

# DRAFT

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*This is an unfinished first draft. All sections still need to be revised and are work in progress!*

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## International trade theory and policy: Why is matters what we do in economics

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## 1. Introduction

While trade is one of the central topics in economics, it is also one of the most contested ones. Each economic school has a distinct understanding and conceptualization of international trade and its underlying structures and processes. Depending on these, historical developments, implications for local economies and the environment as well as global power structures are explained very differently. Theories on international trade gained importance especially since globalization and the availability of cheap energy (fossil fuels) for transport has accelerated cross-border flows of processed and unprocessed goods and services in the past decades. Increasingly, these flows connect geographically distant regions, creating complex global value chains with far reaching social, economic, and ecological implications. How we conceptualize and understand the mechanisms and implications associated with international trade matters greatly for policy making because these shape the actions taken, especially in the context of growing concerns over global sustainability challenges such as climate change, pollution, or human rights. The political and economic decisions made with regard to international trade do not only influence the own country, but every location along these increasingly complex and long global value chains. And since the impacts are so far away, they are easily overlooked and ignored, by politicians who create the framework based on international agreements, by the general public, and by the actors involved in these value chains. Neoclassical accounts on international trade and the models used remain dominant in economic thinking and greatly shape international trade policies, however, heterodox schools such as ecological economics, economic geography or evolutionary economics provide valuable contrasting perspectives. There is a growing body of literature of critical research on international trade and global value chains coming from these heterodox schools.

Studying the diverse perspectives and models is important because the way researchers address the complex global mechanisms behind international trade, as well as what is omitted, shapes and creates the research agendas and (re-)produces the narratives. This has real-world implications, as the dominant narratives including their preferred models potentially strongly affect public discourses, public policy and political mitigation strategies (e.g. see Aistleitner et al.; 2020, Jessop, 2004; Wilkinson, 2009). However, the diverse narratives mostly remain opaque, with little communication between the different economic schools, thereby failing to build on the knowledge generated within other areas of research. Moreover, these perspectives are mostly only discussed from a theoretical point of view. There are only very few economic models, which include social, ecological or institutional aspects into consideration. This is problematic, because of the central role of models in policy making, as will be addressed later on.

The main goal of this paper is therefore to show how strong the impact of economics on policy making is, illustrate with some examples the concrete impact of specific economic ideas and models on political decisions, international agreements and national laws related to international trade, and explore from this point of view the existing approaches to international trade. The analysis draws on the knowledge of these different perspectives, identifies the trade narratives dominant in the different economic schools and synthesizes the main foci of these narratives in a concise overview of which school is addressing which aspects of international trade. The focus lies on their contributions concerning social and ecological implications of trade, showing the complex intertwining between these aspects while also identifying blind spots. Based on this analysis, it is argued that the dominating neoclassical perspective does not sufficiently address social and ecological implications and thereby hinders sustainable development. Instead, a multi-faceted perspective on international trade, including models that take social-ecological aspects into account, is crucial for addressing the increasing global challenges caused by the global economic system. Only then it is possible to formulate effective mitigation strategies.

Therefore, this research article starts in section two by looking at the impact economic discourses can have on politics, specifically also the impact of models and a central tool used by economics and a central mechanism of influence from economics on politics. It then continues in section three to illustrate international trade and global value chains from different perspectives present in economics, including

the models and the underlying assumptions used. Section four brings both previous sections together, identifying different domains, which are influenced by the decisions made based on specific economic paradigms, particularly the environment, working conditions and rights of local workers, global dependencies and power structures. Section five concludes.

## 2. Impact of economics of policy making

In the modern world, economists have a strong impact on policy making by creating knowledge that finds its way into the public and politics (Aistleitner & Puehringer, 2020). There are many different ways, how this impact can look like. In the following, different mechanisms will be highlighted, which show the role the individual researcher has, the impact of dominant narratives and discourses as well the importance of models. (Hirschman & Berman, 2014)

As Hirschman and Berman (2014) describe, economists often have a direct impact on policy making through the institutional positions they carry in governments and their central role as advisors and consultants in decision making processes, hence their beliefs and points of focus may strongly influence real-life politics. Generally economists are often ascribed professional authority and their way of thinking and argumentation shapes the “cognitive infrastructure of policymaking, including the diffusion of economic styles of reasoning” (Hirschman & Berman, 2014, p. 779). This implies that the economic discourse influences how non-economist, including policy makers, understand a specific topic (Hirschman & Berman, 2014).

