

**CHARLES UNIVERSITY**  
**FACULTY OF SOCIAL SCIENCES**  
Institute of Political Studies  
Department of International Relations

**Master's Thesis**

**2023**

**Stanislava Jelenová Schultingová**



**CHARLES UNIVERSITY**  
**FACULTY OF SOCIAL SCIENCES**  
Institute of Political Studies  
Department of International Relations

**Negative Implications of the Commodification of Externalities in Global  
Capitalism: Case of Waste Management**

Master's thesis

Author: Stanislava Jelenová Schultingová

Study programme: International Relations

Supervisor: doc. PhDr. Vít Strítecký, M.Phil., Ph.D.

Year of the defence: 2023

### **Declaration**

1. I hereby declare that I have compiled this thesis using the listed literature and resources only.
2. I hereby declare that my thesis has not been used to gain any other academic title.
3. I fully agree to my work being used for study and scientific purposes.

In Prague on 15. 7. 2023

Stanislava Jelenová Schultingová

## References

JELENOVÁ SCHULTINGOVÁ, Stanislava. Negative Implications of the Commodification of Externalities in Global Capitalism: Case of Waste Management. Praha, 2020. 61 p. Master's thesis (Mgr.). Charles University, Faculty of Social Sciences, Institute of Political Science. Department of International Relations. Supervisor doc. PhDr. Vít Štrátecký, M.Phil.

**Length of the thesis:** 102 086 characters

## **Abstract**

The decision problem faced by the consumer in a market economy is present with every purchase. The politics and policy of social and environmental sustainability of the agents selling in the market are still becoming more important when a consumer makes their decisions what to choose and buy. Waste management is a great part of this problematics. It is linked with every purchase we make, with all the things we use. Not just packaging, but the goods itself, the emissions behind the process of producing and transporting the goods (and services) - all of it can be now quantified and measured.

In this thesis a Neo-marxist and environmentalist theoretical framework is elaborated with thoughts by Karl Polanyi to understand the problematics of waste management. When the gain is privatised, but the costs are inherently imposed on the public it is a good think to recognise the weak spots and try to evaluate and find a possible way for improvement.

The following paper is designed as a case study of e-waste trading and tries to verify the hypothesis that the commodification of negative externalities such as waste brings along negative effects. These effects and impacts on society will be discussed further.

## **Abstrakt**

Problém rozhodování, kterému spotřebitel čelí v tržní ekonomice, je přítomen při každém nákupu. Politika a praxe sociální a environmentální udržitelnosti obchodníků se stává důležitým faktorem při výběru zboží a volbě dodavatelů. Velkou součástí této problematiky je odpadové hospodářství. Je spojeno s každým nákupem, který provedeme, se všemi věcmi, které používáme. Nejen obaly, ale zboží samotné, emise stojící za procesem výroby a přepravy zboží (a služeb) – to vše lze nyní kvantifikovat a měřit.

V této práci je použit neo-marxistický teoretický rámec s myšlenkami Karla Polanyiho tak, aby pomohl uchopit právě problematiku odpadového hospodářství. Když je zisk z

prodeje privatizován, ale vedlejší náklady je nucena nést třetí strana, je dobré rozpoznat slabá místa systému a pokusit se najít možný způsob zlepšení.

Následující práce je designovaná jako případová studie obchodu s elektronickým odpadem a snaží se ověřit hypotézu, že komodifikací negativní externality, jakou je odpad, dochází k negativním důsledkům. Tyto dopady na společnost budou dále rozebrány.

### **Keywords**

waste management, neomarxism, negative externalities, commodification, e-waste, informal recycling, illegal waste management, waste shipping, environmental contamination

### **Klíčová slova**

nakládání s odpady, neomarxismus, negativní externality, komodifikace, elektronický odpad, recyklace mimo formální rámec, nelegální nakládání s odpady, odesílání odpadu po moři, kontaminace životního prostředí

### **Title**

Negative Implications of the Commodification of Externalities in Global Capitalism: Case of Waste Management

### **Název práce**

Negativní dopady komodifikace externalit v globálním kapitalismu: případ obchodování s odpady





## **Acknowledgement**

I would like to express my gratitude to doc. PhDr. Vít Střítecký, M.Phil, Pd.D., for his supervision, useful recommendations and discussions that helped to shape my thesis. Furthermore, I would like to thank my family for all the support and love I am constantly receiving.

“Life can only be understood backwards; but it must be lived forwards.”

Søren Kierkegaard.

## Table of Contents

<b>Introduction.....</b>	<b>3</b>
<b>Methodology .....</b>	<b>7</b>
<b>1. Theoretical Framework .....</b>	<b>9</b>
1. 1. Externalities in the Theory of Economics	9
1. 1. 1. Classical Economics and the entity of market and the awaited shortcomings	9
1. 1. 2. The term “Externality” operationalisation	12
1. 1. 3 Problem solving Strategies of Managing (Negative) Externalities based on the market	19
1. 2. Commodification	23
1. 2. 1. Narratives in the discourse	23
1. 2. 2. Karl Polanyi and his critical perspective	24
1. 2. 3. Green Economists and Environmentalists following Karl Polanyi	27
<b>2. Case study - waste management.....</b>	<b>29</b>
2. 1. Globalisation and environmental protection	29
2. 2. International waste trade	31
2. 2. 1 Value, scale and the nature of the business	31
2. 2. 2 Basel Convention and the urge to enforce and regulate the global waste trade	35
2. 2. 3. Importing Electronic Waste to Asia and Africa	38
<b>Conclusion .....</b>	<b>45</b>
<b>Summary.....</b>	<b>51</b>
<b>List of Literature.....</b>	<b>52</b>
<b>List of Appendices.....</b>	<b>58</b>

## Introduction

The most of the modern world lives in market economy<sup>1</sup>, most of the people live in capitalist society - and this global capitalist system has a direct impact on the global community, on concrete people.

At present, the society believes in human rights, freedom, justice, equality and equity. Also, the pace of technical development is unprecedented and many rely on it in order to bring better tomorrows - if not misused. The world is ruled on the basis of free market and the principle of supply and demand. Under these laissez-faire circumstances, projects like UBER, Airbnb or bicycle sharing have emerged lately, that are bringing the people back to sharing and even to cutting consumption.

But, as studied, the liberal solutions aren't and can't be ultimate - it has been already extensively described and further analysed how for example commodification brings along some advantages, but also some disadvantages — as those do have also externalities, that standardly occur in the market economy, too.

At the same time, agenda of environmental protection and climate change is discussed already for a longer time, but the pressure towards states and international organisations to manage those issues might be growing. And what more, those bodies, as well customers, then push on private companies to built larger social corporate responsibility and sustainability action sheets and programs.

And if one wants to make any efficient, factual or just operative adjustments and amendments in effect, it is crucial to understand the nature of the system.

The aim of this thesis is then to verify the very own hypothesis of the work, which is that commodification of negative externalities such as waste, has negative impacts on

---

<sup>1</sup> For further investigation see e.g.:

Bulloch, Douglas (2017). China Is Not A Market Economy, And The WTO Won't Survive Recognizing It As Such. Forbes, 08. 12. 2017 (<https://www.forbes.com/sites/douglasbulloch/2017/12/08/china-is-not-a-market-economy-and-the-wto-wont-survive-recognising-it-as-such/#294a8cb937fc>).

Miles, Tom (2019). China pulls WTO suit over claim to be a market economy. Reuters, 17. 06. 2019 (<https://www.reuters.com/article/us-usa-china-wto-eu/china-pulls-wto-suit-over-claim-to-be-a-market-economy-idUSKCN1TI10A>).

the society and the environment. The secondary aim is of course to learn which those are and to address them.

To stay focused on answering the research question and following the aims of the work, the paper has been divided in several main chapters.

The first chapter of this thesis targets to explain the phenomena of externalities. To do so, in the beginning, the basic values and principles of the market economy are going to be marked. Also, problem solving strategies of managing externalities are going to be explored.

The second chapter of the theoretical part of the elaborate, is going to focus on the process of commodification. To begin with narratives in the discourse and operationalisation of the term, and then move to Karl Polanyi's critical perspective, to continue with other social and green economists and environmentalists.

Underlying theoretical framework is going to be offered to the reader to find a decent critical perspective toward the issue.

Also to be explicit, the author would like to stress that the theoretical part is not focused on discussing the ideal market and social arrangement of the society and economy.

Through defining the terms, and when given an appropriate theoretical framework, the reader will get a decent foothold for moving on, in the empirical part of the thesis, to the analysis of the topic of waste (mis)management.

With economic liberalism being globally accepted as the best way how to perceive the world and organise the market, the author has chosen to work with the neo-marxist critical theory to challenge the awaited and proven shortcomings, that the system has, after all it has been quite traditional and holistic critique of liberal economy. The tradition of the neo-marxist critique is centered not in the Soviet Union or Russia, but in the western countries like the Great Britain or Germany. The theory is then also not radical in the sense of not calling for overthrowing the system and making a world revolution. The neo-marxist critical framework has been established to showcase the weak spots within the system - and that is what the author of the thesis has marked as

their goal as well, to show the negative sides of waste commodification in the global market economy.

The second part of the work is going to focus on the case study of negative effects of waste management.

Waste trade is a multibillion business, and with mass production, increasing industrialisation and consumption is still growing, as cross-border waste trade is. Just within the European Union, waste management and recycling industries “make a significant contribution to the EU economy and provide an estimated 1.5 million jobs – mostly in small and medium-sized enterprises (European Environment Agency 2021).

To further investigate why is (such) a big amount of waste being produced, if it could be eliminated, or to answer the question how does the whole system of waste management work is left for another papers.

As noted in an article from 2020, “the current economic downturn has slowed down demand for recycled materials resulting in a global surplus of waste collected for recycling” (European Environment Agency 2021). These circumstances then just create more space for illegal waste trafficking and dumping. Illegal shipments with waste usually head from the western to developing countries, transferring the negative effects from the center of the economy to the periphery.

In the empirical part of the paper, is the text focusing on a case, when the market driven strategy is chosen to cope with the problem of negative externalities. To understand and illustrate the phenomena, the design of one case study will be used. Electronic and hazardous waste is very valuable and therefore the trade with it is flourishing, and as primarily resources are limited and more coherent recycling frameworks are emphasised. Thus, the case of international trade with so called e-waste is going to be elaborated.

The opening chapter of the empirical part of the thesis will underline the conditions and terms in which is the global international trade with waste is taking place with following paragraphs accentuating the scale, value and nature of the business, then shifting the

attention to the legal and regulatory environment within the business. The last chapter of the empirical part of the thesis is devoted to the case of western imports of e-waste to Africa and Asia.

To bring an optimal solution for waste management is again not a goal of the author, it is rather to study and take part in the debate about the problematics.

This thesis in its empirical part meets the current system of e-waste trading and shall describe the scale and possibly the shortcomings and weaknesses of the system.

In the conclusion, the author will summarise the key findings and mention the limitations that occurred while writing the paper.

## **Methodology**

The objective of the paper is a closer examination of the shortcomings of global waste trade, and understanding and inspecting critical approach toward that system, when advocating the mandate of social science student to analyse, to sort and make ones own opinion and declare ones stand.

The author has used a case study research design guided by a theoretical critical discussion, that would help to structure the paper.

In the beginning, a case of commodified negative externality had to be selected and defined - for this purpose a case of waste management was chosen. This case had to be further specified, because the problematic includes various subtypes of waste and each has a very own sort of implications on the society. The case was chosen in order to be well related to international relations basis and to be also a fine representative to the research problem.

To test the hypothesis of the thesis, a case of trade with electronic and hazardous waste has been brought out since it can quite clearly illustrate how is the mismanagement and illegal trading negatively influencing the health and environment in recipient countries, while the countries of origin lift the burden and transfer the negative consequences of waste disposal by physically transporting it away. The case study will help to observe the process and gather information about various aspects of the research question.

