto efficiency and the role of border tax adjustments," *Journal of International Economics*, Elsevier, vol. 94(1), pages 119-128.

Marschinski, R. and O. Edenhofer, 2010. Revisiting the case for intensity targets: Better incentives and less uncertainty for developing countries. *Energy Policy*, Vol. 38, No. 9, pp. 5048-5058.

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European Environmental Agency. Environment, Health and Quality of Life
https://www.iea.org
International Energy Agency
https://www.wto.org/english/tratop_e/envir_e/envir_e.htm
The World Trade Organization's web site is devoted to the relationship between international trade issues and environmental quality. The site includes links to many research reports and other information.
http://www.oecd.org/ech/
The web site for the trade division of the Organisation for Economic Co-operation and Development. The site includes many publications on trade issues, including trade and the environment.
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Home page for the Commission for Environmental Cooperation, created under the North American Free Trade Agreement "to address regional environmental concerns, help prevent potential trade and environmental conflicts, and to promote the effective enforcement of environmental law". The site includes numerous publications on issues of trade and the environment.
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