Economic models have a central role in this regard because they “can serve as a transmission device between economic paradigms and policy programs, which allow actors drawing on the model to exercise power in decision-making” (Heimberger, Huber, & Kapeller, 2020, p. 337). Models have this mediating role between research and concrete policy making, because they are able to simplify and represent complex economic processes. Thereby, they can be understood as a “device for seeing” (Hirschman & Berman, 2014, p. 779), because they help policy makers understand complex issues. Moreover, Hirschman and Berman (2014) also describe models as “devices for deciding” (779) because they can provide clear suggestions for specific policy options. At the same time, however, they hide other options due to the very nature of every model to reduce complex issues to “a simplification of reality that explicitly highlights key relationships that we deem important to understanding and analyzing certain economic issues while omitting many details deemed to be less relevant to the problem at hand” (van den Berg, 2014, p. 20)(Heimberger, 2019). Hence, every model focuses on a specific set of variables and neglects others and thereby influences which information is included in the decision making process and which not.

The selection of what is highlighted and what is not considered depends on the underlying paradigm, and therefore the economic paradigm influences the political policy making (Heimberger et al., 2020). Even though every model is shaped by the underlying paradigm, they are still seemingly neutral, give policy makers a good argumentation basis and provide legitimacy for their decisions, as they increase the transparency of decision making processes (Schmidt, 2013, cited by Heimberger et al, 2020). This is only able however, if “the model itself is understood as an authoritative tool for policymaking” (Heimberger et al., 2020, p. 350). The authority of a model is strengthened, when it is embedded in the “dominant views in academic economics” (p. 350) and supported by the experts of the field. Moreover, the institutions using a specific model can increase the authority by claiming ownership of the model and publicly underlining that it is a commonly used and agreed upon methodology (Heimberger et al., 2020). This connection shows a self-reinforcing loop – the models used are often embedded in the dominant paradigm because this increases their legitimacy, and by using such models in the political process, they become more present in the public perception and research using these models or referring to the basic assumption also seem more legitimate, since they are applied in the political sphere.

There are many studies analyzing the impact of economics on political decisions in general, mostly however regarding abstract theories and rather few looking at specific models. But, as addressed above,

models play a central role in the connection between economics and political processes. Two studies analyzing specific models and their application in politics quite nicely illustrate this relation. They show the direct impact of specific models on politics, highlight how the mindset and basic assumptions of the models clearly influence the decision making processes and underline how important it is to be reflective on which models are used, what the core assumptions are and what implications this entails. One study is regarding the EU's fiscal regulation framework by Heimberger et al. (2020) and the other one about TTIP and the role of computational general equilibrium modelling by Ville and Siles-Brügge (2015). Both studies are briefly described in the following.

The study by Heimberger et al. (2020) examines, how the “potential output model” (PO-model) is used by the European commission in fiscal policy decisions. The model is the “core technical backbone of fiscal policy coordination in the EU's fiscal regulation framework” (Havik et al., 2014; Tereanu et al., 2014; Costantini, 2017; cited by Heimberger et al., 2020). The authors explain that the model is based on the neoclassical paradigm, combining several standard neoclassical assumptions, and therefore consequently favors policies in line with this paradigm – focusing on supply-side measures and labor market deregulation, and neglecting contesting approaches such as demand-side policies in the shape of public investment. Thereby, the paradigmatic assumptions are used to inform the political process and the model directly suggests specific policy options, while hiding others. The authors “show that by delivering a benchmark for the fiscal performance of EU member countries, the PO model plays an essential role in transmitting vague economic convictions into specific policy proposals” (Heimberger et al., 2020, pp. 340–341). From these insights, the authors highlight that research should take “the potentially powerful role of economic models in policy-making more serious” (Heimberger et al., 2020, p. 361).