Also, before the author could start writing this very own thesis, a n extensive research based on predefined keywords had to be performed to find a fine academic grounding and acknowledge what has been already written on the chosen topic.

Then the data on the case had to be collected. The used data are both quantitative and qualitative due to very strict focus on just part of the phenomena of waste trade.

The thesis draws from primary and secondary sources. The scientific literature considered was collected from main electronic databases such as JSTORE, Ebsco Host, Cambridge Journal and other accessible e-sources from the university library, as well from books and economy textbooks.



The data for the second part of the thesis comes from publicly accessible data that has been published on-line. The sources were often the websites of International Organisations such as agencies of the United Nations or The World Economic Forum. Also, as the data on the illegal and informal trade are often just estimated, newspaper and other investigative articles with more in depth stories about specific subjects from world recognised journals were incorporated, too. The articles and all the sources were approached between July 2016 and July 2023.

To sum up, to highlight the aspects of research question, quantitative data on the scale of the waste trading business were collected, and qualitative data for the description and analysis of the negative effects on the environment on human health in e-waste recipient countries were collected.

In the end of the paper, a conclusion is defined.

The author focuses strictly on the critical theory and on the subjects of case study analysis, aiming to fulfil the tasks of postgraduate students and the limited space of this paper, hoping the subject matter would be further examined and investigated by other scholars.

# 1. Theoretical Framework

## 1. 1. Externalities in the Theory of Economics

### 1. 1. 1. Classical Economics and the entity of market and the awaited shortcomings

Tomáš Sedláček, a Czech scholar, who focuses his academical research on economics and philosophy all together, likes to follow the most underlying questions - for example whether does doing good pay off, or whether is mankind innately selfish<sup>2</sup>. And with those quite simple questions, a very long discussion and contemplation may start.

Mises defines market as a process that is not driven by “the consumers nor by the owners of the means of productions — land, capital goods, labour — but [is driven] by preferment of speculating entrepreneurs [...] Profit-seeking speculation is the driving force of the market as it is the driving force of production” (Mises 1998: 325-6). As described, the market shall work without state intervention - due to entrepreneurial discovery the whole scale of human activities can be managed (Kirzner 1997: 67, 71-74, 82).

Dambisha Moyo, an economist born in Zambia, who worked at World Bank and at Goldman Sachs, wrote a bestselling book called *Dead Aid: Why Aid Is Not Working and How There Is a Better Way for Africa*, in 2019. The main thought of the book is, that official development assistance (ODA) has not helped Africa, but is further harming it. Furthermore, Moyo states the solution could come if the private sector is more involved. So, according to Moyo, no aid nor financial support from other countries, but free market and the entrepreneurial discovery could safe Africa.

Market is understood as a good way of organising economics - the premise, which shall determinate success, is that all actors involved want to maximise their profits, therefore the total benefit of the society ought maximise as well - when everybody is included. And the market, theoretically, has no boundaries and shall be fair [Mankiw 2014: 195]. Classical liberalism — with its godfathers like Adam Smith, John Locke, Jean-Jacques

---

<sup>2</sup> Among many texts Sedláček elaborates on this topic also in the best selling book *Economics of good and evil: the quest for economic meaning from Gilgamesh to Wall Street*, Oxford Univeristy Press 2011.

Rousseau, Thomas Hobbes, Montesquieu and Alexis de Tocqueville, departure from conservatives and present society as an atomistic aggregate of individuals and their (egoistic) interests.

After the Great Depression, John Maynard Keynes wrote a book titled *General theory of employment interest and money* (1936), where he formulated the core of later on developed Keynesian economics. This approach is embracing macroeconomic theories that argue that market intervention by a government can stabilise the (domestic) economy. In the 1930's, Keynes primarily focused on employment and actually challenged the paradigm of free market automatically solving unemployment and securing price stability (Jahan — Mahmud — Papageorgiou 2014). This school of thought goes in a way against the liberal approaches that emphasise *laissez faire* and refuses in particular government intervention into the economic affairs. Later on, the role of a government (and IO's and regimes) and its relation to market will be further discussed in this paper as a part of presenting theoretical background of waste management and negative externalities prevention.

The Austrian School of economic thought, with its leading authors Friderich August von Hayek and Ludwig von Mises, further focuses on individualism when analysing and explaining economics, also marking economic freedom as the basis for democracy and liberal society. In the outlines of liberalism and with strong accent on the rule of law, everyone should be responsible for their own actions, at the same time, theoretically, one should not bear negative consequences of other's behavior. At the same time liberalism advocates that economic freedom of individuals should not be widely interrupted nor intervened (by governments). The state should only provide and secure individual rights and a limited portfolio of services, that cannot be delivered from a free market. A social contract commits the state to protect the citizens. "In *laissez-faire* capitalism, the state restricts itself to providing public goods and services that the economy cannot generate by itself and to safeguarding private ownership and the smooth operation of the self-regulating market" (Wu 1995: 8). So, it could be differentiate between a "self-regulating market, that is, to let supply and demand reach equilibrium without state intervention" (Wu 1995: 61) and a state regulation of the

market, but “[b]oth types of reform aim at creating a market as the main allocator in the economy” (Wu 1995: 8).

Nevertheless, social theories are based on simplifications of reality - the observed patterns are incarnated into systematic simplifications of the reality (Johansson 1997:297).

But the system is so inherently united with the emphasis on growth, where a circle of focus on bigger demand and consumption starts, that there is always a pressure on being competitive and cutting costs and producing available goods for the majority. Karl Marx described this factor as growth imperative underlying the basic essence of the system that is forced to grow. Marx also comes up with the phrase of “race to the bottom” when stigmatising capitalism and indicating that the pressure of producing cheaper goods at any circumstance is eminent and permanent. Thus, the capitalism is, according to Marx, fated to fail. At the same time when is Marx representing the original leftist theory, he focuses mainly on the relationship between profit and labour - on the behalf of meeting the needs, labour is commodified and so becomes a type of good on its own, in relation to which alienation occurs. But Marx does not deeply analyse the exploitation of nature resources.

As noted in one of Nad'a Johanisová's chapters of her book *Economic dissidents - chapters from the history of alternative economic thinking (2014)*, John Ruskin (1819–1900) publishes an essay with a title *Unto this last* in 1860, where he disputes over the reception of economics<sup>3</sup> according to John Stuart Mill. In his essay, Ruskin goes against the concept of *Homo Economicus* - an idea assuming that everyone always acts in a sake of their own profit and it is just all right, because then everyone will experience a real profit thanks to the invisible hand of marketplace. In other words, selfishness (rationality) of one can bring profit of all (with no harm and no clash). This assumption is invalid to Ruskin. Economics<sup>4</sup>, according to this scholar, can rather create logical and

---

<sup>3</sup> In her text, Johanisová actually uses a combination of words “then prevailing ideology” when approaching the word economics here [Johanisová 2014:35].

<sup>4</sup> Ruskin directly criticises the assumptions of economic theories and offers an idea, that although economics is presented as a positive science, it tends to be very normative as well and shapes the reality as needed [Johanisová 2014: 35-37].

flawless suggestions, but can be hardly empirically applied, because the basic assumptions don't include possibly of altruism nor other personal motivations than profit. But when are those paradigms accepted and replicated over and over, individuals might, according to Ruskin, forget about being so different from all other species on Earth and in deed become one-dimensional creatures (Johanisová 2014: 35-37).

Ruskin further remarks, that “[s]ome treasures are heavy with human tears, [...] and some gold is brighter in sunshine than it is in substance” (Ruskin 1879: 57). The topics of social responsibility of those selling, but also problematisation of externalities and consumer awareness has so been brought to Victorian society already in the end of 19th century with the emphasis on departure from irresponsible purchases (consumption).

### **1. 1. 2. The term “Externality” operationalisation**

Externalities originate when subject's activities cause an unintentional effect on another actor. This effect can be either negative or positive. Hereby, externalities develop when unintended outlay or utility for the others is formed due to one's production or consumption. Externalities are also to be declared as “effects of spillover” or “neighbourhood effects”. As a result of the global capitalism, one actor or group of actors can be (financially) disadvantaged and the consequential advantage is in a favour of other actor or entity. At the same time, those inadvertently benefited are not to defray any exposures, nor are those harmed compensated (Tetřevová 2008: 81).

“An externality is present whenever some economic agent's welfare (utility or profit) includes real variables whose values are chosen by others without particular attention to the effect upon the welfare of the other agents they affect” (Myles 1995: 313). This operationalisation further enables to further differentiate between production externality and consumption externality (Myles 1995: 313).

Other definition offered by Myles says that “[a]n externality is present whenever there is an insufficient incentive for a potential market to be created for some good and the non-existence of this market leads to a non-Pareto-optimal equilibrium (Myles 1995: 314). When believing in the free market, one could presume that if externalities became

a commodity and were traded, we might get Pareto optimal. That shows that even with a presence of externalities, competitive market could help and make the system efficient. But, a first big problem might occur when defining property rights as well as identifying the recipient of the subsidy payment. If a problem of air pollution as negative externality should be solved, the first option would be that the producer, i. e. the polluter, pays the expenses. This case is conditional to accepting the general right to clean air. In the second alternative, a right to pollute might have been indoctrinated during the history. Then, a clean air would be a commodity that is to purchase. But if neither approach is generally acknowledged as a tradition and the property rights are not clarified, the direction of any payment is indistinguishable as none of the actors is willing to accept the responsibility to bear the costs (Myles 1995: 320, 323).

According to Mankiw, “[a]n externality arises when a person engages in an activity that influences the well-being of a bystander but neither pays nor receives compensation for that effect” (Mankiw 2014: 196). With the development, many new examples and types of externalities has occurred. A negative externality is formed when the bystander is impacted in adverse. On the other hand, a positive externality benefits the nonparticipant. If such externalities develop, it is not just the profit or wellbeing of the trading partners, that shall be the main interest of market outcome, it ought to be also the wellbeing of the others, the bystanders, the nonparticipants, the third side. “Because buyers and sellers neglect the external effects of their actions when deciding how much to demand or supply, the market equilibrium is not efficient when there are externalities. That is, the equilibrium fails to maximise the total benefit to society as a whole” (Mankiw 2014: 196).

Accepting the (pervasive) existence of externalities means admitting a break from the concept of responsibility for one’s own actions. Economy, that would be unregulated, as shown also on the example of externalities, can’t provide efficient outcomes. Further on, different problem solving strategies will be examined with focus on concrete suggested policies and standard taxation instruments (Myles 1995: 312).

A beekeeper with his activities stands behind his honey production. At the same time the bees pollinate plants and trees. More abundant fruit and vegetable production of

beekeeper's neighbours is a possible positive externality of his activities. On the other hand, a bee stung neighbour would be an example of negative externality.

Every car driven by someone else is influencing the air the others are breathing, a smoking person is affecting a health condition of the people being physically close enough. Those are the negative externalities of the listed manner.

And how does state attempt to reduce the problem of air pollution caused by car traffic? The governments might set emissions standards for cars. They also tax fuel, so the consumers would not use traffic transportation without greater rational thought and calculation (Mankiw 2014: 196). But the reality of the market is often more complicated and might often develop in a different way thanks to other pressures and incentives. If we look closer to the problematics of fuel pricing, the environment there is rather fierce.

The oil production is affecting the whole global economics and stock exchanges. If the competition within the market is high, the producers are under pressure to lower the prices of their products. Therefore the exporting states gathered and are now often represented by the Organisation of the Petroleum Exporting Countries (OPEC), that is trying to set polity and politics to array limits to extraction so the price would be more stable and would stay relatively high. At the same time, some governments depend mainly on profits from oil production. Therefore the price of crude oil in the global market is still very volatile as the demand and supply principle makes it move up and down. What more, if the price of fuels would be too high, it might endanger export opportunities of domestic producers and so the national gross domestic product index (Hotten 2015).

What can also make a disruption to market balancing techniques is the pressure of public interest. And with the growing monitoring and media coverage of the public and economic occasions, the public might judge a company producing negative externalities as undesirable and inconvenient. An interesting case could have been seen in October 2019, when signing of a new contract on partnership between the Charles University in Prague and private company Home Credit International was publicly announced. The company was about to donate one and a half million Czech Crowns in the period of

three years when officially declared as a main partner of the university. Nevertheless, rather a big response came about from the academical community included students, graduates, and pedagogues, criticising the partnership to be. In an open letter, the signatories declare that: “Collaborations with certain spheres of private sector (e.g. gambling, tobacco or the arms industry) are always problematic due to the negative externalities that this type of business brings to the society. This also includes non-bank 'easy' loans, which in the Czech environment can easily end up with execution and total debts of the original client” (Vaverková 2019). The partnership defined in the contract has been canceled the third day after its announcement on October the 10th, 2019. This is just an example of a case, when it was not possible to close a deal with a company, that was or has been producing negative externalities like debt deepening and increase in foreclosures<sup>5</sup>, because of the quite big media coverage and the resistance of related individuals to be publicly connected to such a subject. With the power and scale of current media, the public pressure and political and environmental activism might grow and might become less and less negligible and so will be the pressure on those companies bigger in order to remain competitive.

Negative externalities occur, because, based on definition of externalities itself, there is no producer’s responsibility to pay the all the costs. The producers at the same time do not tend to produce many positive externalities since they do not obtain any reward in return. At the same time, the competitive model of organisation of economy rests on the precondition that all the actors have not just impeccable knowledge about prices on the market, but also about the goods itself (Stiglitz — Walsh 2006: 257).

The existence of externalities can be understood as an illustration of imperfection of the price system, because the primary agents are not charged for harms, they have produced. The price of a good, for example steel, is in the capitalistic system determined by the law of supply and demand. But this reflects only the private costs of the companies. There is also a need to calculate with social costs such as pollution, that originate in the

---

<sup>5</sup> More for e.g. in Adamcová, Pavla (2019). "Český kredit" je lichva, bouří se zadlužení Čiňané. Home Credit zasáhla vlna kritiky. Aktuálně.cz, 08. 09. 2019 (<https://zpravy.aktualne.cz/ekonomika/home-credit-v-cine/r~f648a662ccd211e98776ac1f6b220ee8/>).

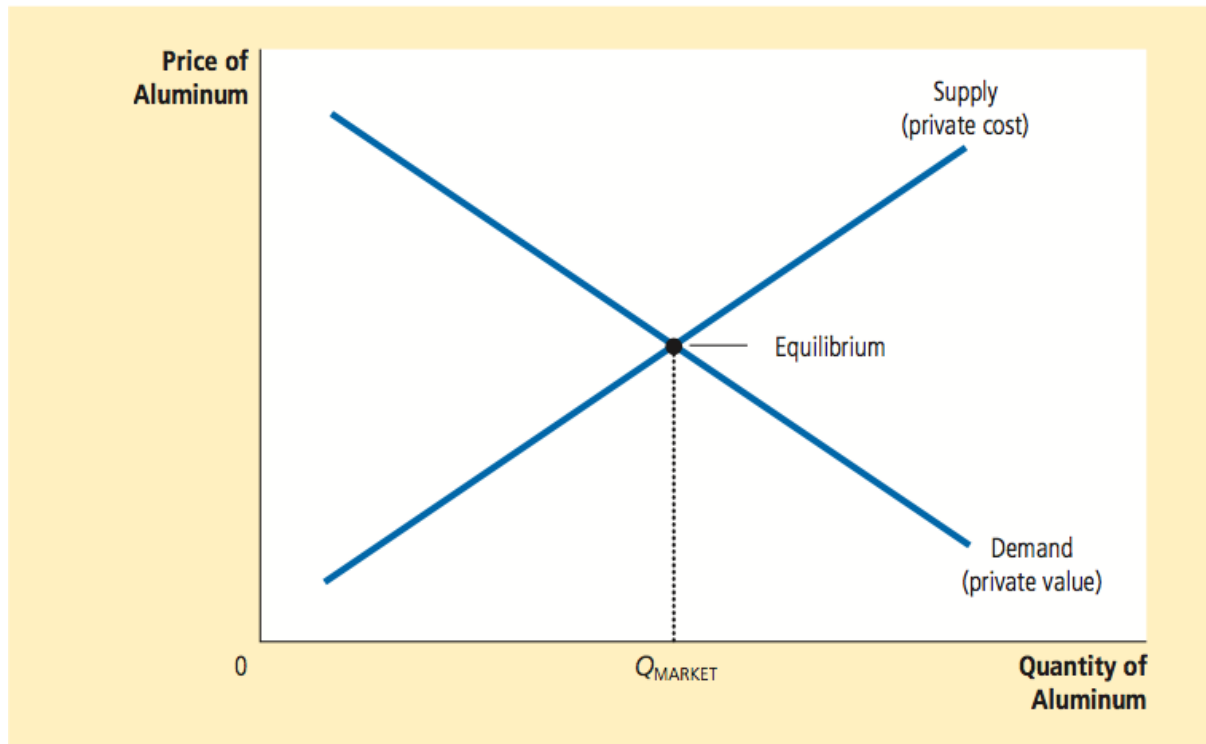


process of production - and, indeed, during the phase of distribution as well - when being transported from the factory to the purchaser. In such case, when the price is lower than all the costs of goods produced, the demand might grow too high, and so, the goods could be produced more extensively, than it should be. Externalities are thus thought to be signalling the problems of the classical economic theory of market driven economy (Stiglitz — Walsh 2006: 241, 252).

So, why are not the producers motivated to preserve the resources they are dependent on? “If too many fish are taken, economists ask, Why don’t fisherman have an incentive to preserve the fish stocks? [...] [I]ndividuals and firms harm the environment because they do not have to bear the full cost of their actions. [...] Each fisherman has to take into account the cost of operating his boat and the wages he needs to pay his crew. But he does not have to pay for the impact of his fishing on the total stock of fish. If he takes more fish, his action reduces the stock available to other fishermen, but no individual fisherman has to account for this cost imposed on others. No one fisherman has an incentive to limit his own take to preserve the remaining fish stock” (Stiglitz — Walsh 2006: 253).

Assuming the invisible hand of the marketplace is the best tool to be used for organising economics, is it then all just about the profit and earnings with no consideration of possible (extensive) negative impact on the society?

Table 1: Diagram showing the supply and demand curves that can describe the

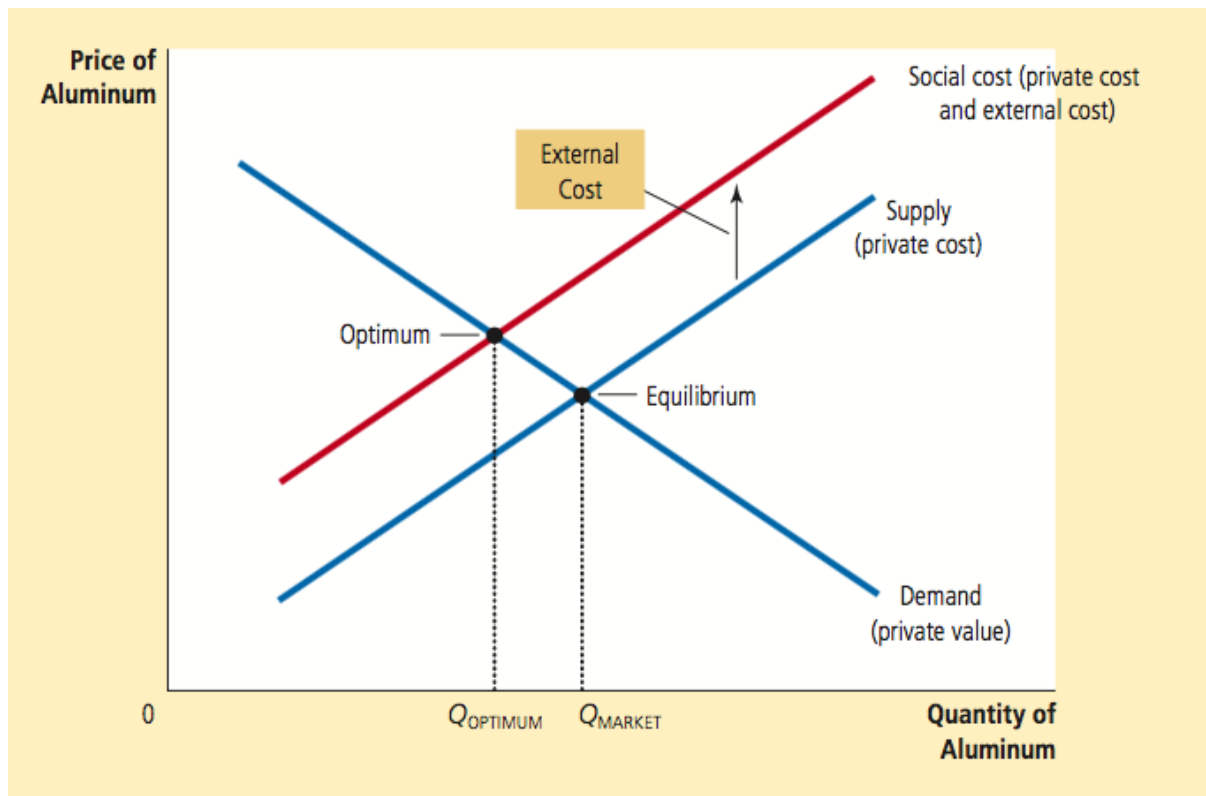


relationship between costs and benefits (Mankiw 2014: 197).

“The demand curve [...] reflects the value of aluminium to consumers, as measured by the prices they are willing to pay. At any given quantity, the height of the demand curve shows the willingness to pay of the marginal buyer. [...] [T]he supply curve reflects the costs of producing aluminium. At any given quantity, the height of the supply curve shows the cost to the marginal seller. [...] The demand curve reflects the value to buyers, and the supply curve reflects the costs of sellers” [Mankiw (2014): 197]. When the state does not intervene, the price conform to the supply and demand for the certain goods. “The quantity produced and consumed in the market equilibrium, shown as  $Q_{\text{MARKET}}$  in Figure 1, is efficient in the sense that it maximizes the sum of producer and consumer surplus. That is, the market allocates resources in a way that maximizes the total value to the consumers who buy and use aluminum minus the total costs to the producers who make and sell aluminum. [...] In the absence of externalities, therefore, the market equilibrium is efficient” (Mankiw 2014: 197).

But if it is recognised that the factories producing for e.g. mentioned aluminium also contribute to the air pollution, one has to consider also this negative externality when analysing the costs. The cost to society is becoming bigger, because it sums up the producer's cost and the cost of bystanders, who are affected by the negative externality (Mankiw 2014: 198).

Table 2: Diagram showing “[t]he social-cost curve is above the supply curve because it takes into account the external costs imposed on society by aluminum production. The difference between these two curves reflects the cost of the pollution emitted. [...] The optimal quantity,  $Q_{OPTIMUM}$ , is therefore smaller than the equilibrium quantity,  $Q_{MARKET}$ ” (Mankiw 2014: 198).



There, we can see, that, with the presence of externalities, the premise of the invisible hand of the marketplace, with the underlying law of supply and demand, might be put aside. When considering (negative) effects of externalities, the quantity of production might be influenced (boosted or deflated) in sake of social wellbeing of the community.