In the study by Ville and Siles-Brügge (2015) with the title “The Transatlantic Trade and Investment Partnership and the Role of Computable General Equilibrium Modelling: An Exercise in ‘Managing Fictional Expectations’” the authors illustrate the central role computational general equilibrium models (CGE) models had on the development of the TTIP agreement between the EU and the USA (which is currently on ice, however could potentially be put on the agenda again, as of August 2021). The authors show how the agreement is based on CGE models, which are at the center of modern neoclassical economics. It provided estimates, which highlight the positive effects of trade-liberalization, predicting economic gains for the EU as well as the USA, claiming it would stimulate both economies. Thereby, the model was quite useful for the pro-liberalization agenda of the European Commission. However, the study highlights that the models, rather than providing reliable estimates, made overly optimistic assumptions for the economic implications. The models are used to manage fictional expectations (after Jens Beck, (2013a, 2013b)) by presenting specific scenarios as “reliable predictions of future outcomes” (p. 655), even though “these models are shrouded in uncertainty, as the social world is too contingent to be modelled in terms of the assumptions of neoclassical economics (Ville & Siles-Brügge, 2015, p. 655). Based on these insights, the authors, like in the previously presented study, highlight that “economic modelling [...] is so crucial in shaping economic decision-making (Ville & Siles-Brügge, 2015, p. 657)

These examples show the direct impact economic modelling can have on political decision processes and the concrete agreements that are the result of these processes. Thereby, the economic models strongly influence how the economy actually looks like and what implications it has for the involved actors, including workers, general public and the environment. Therefore, it is relevant to reflect on the research that is conducted.

### 3. Trade Narratives

The above described link between economics and politics becomes especially relevant in the field of international trade. In the current times of high globalization, most national economies are strongly interlinked with the international trade networks they are embedded in. The view on how these networks function is therefore crucial for the development of the country. Moreover, each economic action has strong influences on the local economies, on the people involved as well as on the environment. Any

economic decision therefore has to take the complex influences into account it may have on the above-mentioned aspects. As trade-networks become more complex and global value chains longer, the political decisions regarding trade can have far-reaching implications across the globe. Economic research on international trade and global value chains is however still dominated by neoclassical economics, which provides a very specific understanding of trade and its implications.

Neoclassical theory emphasizes the positive effects of free trade, claiming it is mutually beneficial for all participating entities (Sheppard, 2012). However, analysis coming from this line of argumentation often ignore ecological and social aspects, neglecting that in today's globalized world the production of most goods is based on complex global production networks, where each step may potentially cause severe damage to the environment, or violates labor and human rights (European Parliament, 2021). Moreover, international trade is neither equally beneficial in economic, social, and ecological terms for all participating entities nor free of historically evolved power structures (e.g. see Muradin and Martinez-Alier, 2001; Rodrik, 2018; Stiglitz, 2017). The impacts of production on labor and the environment often have to be carried by the producing countries, predominantly the Global South, while profits are accumulated in the Global North. This causes economic, social, and ecological tensions and inequalities within and between political economic regions, as studied by a growing body of literature on (ecological) unequal exchange (e.g. see Dorninger et al., 2021; Muradin and Martinez-Alier, 2001; Ricci, 2019). Global power structures and their historical evolvement shape and enforce the structurally and systematically unequal distribution of benefits and costs associated with natural resource use and production processes along globalized value chains. Therefore, especially considerations of how the hegemonial power of the Global North evolved and how these structures prevail up to today are important for analyzing trade patterns.

### Neoclassical economics

The analysis of trade, and free trade in particular, its advantages and disadvantages are part of economic studies since centuries. The idea of free trade goes back to Adam Smith, and was later specified by Riccardo (Sen, 2010). Since then, trade theories constantly developed, mostly with a focus on supply or demand driven developments, centering research on optimal resource allocation. The Austrian school added opportunity costs and in the beginning of the 20th century, the Heckscher-Ohlin model included resource endowments in the analysis (Sen, 2010). The old trade models were later criticized by the new trade theory, which considers scale economies, imperfect markets, and product differentiation. Moreover, as Krugman (1994) pointed out, the role history plays in the determination of the location and development of industries, was recognized in the new trade theory. The aim of most theories on trade is to gain a better understanding of the economic profiteers of trade and to explain certain trade patterns. This is reflected in the publications on international trade. In a recent study by Aistleitner and Puehringer (2020), the authors found that of publications in the most influential economic journals, and the most cited economic papers<sup>1</sup>, “nearly all papers (95%) referred to the economic impacts and implications of trade” (Aistleitner & Puehringer, 2020, p. 10). In the sample, a fifth (21,8%, p. 10) address social aspects and only an extremely small proportion deal with ecological aspects (3,3%, p. 10). Independent from the theoretical focus, “about half of the papers in [the] sample (48.1%) primarily refer to positive implications of trade while in contrast, about 4.7% report mainly negative implications. Furthermore, 9.0% are coded as ambivalent, as they report positive as well as negative implications of trade” (Aistleitner & Puehringer, 2020, p. 8). This shows that even today, research on economic trade is