Another entity than the producer itself, for e.g. a government or IO, might set the optimal quantity of production. In the case showed above, the production beyond the optimal quantity would bring higher social costs and so, “reducing aluminium production and consumption below the market equilibrium level raises total economic well-being” (Mankiw 2014: 199).

### **1. 1. 3 Problem solving Strategies of Managing (Negative) Externalities based on the market**

Professor Joseph Stiglitz<sup>6</sup> in an interview, that is part of Managing Globalisation series on the global edition of the New York Times blog stated: “The real debate today is about finding the right balance between the market and government (and the third “sector”—non-governmental non-profit organisations.) Both are needed. They can each complement each other. This balance will differ from time to time and place to place” (Altman 2006). In the same series, where readers questions are being answered by appreciated economists, then head of the UN Development Program Kemal Dervis receives a question if capitalism is sustainable. Mr. Dervis reacted stating that an effective regulation is vital to make the system work so the market failures otherwise leading to excesses and misallocation of resources are mitigated, but those regulations should have proper boundaries and shall not tend to recreate centralist mistakes as were made back in the history. “We must also remember that democratic societies can only function well if the results achieved by the market economy are politically acceptable. [...] The renewed environmental challenge is another example of the need for powerful public policy to complement and guide the work of markets” (Altman 2008), Dr. Dervis adds.

As already appointed, the paper is objecting market economies, non-market for e.g. planned economies will not be hereinafter further elaborated as will not be positive externalities.

---

<sup>6</sup> Joseph Stiglitz is a former vice president and chief economist of the World Bank who received the Nobel Memorial Price in Economic Sciences in 2001 [World Bank 2021].

Though, the call for individual and corporate social responsibility is getting louder, it has been the state, that is supposed to be responsible for responses to market failures. Already in 1932, Pigou elaborated on externalities caused by building a railway and so the model of Pigouvian taxes was invented (Bénabou — Tirole 2010:1). Setting a tax equal to the marginal damage on the good, which is causing the externality, that is the principle (Johansson 1997: 297).

One of the biggest obstacles of putting externalities in market are transaction costs. Trade shall lead to situation with two parties gaining profit, but it might happen, that the cost of the exchange of commodities would be bigger than the potential resultant gain and so the trade is not beneficial. In such case, the parties won't execute the exchange due to too high transaction costs<sup>7</sup> (Myles 1995: 325).

Ronald Coase in his 1960 paper *The Problem of Social Cost* focuses on efficiency of market solution to market failures and stands a different view than Pigou. When the transaction costs are low, efficiency can be achieved — but those are never to meet zero, often are not even low in real economies. But the state and bureaucracy also operates at some costs, so accordingly, there is a need to compare more alternative setups and institutional arrangements and its unique benefits and costs from case to case and choose the most effective one to deal with externalities. According to Coase, property rights must be established and clearly defined most importantly to optimise the resource allocation and create an environment for authentic and honest appetite for Pareto optimal when people want to negotiate and bargain. Furthermore, problem of the scale of shared information is later on also criticised in the dispute over Coase premises (Farell 1987: 113, 117, 122; Schwiezer 1988: 245-247). This argument and the incipient Coase theorem set a basis for modern economic and legal analyses of government regulation when managing externalities.

But as Steven G. Medema points out, Coase theorem evolved on a case of property right over broadcast frequencies, where there was only a limited number of users. “Externalities often involve large number of parties, as in the case of air pollution, and

---

<sup>7</sup> Examples of transaction costs are expenditures for transportation, for the process of finding the trading partner, or they are legal costs associated with the formalisation of the transaction (Myles 1995: 325).

in such cases, he [— Coase] said, the costs of negotiation are likely to make market solution practically impossible, meaning that government regulation may be the best course of action” (Medema 2014: 247).

Once more, let’s focus on the example of car emissions polluting air. If we take into account theory of transaction costs, we would have to follow if every polluter, a driver of a car, has bought a permit for pollution from the all affected by the emissions he is about to produce. The driver should buy the permit for every time he uses his car, of course. The costs of this process for each actor would have been so high, that the trade would not be emerged at all (Myles 1995: 325). The transaction costs must be lowered so it is worth to protect the environment.

The problematics of externalities are to be solved in two different ways - either public or private solutions. The public solution is based on legitimised governmental interventions in order to resolve the market's shortcomings. The basic problem of this approach is to set the value of the outlay and therefore also the value of the compensation. There are two major stances, that the government may adopt to prevent the creation or growth of negative externalities: banning and commanding, or put in other words, regulation and incentives (Stiglitz — Walsh 2006: 252; Tetřevová 2008: 84-85).

In this sense, taxes can be direct or indirect - depending if the tax is imposed directly on the activity that is causing the externality. Petrol taxation is an indirect tax, on the other hand, tax on motoring is direct, when applying policy against air pollution caused by automobile traffic (Myles 1995: 339).

Different types of quotas, that will set the limit of the volume of negative externalities that can be produced, are an example of a command that a national or international entity could deliver. In case that the quantity of externalities cannot be measured, the choice would lead to establishing restrictions on the volume of production or consumption itself, or on limiting the number of inputs, i. e imposing fees or fines on those who create negative externalities (Stiglitz — Walsh 2006: 252; Tetřevová 2008: 84-85).

In the case of aluminium (Al) production, a taxation of each ton of Al sold can be imposed on the producers as a first example of regulatory activities. The supply curve would shift upward in dependence on the scale of taxation and if it was settled accurately, it would meet with the social-cost curve. Describing this process, Gregory Mankiw, a professor of economics at Harvard University, presents the term of externality internalisation (Harvard University 2019; Mankiw 2014: 199; The Economist 2019).

Later on, a regime of licenses or permissions that are tradable on the global market was developed. A private company can then hold license to produce certain amount of negative externalities. And this license can be further sold, that means it becomes a common and standard commodity. A trade with emissions permits has evolved in this exact line. Setting up the processes is then the problematic part, for e.g. how should be those permits or licenses issued and distributed and who settles the system and how to solve the potential misconduct. On the other hand, a big asset of licenses is the possibility to control the allocation of externalities in a given area when spatially restricting the right to emit for e.g. CO<sub>2</sub> emissions (Myles 1995: 342, Tetřevová 2008: 84-85).

The disadvantages of using taxation as a tool of externalities management are that the calculation of tax rates will be always problematic due to the need of extensive information for efficient forecasting of the coherence with caused externalities. At the same time, tax rates will demand continuous adjustment to be optimal and effective, as a result of dynamic environment where all prices change constantly (Myles 1995: 342).

The solution relying on the private sector rest on the trust in the market itself. The market is believed to be able, in certain circumstances, to deal with the effects and externalities themselves on its own (Tetřevová 2008: 86).

If are externalities being traded, it is possible that the number of agents will be widely limited. The hypothesis of market efficiency being boosted by competitiveness is set aside (Myles 1995: 326).

## 1. 2. Commodification

### 1. 2. 1. Narratives in the discourse

According to Harevey in Christian Fuchs for *Science & Society*, there are four strategies for turning assets into profitable use and the first mentioned is commodification, more precisely commodification of everything: “the privatisation and commodification of public assets and institutions, social welfare, knowledge, nature, cultural forms, histories, and intellectual creativity (the enclosure of the commons)” (Harvey 2005: 165ff). Christian Zeller, later mentioned also in Fuchs for *Science & Society*, goes on and adds that commodification of nature and knowledge, aside to war, privatisation, subcontracting practices and merges and acquisitions is a definition of new imperialism that is to be a permanent primitive accumulation (Zeller: 2004).

Commodification is generally understood as the “process of bringing items (goods) or performances (services) under the logic of capitalist markets” (Bonen — Coronado, 2014: 4). And as soon as the commodities are legally codified, the agents develop skills and ideas for the market (Bonen — Coronado, 2014: 15).

Neoclassical scholars see commodities “objectively as things that are bought and sold in the markets” (Bonen — Coronado, 2014: 6), commodification is then the process of “making things with utility available on the market, value is then determined objectively via the simultaneous maximisation of two agents’ subjective utility” (Bonen — Coronado, 2014: 6) and further more Bonen and Coronado (2014: 7) mention that neoclassical theory works with the prerequisite that “the state merely recognises or fails to recognise the objective value of commodities by assigning complete or incomplete property rights”. There we go back to Coase’s Theorem and Pareto optimum<sup>8</sup>, and might also go again to Adam Smith and David Ricardo<sup>9</sup>.

---

<sup>8</sup> Coase argues that there are always transaction costs but the law can reduce these “through the full and unambiguous ex ante assignment of liability for third-party harm” (Bonen — Coronado 2014:8). Pareto optimum is focused as mentioned earlier on ideal “bargaining outcome over externalities when transaction costs are zero” (Bonen — Coronado 2014: 8).

<sup>9</sup> Those classical representatives were focusing rather on property rights per se. Later, the legal realists such Cohen (1935) and reactionary economists such Hayek who moved the course from just physical goods over which property rights are rarely disputed now. And when the transactions costs are smaller thanks to amended social or legal rules, all of the actors are freed from tiring negotiations and may focus on other more beneficial endeavours (Bonen — Coronado 2014: 7, 8)



Slavery, prostitution - a trade with humans. Insurance - commodification of uncertainty. Cookies- commodification of privacy and personal data. It has been a long journey. Commodification has been here forever, and still there are new and new commodities on the market. The process is still present and the social science and economics have to object it and follow up with the changes and challenges.

### **1. 2. 2. Karl Polanyi and his critical perspective**

Right in the beginning of his book *The Great Transformation* (1944), Karl Polanyi states that: “Our thesis is that the idea of a self-adjusting market implied a stark Utopia. Such an institution could not exist for any length of time without annihilating the human and natural substance of society, it would have physically destroyed man and transformed his surroundings into a wilderness. Inevitably, society took measure to protect itself, but whatever measures it took impaired the self-regulation of the market, disorganised industrial life, and thus endangered society in yet another way” (Polanyi 2001: 3-4).

Polanyi also brings the distinction between goods and fictional commodities and so emerges the duality of commodity types. Fictitious commodities weren't produced for the market, though are traded there. (Bonnen — Coronado 2014: 12). Nature, human activity and purchasing power (or also understood as information or relationship dependant of ones trust) were falsely commodified as land, labour and money and that is according to Polanyi very dangerous to human society. Those fictive commodities can't be compared to the real commodities aka goods, and saying so is a lie (Bonnen — Coronado 2014: 12; Johanisová 2008).

The first mentioned fictitious commodity is land. Nature wasn't created to be exchanged in the market, water and air and all the nature have been on the planet before humans came<sup>10</sup>. That does not need to mean the codification of land as a commodity is incorrect, but it shows that it should be handled differently than the real commodities made by

---

<sup>10</sup> Natural uncertainties such as hurricanes, floods, but also death, violence are similar - they devoid intentionality. The same element of uncertainty is to be found with phenomenas like liquidity crises, market risk or theft - and those emerge directly from the market activity. So authors Bonnen and Coronado (2014:14) list those as close to fictive commodities as those named by Polanyi.

someone with an aim to present it to the market. The difference of fictions commodities is also visible when compared to real commodities - the price mechanism is reduced just by the fact that automatic increases or decreases in supply cannot be assumed (Block 2001: xxvi; Bonenen — Coronado 2014: 14).

Polanyi showcases that theorists of self regulating markets are constantly pushing the society and with people and the nature being commodified, there is the danger of destruction of both. Therefore, Polanyi suggests that countermovements to neoliberal economy are necessary and much needed to create stability.

Block in his *Introduction* to 2001 edition of *The Great Transformation* makes rather a practical parable: “[...] diem bedding the market is similar to stretching a giant elastic band. Efforts to bring about greater autonomy of the market increase the tension level. With further stretching, either the band will snap — representing social disintegration — or the economy will revert to a more embedded position”.