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<sup>1</sup> “To obtain representative data of the elite discourse in economics related to trade, we draw our research from two different data samples. The first sample is compiled from the EconLit4 database and includes papers published in the “top-five” journals in economics (see also Card and DellaVigna, 2013 hereafter TOP5) between 1997 and 2017. The second sample is obtained from the Web of Science5 database and comprises the 1000 most cited papers in the field (hereafter TOPCITED) by the end of 2017” Aistleitner and Puehringer (2020, p. 6)

strongly biased towards positive economic implications, while ecological impacts and negative implications in general, are scarce.

Mainstream trade theory, focused on advantages of free trade, is based on simplifications and often detaches trade from geographical specificities, unequal power relations, different historical and legal pre-conditions (Sheppard, 2012). Monetary indicators mainly serve as a way of analyzing how well an economy functions (Gerber & Steppacher, 2012), in the case of trade only looking at who benefits financially from the trade, disregarding the impact of material and energy flows on the environment, the social fabric and human health. *(Maybe add complexity economics, e.g. Claudius Gräbner, here: Country do not only suffer from the above mentions aspects, but also from the unequal distribution of knowledge creates along the production chain, where the extraction of primary resources only requires very little research, while higher production levels create expert knowledge at the places)*

Neoclassical economics is generally based on a few general assumptions, which shape the research conducted under this light. General equilibrium models are at the center of neoclassical economics. As described by Ville and Siles-Brügge (2015), “they [the models] thus assume the existence of ‘macroeconomic general equilibrium links among incomes of various groups, the pattern of demand, the balance of payments and a multisector production structure’ (Thissen 1998: 2). In such a situation, there is no excess demand and all markets clear under conditions of perfect competition.” (Ville & Siles-Brügge, 2015, p. 657). In the context of studies on trade, including trade liberalization, GE models play a central role in quantifying trade policy impacts and measuring economic and social welfare implications, as well as environmental impacts of political decisions. Moreover, the models inherently prioritize specific interpretation of socio-economic interactions, which can be used to legitimize and strengthen a specific political agenda or specific decisions, such as TTIP (Ville & Siles-Brügge, 2015).

The majority of trade models today mirror this lack of socio-ecological considerations in the field of international trade, since trade balances and GDP data are mostly the main indicators. For example the gravity model of international trade, based on the analysis of networks using the gravity law, mainly looks at trade volumes, and in some cases additionally at GDP data (Bhattacharya, Mukherjee, Saramäki, Kaski, & Manna, 2008). Another class of models in international trade deals with global facility location, hence the study why specific industries are located in specific places. These models, according to Bhutta (2004), mostly factor in economic aspects like demand, investment and financial information like exchange rate and inflation and use profit maximization as the main indicator. Moreover, general equilibrium models are commonly used in studies on international trade, among others many that investigate the “impacts of trade policy changes [e.g. taxation] on resource allocation within countries, custom union issues [and] international trade negotiations” (Shoven & Whalley, 1984, p. 1008).

A growing body of literature however explores the negative consequences of globalization and international trade. Economic implications such as income inequality caused by globalization (e.g. see Baldwin & Cain, 2000; Bernard & Jensen, 1997; Fawaz & Rahnama-Moghadamm, 2019; Irwin & Terviö, 2002) or brain drain (e.g. see Docquier & Rapoport, 2012) is increasingly studied, as well as environmental implications. Especially since the formulation of the new sustainable development goals (SDGs), the importance of sustainable natural resource use and an interest in the trends in global material flows became more prevalent also in research, often addressed with material flow analysis (e.g. see Schandl et al., 2018) and input-output analysis (e.g. see Giljum, Bruckner, & Martinez, 2015; Hubacek & Giljum, 2003; Suh, 2010; Tukker et al., 2014). Also, climate impacts of globalization are more and more addressed (e.g. see Wood et al., 2020). This critical literature however remains a niche and the link between trade, globalization, and social-ecological implications is often addressed on the basis of

case studies and not embedded in trade theories (Sheppard, 2012). In the following, these critical approaches are briefly summarized.

### New economic geography

New economic geography has developed out of the neoclassical theory on international trade (modern trade theory) and traditional regional science (Schmutzler, 1999), adding spatial considerations like locations and distance, transportation costs, spatial agglomeration, imperfect competition, economies of scale and monopolistic competition (Carmen Elena Dorobăț, 2015; Felbermayr, Grossmann, & Kohler, 2015; Fengru & Guitang, 2019). Thereby, some critiques on neoclassical models were addressed, however, this approach is still considered to be part of the “increasing-returns models in neoclassical economics” (Boschma & Frenken, 2006, p. 282), relying on assumptions of utility maximization and homogeneity of agents. The from Krugman (1991) developed core-periphery model lies at the core of new economic geography, and is considered to be an extension of neoclassical approaches to trade (Boschma & Frenken, 2006). The model is, as Fengru & Guitang (2019) explain, “the most typical general-equilibrium location model with two regions and two sectors in new economic geography. This model shows how the symmetry (same factor endowment) of two regions turns into an asymmetric structure of core–periphery under the impact of increasing returns to scale, free flows of labor, and transportation costs” (Fengru & Guitang, 2019, p. 54). This approach is however also criticized from within economic geography, especially because only selected aspect of geography, especially transportation costs, are addressed (see e.g. Martin and Sunley, 1996; David, 1999; Amin and Thrift, 2000; Nijkamp, 2001; as cited by Boschma & Frenken, 2006) *[expand...]*

### Economic Geography

*[Add short summary of which aspects are central in economic geography]*

International trade theory is addressed relatively little by economic geographers (McConnell, 1986; Andresen, 2010; Sheppard, 2012). As Sheppard (2012) summarizes:

“Examining this geographical literature [on international trade] of the last two decades, four publication clusters dominate: (1) those who take up various propositions emanating from mainstream international trade theory, seeking to determine whether a consideration of geography complicates or confirms these propositions (e.g. Hanink, 1988, 1991; Hanink and Cromley, 2005); (2) those who have followed Johnston’s (1976) lead in seeking to trace geographical patterns of trade and their relation to broader geopolitical trends (e.g. Gaile and Grant, 1989; Gibb and Michalak, 1996; Grant, 1993; Michalak and Gibb, 1997; O.Loughlin, 1993; Poon, 1997; Poon and Pandit, 1996; Poon et al., 2000; Shin, 2002); (3) those who shift the resolution of trade analysis from nation states to subnational localities, seeking to determine how subnational geographies articulate with international trade (e.g. Andresen, 2009; Baldwin and Brown, 2004; Boschma and Iammarino, 2009; Breau, 2007; Erickson and Hayward, 1992; Hayter, 1992; McConnell, 1997; Rigby and Breau, 2008; Storper, 1992); and (4) those who discuss international trade without addressing mainstream trade theory at all (e.g. Coe and Yeung, 2001; Hughes, 2006).” (pp. 45-46)

Furthermore, Sheppard (2012) shows, that there are many case studies, which discuss different aspects of international trade, such as commodity chains or fair trade, without mentioning trade theories. These case studies address important aspects, but do not contribute to the development of a theory of international trade incorporating aspects of economic geography. But from an economic geography perspective, several important aspects could be added to the analysis. Sheppard (2012) suggests four dimensions: transportation as an endogenous sector, sociospatial positionality of territorial units, “out-of-equilibrium theorization of trade and uneven development, incorporating evolutionary and historical perspectives” (p. 59); inclusion of non-economic spheres such as governance, culture, nature, technology. *[expand...]*