Polanyis’ argument has two layers: first moral; and then concerns on the state’s role in the economy. The moral dispute is about the basic idea it ought to be wrong to objectify nature and human beings and let settle their price just by the market. [Block 2001: xxv - xxvi, Johanisová 2008 a].

The role of state is a second thing according to Polanyi. As should be economy self regulating, the state must avoid the danger of inflation or deflation, as must provide relief when the subjects are unemployed with training and education and its migration policy - simply, the state is not outside of the economy. There must be some environmental and land-use regulations. Block (2001) even reminds that for many commodities, it is the governments involvement that is a precondition for market competition <sup>11</sup>. But then they are not just administrative or technical kind of decisions, they are political decisions [Block 2001: xxvi]. And what is the impact on society? In the critical narrative, it is assumed that when the reliance on market self-regulation is

---

<sup>11</sup> Block in his *Introduction* (2001) even recalls book by Steven Vogel, *Freer Markets, More Rules: Regulatory Reform in Advanced Industrial Countries* (Ithaca, N.Y.: Cornell University Press, 1996), as the title say a lot of it.

higher, the common people<sup>12</sup> are there to bear the higher costs. And then, it is this group of commoners who the state has to focus more on and evolve even greater pursuit to secure political stability and avoid disruptive political actions - “it requires statecraft and repression to impose the logic of the market and its attendant risks on ordinary people” as Block (2001: xxvii) Polanyi points out his central thought in his account of the New Poor Law in England.

On this note, Karl Polanyi really emphasise that the ordinary people will mobilise to protect themselves from the big and periodic economic shocks, and that they will not have the flexibility to tolerate the outcome of the free-market based policies such as inflation. And not only the people will not tolerate the fluctuations, but the demand and expectation them to accept this system is not moral and so is not sustainable <sup>13</sup>(Block 2001: xxxiv; Johanisová 2008 a). Still, Polanyi remained positive and optimistic about the future. As Block (2001) states: “[Polanyi] thought the cycle of international conflict could be broken. The key step was to overturn the belief that social life should be subordinated to the market mechanism. Once free of this "obsolete market mentality,<sup>14</sup>" the path would be open to subordinate both national economies and the global economy to democratic politics" (p.: xxxv). Polanyi seeks for a system, that protects individuals and nature but still remains market oriented and a decent set of mechanisms is imposed to fend the pressures of the market forces and global economy (Block 2001: xxxv-xxxvi). Also, Polanyi adds that where the state fails, the mutual reciprocity and solidarity among the commoners might strengthen to face the market failures united (Johanisová 2008 a).

---

<sup>12</sup> So called ordinary people are also frequently described as workers, farmers and small business people in this narrative.

<sup>13</sup> Following that, Polanyi forecasts major dangers for the system - as are in many countries for e.g. in Africa those devastating effect of structural adjustment policies made societies crumble and lead to civil wars and famine. On the other hand, in many post-soviet regimes in central and eastern Europe the emergence of militantly nationalist rhetoric with anti-minority and generally aggressive governments could have been observed (Block 2001: xxxv).

<sup>14</sup> “Obsolete Market Mentality” is title of 1947 essay by Karl Polanyi (Block 2001: xxxv).

### **1. 2. 3. Green Economists and Environmentalists following Karl Polanyi**

To embrace more critical perspectives, some of the authors belonging to the green economists movement and school of thought, that follow up the thoughts of Karl Polanyi, will be further adverted.

One of the scholars dealing with economy and environmental politics was Henry George born in 1839. He believed that poverty has not been caused by demographics, but rather by land privatisation, that lead to landowners having easy earnings from its renting. And as Karl Polanyi, also George says that land is not a commodity like the others. When George speaks of land, he understands it rather as the nature or the environment as a whole - and therefore it belongs to all the people, because it is not possible to make a living without it. "Born from soil, living on it and coming back to it - we are the children of our land as much a wheat or a flower. The development of material aspects of human life won't separate us from our dependency on the land" (Johanissová 2014: 40). Moreover, the concentration of land ownership makes it impossible for the regular men to make a living independently and leaves them dependent on wages. Also, those wages are diminished by the amount, that the employer has to pay to the landowner. The solution for Henry George then would be to tax the landownership. As the tax would be calculated on the current market value of the land, it would vary by location. Thus, speculative land ownership would not be that lucrative, and the price of land in general would decrease and stabilise. Furthermore, Henry George meant that the suggested land taxation would replace all other taxes, that would lead to freeing people from labour taxation (Cleveland 2012: 501-502, 504; Johanissová 2014: 40-41).

Another ecological economist is Herman Daly (\*1938), who also refuses the concept of economical growth and who has, with Joshua Farley, published a book with the omniscient title Ecological Economics in 2004. Daly's standings were formed also by the thoughts by Polanyi, John Ruskin or J. S. Mill. Daly, as also Nicholas Georgescu-Roegen, declared that the flow of energy and material goods within the economy is always one-way: processing natural resources into products ultimately creates waste,

the entropy<sup>15</sup> of which is always greater than the entropy of the original source. Thus, the process of production permanently degrades the environment. And with pressure on everlasting economic growth and maximal flow of goods, this problem has been getting worse. Therefore, the out interest should be to monitor the throughput of the energy and makings and to check if it does not exceed certain limits. The goal to economists, according to Daly, should be to establish an overall non-growing economy — a steady-state economy. That would be achieved for example by imposing and promoting ecological taxes, but very importantly, in this theory, Daly admits that the state would have to leave the free market rule and protect itself from ecological dumping. Tradable limit systems, such as the current European CO2 emissions trading system, can also serve to protect resources, according to Daly. But to those to be feasible, optimal scale, efficient allocation and fair distribution would have to be applied (Daly 1990: 25-32; Johannissová 2014: 78-81).

Another critic of commodification would be Ivan Illich, 1926-2002. He argues that, where commodification took place, the people no longer can grow, manufacture and provide the necessities of life by themselves. They then became dependent on buying industrially produced substitutes, which creates co called modernised poverty, according to Illich. At the same time, the people lose their autonomy and also often don't have enough money to purchase the goods (Johannissová 2014: 70-73).

---

<sup>15</sup> Entropy is here understood as the degree of disorder (Johannissová 2014: 78).

## **2. Case study - waste management**

### **2. 1. Globalisation and environmental protection**

Globalisation is a wide concept. It has been defined by Giddens (1990: 64) as “the intensification of worldwide social relations which link distant localities in such a way that local happenings are shaped by events occurring many miles away and vice versa”.

In the global community individuals are, according to the Universal Declaration of Human Rights from 10 December 1948, created equal and have the same human rights. “The environment as a pre-requisite for the enjoyment of human rights (implying that human rights obligations of states should include the duty to ensure the level of environmental protection necessary to allow the full exercise of protected rights)”, says the website of UN Environment Programme (UN Environment Programme 2019). And what has been always global is the environment, the climate.

On the website of UN Environment Programme, it is also declared that to our generation, one of the most serious threatening factors to human rights to life, health and food worldwide, is climate change. Pollution is annually causing millions of people dying and billions are suffering from diseases, there is a water shortage, there are natural disasters and the climate is changing and the ecosystems and the people are experiencing intense weather extremes and that is also “due to [...] unsafe management and disposal of toxic and dangerous wastes and products” (UN Environment Programme 2019). This paper focuses on waste trade and waste management in the current global capitalist system.

Being a big part of Earth, maritime space have been among other things a location where objects can be disposed of the territorial jurisdiction. In the history, it was rather common to send ships to the sea with the unrated by society and with the command never to come back - the Flying Dutchmen story and the solution to a communities epidemic health problems. In the twentieth century, e. g. after the wars in Korea and

Vietnam<sup>16</sup>, outdated chemical weapons were dumped at sea. And those toxic shipments remained a common tool how to transport the unwanted from the Global North and dispose it often in the former colonies. But as environmental regulation and subsequent increasing territorialisation of the ocean have become obstacles for those shipments, a global toxic waste crisis has emerged by the 1980s (Müller 2016: 13-14).

A solution to avoid bearing the negative effects of waste disposal in importers country would be to ban the import (Copeland 1989: 144). This major policy shift could have been observed for example in 2017 in China, when the country barred the import of most waste that was used to be brought there to be recycled<sup>17</sup>. The official reason behind this ban were rising concerns of the pollution and health risks to mainland China. But with China withdrawing from the waste market, other Asian countries took the opposite turn and stepped in for China in the global waste trade scheme (McNaughton — Nowakowski 2019). Those countries were Malaysia, Vietnam, India and Thailand in 2017 - places, that were already involved in the global recycling value chain since there were centers for pre-sorting, shredding and cleaning the scraps before shipping it to China for ultimate reprocessing (Joltreau 2022: 3). But even those countries, with the enormous amount of waste newly coming in, also concluded to rapidly establish their own import restrictions. That moved the flow of EU waste to Indonesia and Turkey - there, the volume of imported plastics waste has risen 20 times in 2020 compared to years before the Chinese ban (Joltreau 2022: 3).

At the time of the ban from China, the European union exported about half of the collected plastic on its territory abroad - and China was the main recipient. It was

---

<sup>16</sup> The operational program that was disposing lethal nerve gas in the ocean was named CHASE 13. In the summer months of 1969, it was quite heavily covered in the media and became another anti-Vietnam war argument for activists and radical student groups in the US. Covering CHASE 13 mission was important for rising general awareness of environmental protection, ocean pollution and toxic waste. As a result, the Maritime Protection, Research, and Sanctuaries Act, also known as the "Ocean Dumping Act" was passed by the Nixon Administration in 1972. (Müller 2016: 14-15). As Müller states "[i]t mandated all contracting parties to "prevent dumping in the ocean which would endanger human health, harm marine life, infringe upon the uses of the oceans for pleasure, or interfere with other legitimate uses thereof" (Müller 2016: 15).

estimated that the ban would displace 111 million tones of plastic waste by 2030, making a great disruption in the global waste management system (Joltreau 2022: 1).

But still, within the global market, the international institutions call for reaching global circular economy for the essential materials such as plastics and precious metals (Joltreau 2022). An OECD concept paper then states that: “Trade can provide potential opportunities towards a global circular economy by challenging waste and materials to destinations where there is comparative advantage in sorting, and processing these materials”, later adding “that unnecessary trade barriers such as import and export restrictions on waste and scrap should be avoided to the extent possible. However, these benefits should not be at the expense of environmental consequences” (Yamaguchi 2018: 3). In addition, OECD in its paper reminds that imposing trade restrictions on waste can “potentially undermine production efficiency in emerging economies (in particular advanced developing countries) by limiting the supply of feedstock material at low prices” (Yamaguchi 2018: 8).

Henceforward, environmental contamination and extensive health risks caused by waste mismanagement are still major concerns worldwide, but as well described in many studies, open dumping and open burning<sup>18</sup> are most widely implemented waste treatments that are mainly visible in the developing economies. At the same time, waste mismanagement brings along the problematics of social inclusion and genomic sustainability (Ferronato - Torretta 2019: 1, 3).

## **2. 2. International waste trade**

### **2. 2. 1 Value, scale and the nature of the business**

There is a legal framework, there are plans for more sustainable management of the resources, more circular solutions are most of the time officially being preferred, there are official state policies and policy papers towards management of waste, but as known, there is also illegal trade with waste harming mainly developing countries, their landscape and citizens. “The dumping of first world waste has formed a billion dollar

---

<sup>18</sup> Open burning can cause the CO, CO<sub>2</sub>, SO, NO, PM<sub>10</sub> and other emissions polluting the atmosphere (Ferronato - Torretta 2019: 1).



global industry that is directly linked to arms trafficking and money laundering” [PeoplesDispatch 2021], presents the lead paragraph of an article from May 2019 on peoplesdispatch.org<sup>19</sup>. Also adding, a billion dollar business might be built on a Bangladeshi worker, who earns 1.5 USD a day in the world biggest ship breaking yard in Chittagong (PeoplesDispatch 2021).