## Ecological economics

Ecological economics understands the human economy as a social system and as embedded in the biophysical world (Gowdy, 2005). Research coming from this school of thought often underline how every economic action has to be thought together with its implications for the social and biophysical worlds it is embedded in. The neoclassical assumption of growth through trade is reconsidered (Mayumi, 2001) and it is emphasized, how important it is to use other indicators than GDP, especially including social and ecological indicators. This focus on the ecological implications of economic actions is reflected in the research on international trade. Studies of international trade origination from this school of thought often look at the ecological implications embodied in trade. Material footprint analysis is on central approach used (Foster & Holleman, 2014; Giljum et al., 2015; Hubacek & Giljum, 2003; Tukker et al., 2014; Wiedmann & Lenzen, 2018), which allows to calculate the ecological impact of countries and can show to what extent a country relies on land and resources, which not necessarily originate from their own territory. This research criticizes the neoclassical notion that trade is equally beneficial for all trading partners, developing a theory of unequal exchange. Unequal exchange theory is an approach to international trade originating in Marxian economics, and further taken up and developed by ecological economists. Emmanuel (1962, 1972, 1973, 1975) (quoted in Ricci, 2019) was one of the first using this term to describe how apparently equal trade is characterized by a hidden international transfer of value, which is not so equal after all, going back to Marx labor theory of value. The underlying assumptions of Marx labor theory of value are summarized by Ricci (2019) in the following way: “in a capitalist economy, commodities do not exchange at their values but at prices of production to equalize profit rates between branches with different capital intensity, and value transfers occur from labor-intensive to capital-intensive sectors through interindustry competition” (228). One stream of research on unequal exchange focuses on this transfer of value, highlighting that through a “systematic net transfer of embodied labor time from lower- to higher-wage countries” (Hornborg, 2018, p. 3) international trade is increasing global inequalities. Ricci (2019) identified “differences in industrial specialization and differences in labor and capital incomes between countries” (237) as the main factors mentioned in the literature as driving factors for this drain of value from the periphery to the core of the capitalist world system. In ecological economics, another dimension is added to the theory of unequal exchange. Here, the ecological perspective is emphasized, studying how trade often incorporates unequally distributed ecological implications. This is especially visible in the area of resource extraction and trade, but also in production sectors. The main findings are that often countries of the Global South have to carry the environmental burden of the production of goods (i.e. deforestation, pollution of water ways, release of dangerous chemicals,...), while the profits are mainly accumulated in the Global North (see e.g. Dorninger et al., 2021; Fischer & Weissenbacher, 2016; Foster & Holleman, 2014; Givens, Huang, & Jorgenson, 2019; Jorgenson, 2006; Muradian & Martinez-Alier, 2001; Schandl et al., 2018. [expand...])

- *Add: „Several schools of economic thought, competing with the neoclassical mainstream, have been influenced by unequal exchange theory. The recent theoretical frameworks of global commodity chains (Heintz 2006; Selwyn 2012, 2015; Somel 2005), as well as ecological economics (Foster and Holleman 2014; Hornborg 2014; Lonergan 1988; Nordlund 2014), share common features with the unequal exchange tradition” (Ricci, 2019, p. 226)*

## Marxist economics

As mentioned in the previous part on ecological economics, trade from the perspective of Marxist economics is addressed through the labor theory of value and theory of unequal exchange, understood as a “global transfer of value or ‘imperial rent’” (Mandel 1975, 343–76, Köhler 1999, 2003, Amin 2010, 2012, cited by Foster & Holleman, 2014). The focus is put on differences in the accumulation of value through trade, caused by terms of trade favouring some countries over others, among other through “wage inequality, unequal rates of surplus value, and higher profits in the periphery than the center” (Foster & Holleman, 2014, p. 205) (also see Becker 1977; Amin 1976; Guevara 1997; Grossman, [1929] 1992, 170). [expand...]



## Evolutionary economics

Evolutionary economics reasoning is strongly influenced by Joseph Schumpeter's critique on mainstream economics, highlighting the importance of looking at the dynamic processes within economics, bounded rationality, and the study of the structure and complexity of economic processes as well as disequilibrium analysis (Proops & Safonov, 2004). Seeing the economy from a systems perspective, and taking historical developments into account are central aspects (Winter, 2014). However, as most heterodox schools, the topics addressed and the understanding of evolutionary economics from within the school is very diverse (Witt & Chai, 2019). Trade from an evolutionary perspective is often addressed through models and network analysis. *[expand..., especially add ABM models]*

## Global Value Chains

One specific topic that across different economic schools became more relevant when addressing international trade is the concept of global value chains (GVC). Especially since the national economies are more and more interlinked, and the production of one good is spread over different geographical regions, researchers have to include a global perspective on trade, when analyzing national economies, individual sectors or even individual firms. To address this, a new research area developed, which uses chain- and network analysis to study structural changes in the global economy. Generally, research coming from a mainstream perspective mainly address the integration of firms, regions and countries of the global south in global value chains and their position within these chains. Critical perspectives however, also study the unequal power distribution between the different actors as well as the distribution of value (Fischer, Reiner, & Staritz, 2021a).