The total merchandise trade with waste grew from 0.3 trillion US dollars in 1971 to 18.3 trillion US dollars in 2011 (ISWA 2014: 9).

“We all produce waste: on average, each of the 500 million people living in the EU throws away around half a tonne of household rubbish every year. This is on top of huge amounts of waste generated from activities such as manufacturing (360 million tonnes) and construction (900 million tonnes), while water supply and energy production generate another 95 million tonnes. Altogether, the European Union produces up to 3 billion tonnes of waste every year” (European Commission 2010: 2).

The amount of resources used for goods, services and food is double in Europe compared to emerging economies. Billions of tons of waste must be disposed each year - and those tons are often transported and then dumped, buried or burned. People who produced the waste aren’t any longer aware of the travel of their trash after they throw it in the bin (Mauch 2016: 5).

Solid waste management is now also closely linked to resource management; and so can be understood as “a complicated global network of material and recyclable waste flows, affecting various aspects of the environment and everyday life. The quantity, value and the diversity of waste streams are increasing, and many countries, especially in the developing world, are facing serious degradation of their natural and urban environments [...]” (ISWA 2014: 6).

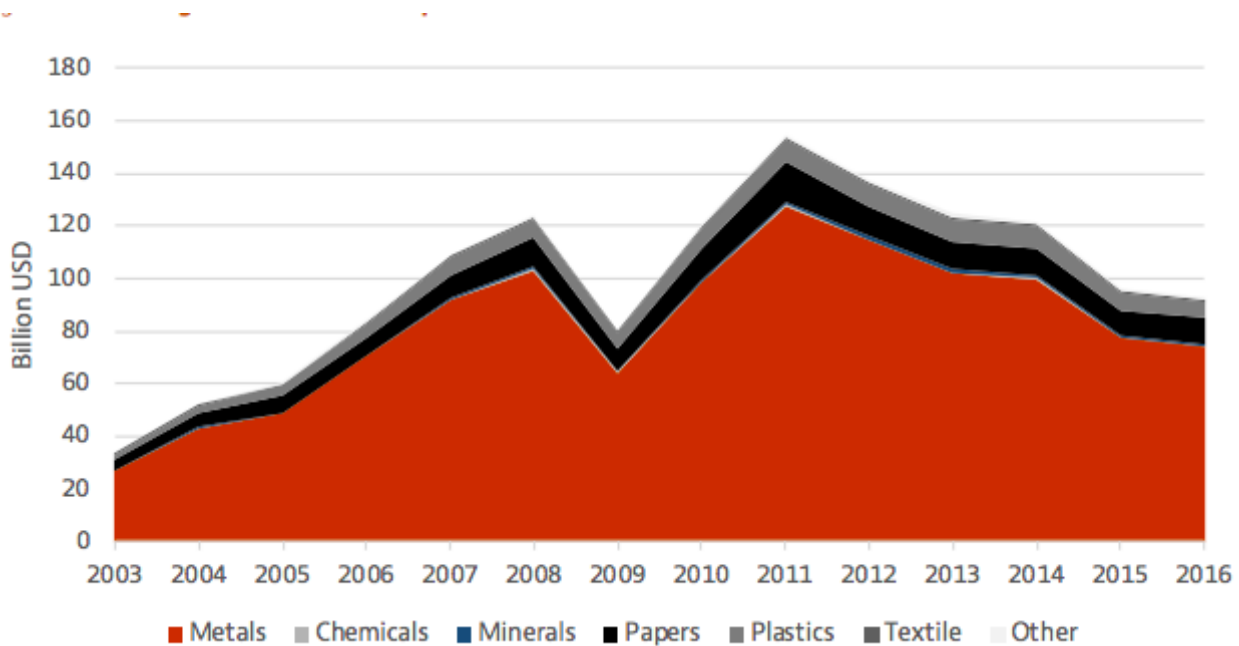
---

<sup>19</sup> The articles continues: "On April 23, Filipino president Rodrigo Duterte threatened to declare war on Canada unless it took back the tons of trash that it had dumped in Manila between 2013 and 2014. The trash primarily consists of Canadian household and electronic waste that was falsely labelled as plastics for recycling. [...] Large portions of the first world’s unprocessed waste end up in the ocean and along the coasts of the third world. [...] To get past the international conventions, the waste is often mislabeled as material for recycling or as donations. [...]"(PeoplesDispatch 2021).

And what is the scale of the business? Minding just the trade with electronic waste, it has been estimated the worth of at least 62,5 billion US Dollars annually by the World Economic Forum in 2019 (World Economic Forum 2019: 6).

And furthermore, as declared by the World Economic Forum (2019), E-waste is now the fastest-growing waste stream in the world with reaching 50 million tonnes in 2018. More importantly, according to World Economic Forum, only 20 % of e-waste is handled appropriately globally. On the rest, there is just too little data - but it is expected that it usually ends up in landfill or is handled by informal workers in a poor working conditions (World Economic Forum 2019: 6).

Table 3: OECD graphics of value of global waste and scrap trade (Yamaguchi 2018: 9).



But as stated and warned by many scholars such as Karl Polanyi, with commodification of waste, many new problems has awakened in the global market - and therefore, also as stressed by critical theory, bigger presence of surveillance of the state and International Organisations was needed to co-regulate, enforce and punish illegal trade practices as the developed countries tend to transport for e.g. its dangerous waste to low-income countries and choose not to recycle at home due to high labor costs and tough environmental regulations. To have a comparison, it costs up to 18 US Dollars to

safely remove lead from one CRT monitor when processed in the US, on the other hand, when disposed illegally it could be saved of between 200 % to 400 %<sup>20</sup> of the cost of the legitimate recycling (UN Office on Drugs and Crime 2013: 105)<sup>21</sup>.

According to UNEP thousands of tonnes of e-waste are mislabeled as second-hand goods and exported from developed to developing countries, including waste batteries or cathode ray tubes and computer monitors presented as plastic or mixed metal scrap. “Both small and large-scale smuggling techniques can be observed all over the world, from organised truck transport across Europe and North America to the use of major smuggling hubs in South Asia, including widespread container transport by sea,” UNEP concludes (UNEP 2015)

The trade with electronic waste brings along risks due to containment of heavy metals and other toxins<sup>22</sup>, that can inflict air, soils or water pollution as can be harmful to health. It should be therefore arranged that the hazardous substances are dealt with in the safest way possible. And when trading hazardous waste and shipping it somewhere else, it may be more difficult for the subjects to control whether it is going to be dealt with in required safe conditions. “The EU is working hard to support Member States in monitoring activities to stop illegal waste shipments” (European Commission 2010: 3).

According to UNEP’s paper with title *Waste Crimes, Waste Risks: Gaps and Challenges In the Waste Sector*” from 2015, 60 to 90 % of the global e-waste has been illegally traded or dumped each year valued nearly 19 billion US Dollars (UNEP 2015). At the same time, The International Criminal Police Organisation (INTERPOL), has settled an estimation price of a tonne of e-waste at 500 US Dollars. In that case, the guess of total value of informally handled e-waste would range from 12,5 to 18,8 billion

---

<sup>20</sup>The data is from an article from 2011.

<sup>21</sup> For a long time, it has been also very affordable to ship the waste in containers, that had brought goods from China and would have been otherwise empty of its way back to Asia (UN Office on Drugs and Crime 2013: 105).

<sup>22</sup> For example, The World Economic Forum specifies the dangers subsequently: “From lead-lined, cathode ray tubes from old TVs, to lead and chromium in circuit boards, e-waste can contain substances that are hazardous to human health if not dealt with properly, including mercury, cadmium and lead” (The World Economic Forum 2019: 13).

US Dollars annually (UNEP 2015). Based on data from 2020, the EU estimates that 15 to 30 % of waste shipments might be illegal (European Council 2023).

### **2. 2. 2 Basel Convention and the urge to enforce and regulate the global waste trade**

As there were logical concerns that the negative externalities generated by wasted disposal might be transferred to importer lands, it was decided by the global community that to be able to embrace waste trading, boundaries had to be defined. If you ship the cargo, waste in our case, from the centre (western countries/Global North) to periphery (developing countries/emerging markets), it might be possible that the standards for environmental and health protection might be lower, and a harm may occur - e.g. toxic substances can leak into the ground or water sources meaning bigger social costs to the third subject. Moreover, in this case, following free market will, this bad practice could grow and more of those cheaper waste disposal services may emerge in the market as the call for them would be high.

To prevent this, the aim has been an intervention that would avoid supporting and cooperating with those waste disposal services that are not up to high standards of the western countries for their waste management.

The legislation in the EU has been for a long time revised to gain greater effectiveness and create more enforceable system - a system in which it is the producers and manufacturers that are responsible for the product and its re-use or eventual disposal. The crucial process and tool for seemed development forward is monitoring (European commission 2010: 14, 16). The urge to minimise once's costs and gain as much profit as possible, to have for e.g. the ever wanting economic growth, would simply lead companies to avoid tax paying and dispose the waste they are responsible for illegally somewhere offshore. On this premise, a hypothesis of Pollution Haven has been built<sup>23</sup>. Furthermore, there is also Pollution Haven Effect that describes reduced exports (or

---

<sup>23</sup> [F]irms will seek to avoid the cost of stringent environmental regulations (and his energy prices) by locating production in countries where environmental norms are laxer” definition of pollution haven on the website of OECD (2022).

increased imports) of pollution-intensive goods as a result of an increase in environmental standards.

Addressing those problems, namely to protect health and the environment, Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal was adopted in 1989 and entered into force in 1992. The convention was brought up as a reaction to public outcry following also the medial coverage of wide praxis importing toxic waste to mainly to Africa and other developing countries (also Eastern Europe at that time) in the 1980s<sup>24</sup>, where were those regulations and enforcement mechanisms lacking (Basel Convention 2022). The Convention also defines when the transboundary movement of hazardous waste is illegal. But when the control over waste removal remains insufficient, there preserves still a wide praxis of contracting safe disposal while implementing unsafe recycling or dumping (UNEP 2015).

But as stated by the World Economic Forum (2019:13): “however, larger amounts of e-waste continue to be shipped illegally. The difference in enforcement of conventions and transposing e-waste legislation globally means the regulatory environment can be complex and fragmented”. And this inconsistency in regulations may be one of the crucial obstacles preventing from vanishing and limiting illegal waste trafficking, especially when the very own classification of hazardous or toxic waste is not integrated among the exporting and importing states (UNEP 2015). For example, under the Basel Convention it is not a hazardous waste, when the used computer is still in working condition. The very often strategy to smuggle e-waste is then mis-declaration, when the container is filled with broken computers, with the last layer of still working electronics straightly stacked on pallets and placed in the front for eventual visual inspection; or even just labelling the whole container as mixed second-hand goods (UN Office on Drugs and Crime 2013: 107).

---

<sup>24</sup> In the 1970s a new term NIMBY has started to be used. It means Not In MY BackYard - describing once’s dislike and unwillingness to accept projects and operations that might affect their quality of life. “On one hand, it implies that project opponents want poor people and poor neighborhoods to bear the burdens of toxic waste facilities or quarries, whereas, on the other, it suggests that opponents are willing to sacrifice the blue-collar jobs that would be generated by the construction and operation of the facility” (Kinder 2022).

As noted earlier, China banned waste import in 2017. That major shift in the global waste trading dynamics also made an impact at the international and European Union legislative framework on waste export. The EU has implemented an amendment in waste shipment regulation and further export restrictions are considered. The EU then also made new legislation leading to reducing the very itself use of the single-use plastics<sup>25</sup>, as has also the Union pushed on stimulating the local demand for recycled plastics and reducing the export of plastic waste from the EU<sup>26</sup> (Joltreau 2022: 1).