The term commodity chain was first coined by Hopkins and Wallerstein (1986), originating in world-systems analysis. This stream mainly addressed structural differences between core and periphery, based on inequalities regarding resources and power. Since then, slightly different approaches developed: Global commodity chains (GCC), Global value chains (GVC) and Global production networks (GPN). Especially GPN developed as a critical response to GCC and GVC, from a perspective of economic geography. The main critique was that special dimensions of commodity chains were not addressed sufficiently (see Henderson et al. 2002; Coe/Dicken/Hess, 2008), and rather than "chain" the term network should be used. Especially an inclusion of different types of actors is important (e.g. states, international NGOs, different contexts) as well as a more profound understanding of value (where is it created, where captured, who actually profits..) and power relations (Fischer, Reiner, & Staritz, 2021b).

## Summary

Summing up, one can say that the dominating approach to international trade is still the neoclassical trade theory. However, criticism on this approach and extensions as well as alternatives have been developed from different heterodox economic perspectives. These perspectives put a stronger focus on the historical background, diverse actor networks, spacial considerations and ecological implications, contrasting the neoclassical perspective that trade is beneficial for all trading partners. Relating this back to the main topic of this paper, the impact of economics on policy making, two areas are explored in the following, the implications for work and the implications for the environment.

## 4. Implications

### Implications for work

Every economic process is fundamentally relying on the people that work at every step of the process. The way the value chains are organized therefore has a direct impact on the realities of the individuals. If the formulation of trade agreements and national laws structuring international economic activities is solely based on the growth imperative of neoclassical economics, and the models informing these decisions take firms as the main actors, without considering social or ecological implications, it is no wonder that exploitation of labor, destruction of livelihoods, and global income inequalities prevail. Especially the topic of income inequalities is well researched (e.g. see, "Anderson, 2005; Burtless, 1995; de Haan & Sturm, 2017; Demircuc-Kunt & Levine, 2009; Harrison, McLaren, & McMillan, 2011; Mills,

2009; Nissanke & Thorbecke, 2010; Ravallion, 2003; Winters, McCulloch, & McKay, 2004” as cited by Heimberger, 2019, p. 2960). In neoclassical economics, it is mostly emphasized however, that economic openness would lead to a reduction in income inequality (Heimberger, 2019). Moreover, regarding livelihoods, people in rural areas in countries with a lot of resource extraction, often use environmental resources for their daily lives not acquired via the market, but take them directly from nature. So when the commercial resource extraction destroys their livelihoods, pollutes the waterways, and displaces indigenous peoples, they don’t show up on national economic accounts – this loss of welfare is hidden from the books and any analysis focusing on financial assessments of countries (Martínez-Alier, 2012). Therefore, Martínez-Alier stresses the importance of environmental justice movements. This also shows how essential it is to also consider non-financial implications of economic actions, especially along global value chains.

*Add: more specific analysis of implications for workers, especially also looking at some global trade agreements*

### Implications for the environment

*Add: Ideas on how international trade policies impact the environment and the focus of these agreements hinders a sustainable reshaping of global value chains.*

- *Policies coming from a neoclassical background will look at mitigation strategies through prices, technical solutions etc, always focused on growth, other approaches cannot be envisioned within this paradigm. However, to really be successful in reducing emissions and other climate and environment-threatening pollution and destruction, policies informed by other paradigmatic backgrounds, such as ecological economics is important.*
- *Maybe refer to Lieferkettengesetz in Germany → environment only indirectly addressed, if environmental pollution impacts people*
- *“It is necessary to reorient the world economy toward increased local self-sufficiency and social equity defined and assessed at the level of national and regional economic systems. This implies abandoning a myopic view of growth through unlimited trade. John Gowdy (1995: 494) aptly remarks that ‘a regionally based economy is not a sufficient condition for sustainability’. However, an effort must be made to increase self-sufficiency and social equity of economic systems at national or regional levels as a prerequisite for sustainability. [...] It is necessary to amend GATT’s articles to promote sustainability on a global level by reducing the impact on the biosphere caused by rapid expansion of the world economy. These amendments will enhance the integrity of national and regional economies and the degree of self-sufficiency and equity at the national and regional level” (Mayumi, 2001, pp. 105–106)”*

## 5. Conclusion

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