The EU also continues to work on new rules for moving waste within its territory - following measures have been proposed till 2023: digitalisation of procedures, increased controlling of waste that usually does not need a prior consent for shipment (“the green-listed” waste), harmonisation of waste classification within the EU, or a ban on shipments for disposal<sup>27</sup> and further restrictions on incineration and landfilling (European Council 2023). What can be also discussed, are the waste crime penalties - too few cases make it to court even in 2023, because the penalties by the states are too small. In addition, many countries lack staff to conduct qualitative and quantitative inspections<sup>28</sup>. At present, there is also no single electronic waste database for Europe (Cieśla — Pena 2023).

As stated on the website of UN Environment Programme article of e-waste: “[...] organised crime may engage in tax fraud and money laundering, as volumes handled go largely unregistered, allowing for substantial under and overreporting. [...] Export of hazardous waste from European Union (EU) and Organisation for Economic Co-operation and Development (OECD) Member States to non-OECD countries is banned; therefore it is not subject to notification or licensing”(UNEP 2015).

---

<sup>25</sup> Production of virgin plastics in the EU has been dropping since 2017 from 64 Mt to 55 Mt - data from an article from 2021 (Joltreau 2022: 1).

<sup>26</sup> Plastic waste exports from EU to non-OECD countries decreased from 887 kt in 2020 to 486 kt in 2021 (Joltreau 2022: 3).

<sup>27</sup> Within Europe, dumping waste in a landfill in Poland, Romania, Bulgaria or Croatia can cost half of the costs compared to the UK, where you can pay 113 € per tonne. And there are still very recent cases when illegal disposal of municipal trash from Italy and the UK in were discovered Poland - and those exporter states were forced to take the waste back (Cieśla — Pena 2023).

<sup>28</sup> “Due to limitations in investigative powers, investigations of waste crimes may be dispersed among different authorities” (Cieśla — Pena 2023). a 2020 Interpol report warned.

The national governments are so encouraged to for e.g. strengthen national legislation and enforcement capacities, facilitate the proper return of legal waste shipment and at cost to shipper (UNEP 2015).

Regional operations have been also initiated. An example could be a project by World Customs Organisation and UNEP in Asia and the Pacific. Since 2007 the aim was also to foster regional cooperation between custom agencies by sharing intelligence to fight illegal shipments. From March to October 2007, the Hong Kong Customs succeeded to intercept 98 illegal cargos of hazardous waste from 25 states. Cathode ray tube computer monitors and televisions made up most of the loading, while the total shipment weighted 1,100 tons, that was merged out of 474 tons from Japan, 250 from the EU (170 tons from Belgium, 47 tons from Italy and 34 tons from Germany), 200 tons from the United States, the rest being from Taiwan and Singapore (UN Office on Drugs and Crime 2013: 106).

Other important international organisation that tries to form the international waste trade environment is OECD - Organisation for Economic Co-operation and Development. To settle safer conditions for the waste trading, it advocates for example for better identifying the required processing capacity levels and calls for possible harmonisation of quality standards of materials. Those steps should be encouraged through trade negotiations and multilateral frameworks (Yamaguchi 2018: 13).

### **2. 2. 3. Importing Electronic Waste to Asia and Africa**

Great amount of dangerous waste is shipped from western counties to emerging markets. The key destinations for large-scale shipments are Africa (high volumes of e-waste are received in Ghana, Nigeria, Cote d'Ivoire or the Republic of Congo) and Asia (China<sup>29</sup>, Indonesia, Hong Kong, Pakistan, India, Bangladesh, Vietnam, Thailand being on the top of the list), where the recycling and dumping takes places later on (UNEP 2015; UN Office on Drugs and Crime 2013: 105).

---

<sup>29</sup> China is the main destination for e-waste in Asia, despite the government banning the import of used electronic and electrical equipment in 2000 ((UN Office on Drugs and Crime 2013: 105).

The phenomena of reclaiming compounds and elements from e-waste has been labeled as urban mining, which has happened a source of livelihood for many informal works in many cities in the Global South. Extracted metals are then sold and the discarded components are landfilled. Those metals afterwards re-enter global production circuits and re reincorporated into new goods. Waste trade can be so understood as a dynamic web of global waste component circuitry with added international reprocessing system. For example, imports of used electronic devices to Ghana, a big urban mining field centre, originate from 147 countries, the majority of e-waste is then just from Europe and the US; but then the outflows take the direction to Asia (Grant 2016: 21-23).

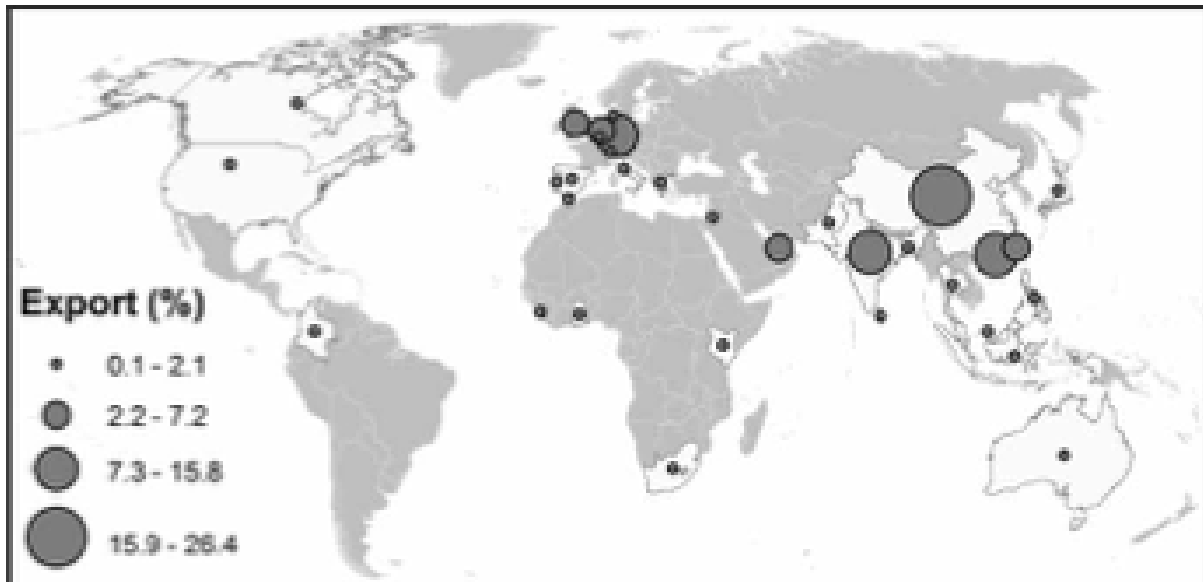
Table 4: Map of Imports of used computers into Ghana by source country in the period from 2004 to 2010 (Grant 2016: 24)



Much of the trade of e-waste coming from Europe is considered donations to accord with the Basel Convention, that is here to regulate the trade and transport of hazardous waste. Also, up to date, import from Asia, the Middle East, and other African countries, is rapidly increasing. But with a closer look, quite big part of this transference is just another European and North American cargo that has make a route in a container first to Hong Kong, Mombasa, Dubai or Durban. Still, South Africa, India and China has already indeed become both source as well destination for electronic waste and the new repurposed product (Grant 2016: 25-26).



Table 5: Map of Exports of metal scrapes from Ghana in the same period by destination country (Grant 2016: 24).



As shown on both maps, the e-waste perceived as material to be recycled is coming from the emerged markets (North America, Europe) and from quickly accelerating economies (South Africa, China, United Arab Emirates) to Ghana. And when are the broken and thrown out electronics dismantled, the metal scrapes are most often further shipped to either the centre again (Europe) or to semi-periphery in Asia, where they are used for another production of goods, that are then offered again in the global market, and might so end up all over, just a little bit later, in the economical centre.

The global demand for electronics is still increasing leading to depletion of the primary stock of valuable metals. Therefore, having sources of secondary raw materials is vital nowadays. Those urban mines are mainly concentrated in Africa in cities such as Accra, Nairobi, Johannesburg, and Lagos (Grant 2016: 22).

Table 6: Efficiency comparison of primary and urban mining (Grant 2016: 22).

<b>Metal</b>	<b>Primary Mining</b>	<b>Urban Mining</b>
Gold (AU)	5 grams/ton in ore	200–250 grams/ton in PC circuit boards
		300–350 grams/ton in cell phones
Platinum (PGMs)	2–6 grams/ton in ore	2000 grams/ton in automotive catalysts
Copper	4,500–9,000 grams/ton in ore	112,5600–131,250 grams/ton in cell phones

Profits from urban mining can be enormous, but those, who profit, are only a few companies and individuals, and the rest of mining chain subjects remain on or a below poverty line.

The main processing site in Ghana is in its capital in a Agobogbloshire slum community. E-waste scavenging employs there from 4.500 to 6.000 individuals directly, and within the broader chain it would be around 30.000 people. The data also shows, that Ghanaian e-waste activities could be calculated to generate from 105 million US dollars up to 268 million US dollars each year (Grant 2016: 24). “The most prominent firms on the Ghanaian e-scrap scene are Success Africa, Gravita, Commodities Processing, and N.N. EST Meta, all registered as Indian companies, and Goldline, which is a Saudi Arabian-registered enterprise” states Grant (2016: 25) in his paper on e-waste problematics in Ghana. But that is the data on official e-scraping providers not concerning the illegal cases. Ghanaian officials complain they don’t have capacities to check every cargo from this enormous amount of containers being shipped away from Ghana regularly. Then, the media often report mislabeling when exporting of millions of dollars’ worth of scrap metals as teak wood or cashews and shea nuts (Grant 2016: 26).

Moreover, some exporters as well importers appear to be fictions enterprises - they cannot be traced on the Internet and have no records or websites. The business is so interwoven by criminal networks that bypasses both so taxes so duties. As there is the

risk and remaining danger for dozens of informal workers<sup>30</sup> whose working conditions are not good enough (Grant 2016: 27-28).

According to Yeung (2019) for Bloomberg, up to 10.000 workers work in Agbogbloshie dump as part of an informal recycling process. Those often suffer from “[b]urns, back problems, and infected wounds [...], as well as respiratory problems, chronic nausea, and debilitating headaches—brought on by the hazardous working environment and toxic air pollution” (Yeung 2019). A 28-year-old man in Yeung’s article for *bloomberg.com* describes how he smashes up the old computers and televisions and burns the insulated cables to extract copper. And those basic land mining techniques - to burn the plastic from the electronics to separate the valuable metals - are indeed very high risk for health as lead is melted down in open pots and circuit boards are dissolved in acid<sup>31</sup>. What more, it is the children and women who make up to 30% of the informal workforce in e-waste processing. Those women, who might become mothers in the future, being exposed to toxic compounds mean another potential health issues as studies show increases in spontaneous miscarriages and premature births, as well as reduced birthrights and high incidences of birth defects and infant mortality in association with exposure to e-waste (World Economic Forum 2019: 13).

His companion, a 34-year-old originally from Niger, adds that when it rains, it becomes more difficult to breathe. In that case, he sometimes can’t even work and stays in a shelter that he shares with six other migrant workers from Niger. On those good days, he says, it is possible for them to earn up to 7,50 US Dollars in the dump (Yeung 2019).

As Julius Fobil, a professor at the University of Ghana’s School of Public Health, sums up: “There are skin diseases and ailments [at Agbogbloshie], but the worst problem here is respiratory illnesses, because the amount of pollution here is so high” (Yeung 2019). And as also further studied, these health risks are also entering the food chain as the

---

<sup>30</sup> The difference in efficiency could be well illustrated on a comparison of an informal worker, who uses a hammer and a chisel in Accra urban mine, and a mechanical 9,000-horsepower shredder, that is capable to shred a car in 60 seconds in the USA (Grant 2016: 28).

<sup>31</sup> For detailed description of techniques of modern recycling facility for e.g. in the Great Britain go and see: <https://www.theguardian.com/environment/2023/jun/03/i-spot-brand-new-tvs-here-to-be-shredded-the-truth-about-our-electronic-waste>

livestock goes to the dumpsite and graze there. For example, an egg hatched by a free-range chicken from Agbogbloshie exceeded European Food Safety Authority limits 220 times over when checked for limits on chlorinated dioxins, that is carcinogenic and can harm the immune system (Yeung 2019). As many people come and start to live close to the dump, that has become an economic hub in the area<sup>32</sup>, there is also higher demand for the very service of hospitality and catering supply and further contamination may so occur (World Economic Forum 2019: 13).

Also, the dismantled components from different electronic waste with no resale value are often dumped for e.g. close to rivers (UN Office on Drugs and Crime 2013: 105).

There is also data from studies in China on the impacts on the workers health from Guiyu<sup>33</sup>, Guangdong province, the national's hub of the informal recycling system of e-waste. The state media estimated that almost nine out of ten residents suffer from health problems with their skin, respiratory, digestive, or nervous systems<sup>34</sup>. Other study showed that children from this region had 50 % higher levels of lead in their blood than the patients from further villages.

Table 7: Nature of the Threat when mismanaged handling of e-waste (UN Office on Drugs and Crime 2013: 102)

<p><b>1. Environmental disruption:</b> pollution of soil and water systems, emission of greenhouse gases, thinning of ozone layer, negative impact on marine and forest ecosystem by ultraviolet radiations.</p>	<p><b>2. Negative impact on human health:</b> toxic metals and ultraviolet radiations affecting immune, respiratory and digestive systems, including high risk of skin cancer and eyes diseases.</p>
<p><b>3. Socio-economic impoverishment:</b> increase costs for public health, reduced agriculture productivity, food insecurity and poverty.</p>	

<sup>33</sup> The secondary centres are in Dongguan, Foshan, Shunde and Zhongshan ((UN Office on Drugs and Crime 2013: 106).

<sup>34</sup> The data is due at the time of 2007 as cited in article from Reuters “China’s e-waste capital chocks on old computers”, 11. 6. 2007.

The total number of informal workers in the global electronic waste sector is not known. But it is suggested that in Nigeria up to 100,000 people are involved, while in China it could be even 690,000 people (World Economic Forum 2019: 13).

## Conclusion

This thesis was designed to assess the hypothesis that the process of waste commodification brings along negative effects. In other words, when negative externalities are produced and are later commodified, and with the premise that involved actors aim to maximise their profit, a gamble with environmental equilibrium and climate stability might be a result.

To achieve the goal of the thesis, the first, theoretical part of the paper, dealt with the terms of *commodification* and *externalities*. Commodification is a process, when the value of material and immaterial goods, which were not created nor brought into being with the premise of being sold on the market, is, despite originally not being meant to, defined by the principles of the free market. Commodification is a common strategy, it has involved people's labour and natural resources, and it is still expanding. Either the expansion is geographical or systematic. In the first case the other countries from the periphery are pushed into the capitalistic system, because the economy of the core states needs new resources in order to maintain the economic performance - whether it is cheaper labor or natural resources. Secondly, more and more "things" are traded, for e.g. cookies and personal data online or different types of waste.

And sometimes during the process of production, an unexpected and uncompensated outputs arise. Those outputs are described as externalities. Next, it was described that externalities are negative and positive - that means the third party, the bystander, either suffers with no compensation; or he benefices without remunerating to the producer of the externality. What is difficult is to objectively quantify the harm, of course. Moreover, there are always operational and negotiation costs, those are bigger the bigger is the number of involved parties, that when too high, they impede the market to find the solution. To protect the environment, those transaction costs must be lowered.

Further on, a reader could find more pages explaining the processes and phenomenon linked to those problematics, quoting some classical economists and their theories and later on, the author moved to reach some critical perspective towards the research question.

Critical theories represent the basics of a solid and mature society, they are bringing new perspectives and opening other questions, which can later lead to policy change and implementation of a new strategy. In this case, neo-marxist theory was applied, as it is a traditional and quite holistic critical theory of neoclassical economists and their thought. Authors such as Karl Polanyi, but also Henry George, Herman Daly or Ivan Illich were brought up.

Polanyi showcases that theorists of self-regulating markets are constantly pushing the society and with people and the nature being commodified, there is the danger of destruction of both. Therefore, Polanyi suggests that countermovements to neoliberal economy are necessary and much needed to create stability.

Moreover, Karl Polanyi points out that it is rather difficult to equate commodification of goods and nature - morally and also by its very essence, and that countermovements to neoliberal economy are necessary to create stability, hence efforts to bring about greater autonomy of the market might increase the tension level. In the critical narrative, it is videlicet assumed that when the reliance on market self-regulation is higher, the common people are there to bear the higher costs. And then, it is this group of commoners who the state has to focus more on and so evolve even greater pursuit to secure political stability and avoid disruptive political actions.

The neoliberal belief that maximum freedom for both individuals and companies to pursue their economic self-interest will make the whole global marketplace better off, is in the eyes of the environmentalists and green economists entirely utopian. Both national and global economy need strong regulatory mechanisms and institutions.

The second part of this thesis was an analysis of the shortcomings of waste management.

According to liberal economic theories, market is to be the best manager of national and international economy, where the supply (and the price) on one side is determined by the demand on the other, but reciprocally, the demand reacts to supply as well. So, if an externality is produced, the market oriented, capitalist approach might offer a simple solution here - if a big amount of waste is produced as a negative externality in the consuming society, let the market take care of it - if there is a (big) supply, there might

also appear a demand. At that moment, business is created. And waste trade, indeed, exists and it is a billion-dollar business only anticipated to grow.

When was waste commodified, a new sector of trade developed. The current global waste market has been estimated to be worth 410 billion US Dollars a year and “[a]s with any large economic sector, it creates opportunities for illegal activities at various stages of the waste chain. Concentrated on making profit, operators are prone to ignore waste regulations and expose workers to toxic chemicals (UNEP 2015).

Informal recycling is then characterised by “low-cost, labour-intensive practices with no regard for health and environmental impact” (UN Office on Drugs and Crime 2013: 106) and it is still a widely used practice to minimise the costs of handling waste.

The subsequent chapters of the paper have examined the case of international trade with electronic waste (e-waste).

The opening chapter of the empirical part of the thesis was underlining the conditions and terms in which is the global international trade with waste is taking place, with following paragraphs describing the scale, value and nature of the business. Further on, the attention was focused on the legal and regulatory environment within the business, concretely on the Basel convention on the Control of Transboundary Movements of Hazardous Waste and their Disposal and the EU legislation framework.

Minding just the trade with electronic waste, it has been estimated the worth of at least 62,5 billion US Dollars annually by the World Economic Forum in 2019. And as declared by the World Economic Forum (2019), e-waste is now the fastest-growing waste stream in the world with reaching 50 million tonnes in 2018. What is also an important finding, is that according to World Economic Forum, only 20 % of e-waste is handled appropriately globally. The reason might be the costs of official disposal procedures in the emerged countries. The UN Office on Drugs and Crime adjusted that in 2013 it costed up to 18 US Dollars to safely remove lead from one CRT monitor when processed in the US. On the other hand, when disposed illegally between 200 % to 400 % c of the cost of the legitimate recycling could be safe. But that very clearly also shows that a multi billion dollar business is then built on an informal worker, who



ears something about 2 US dollars a day and who is suffering from working in unsafe environment.

It was also described, that often, the e-waste comes from northern hemisphere, and is later shipped to Africa, where are the devices took apart and the valuable metals are further sold in the market. This process, as discovered, in many cases involves labour of informal workers, who work in unsafe environment and are in danger of health risks. This involves children and women, who then suffer with problematic pregnancies and childbirths. Also, it has been described, that water sources and soil can be and are at times contaminated bringing other threads to the communities from the periphery, who so have to suffer from bearing the consequences of the lifestyle in the centre when becoming the dump for dangerous waste of the developed countries.

Yet, there are also many positive aspects of the so-called urban mining phenomena, when electronic waste is disintegrated and the valuable metals are reused and repurposed. There is a potential for providing livelihood opportunities for workers from developing countries, however at present e-scraping is often really a reality of hard and dangerous work in unsuitable conditions and environment, frequently without fair wage and few contractors or employees' rights. The key challenge may so be to situate the business within a global sustainable network and try to create fairer and more transparent conditions.

As declared in a presentation about pollution heaven hypothesis and pollution heaven effect for the WTO, there is "little evidence that trade liberalisation leads to environmental 'race to the bottom', but substantial evidence that environmental regulations affect trade flows (Minier 2022). And as stated by Polanyi, even when a regulation is designed by the global institutions and the states to protect the global community from transferring negative externalities when disposing waste trade offshore, there must be also the political will and ability to enforce those and moreover, as mentioned by the very own institutions as WTO or the EU, there would have to been a system of close control and monitoring, that just might be always problematic with this enormous amount of trade deals and such as convoluted paths of the waste cargo.

But as also pointed out, it can be very difficult to distinguish waste and second-hand goods, as many illegal practises uses the grey zone and mislabel the cargo. With the great amount of shipments, it is a challenge to provide for better monitoring and declaring.

One of the crucial obstacles preventing from vanishing and limiting illegal waste trafficking is inconsistency in regulations, especially when the very own classification of hazardous or toxic waste is not integrated among the exporting and importing states. The EU further pushes for other steps that could help to fight the illegal waste disposal within informal recycling centres in the non-OECD countries. Those would include digitalisation of procedures, harmonisation of waste classification and greater monitoring activities.

The data for the second part of the thesis comes from publicly accessible data that has been published on-line. The sources were often the websites of International Organisations such as agencies of the United Nations or The World Economic Forum. Also, as the data on the illegal and informal trade are often just estimated, so newspaper and other investigative articles with more in-depth stories about specific subjects from world recognised journals were incorporated, too. The articles and all the sources were approached between July 2016 and July 2023.

To conclude, there are several major impacts and effects of commodification of negative externality such as electronic waste. “Since waste disposal generates negative externalities, the movement of waste products between countries results in an international transfer of externalities, suggesting that concerns over such trade may be well founded” states Brian R. Copeland in his 1989 article for *Journal of Environmental Economics and Management* (pp. 143), and those premises are indeed valid.

The examined neo-marxist theory anticipates the shortcomings of free market and identifies the weak spots of the system as well. The critical theory accurately describes how capitalism works and starts a balanced discussion for moving forwards. With neo-marixst perspective, when a negative externality is commodified, it may be a mechanism how to deal with the issue, but the cost will be brought up to some other

actors somewhere else - and those, when mishandled, must suffer the costs without any compensation. This environment could also help to spread social injustice as social inequality and the imaginary social scissors will continue to widen. Finding world in that position, the system is going to be unstable and fragile and prone to uprisings and conflicts.

## Summary

This thesis presents a case study of the international trade in electronic waste and an analysis of its negative impact on society through a neo-marxist perspective criticising the (neo)liberal economic system based on consumption, which is always linked to the issue of waste. The subject of research of this thesis is the market and linked process of commodification and the phenomena of externalities, that are treated in the first chapters of the paper. While in its second part, the text is dedicated to the problematics of waste trade and environmental and human health protection.

The particular aim of this thesis is to verify the hypothesis that commodification of negative externalities such as waste has negative impacts on the society and the environment. Another goal is then to learn which those are and to address them.

First, the phenomena of externalities is explained and deconstructed. The paper focuses strictly on negative externalities, that are formed when the bystander is impacted in adverse. When considering those negative effects of externalities, the quantity of production might be influenced (boosted or deflated) in sake of social wellbeing of the community. Another entity than the producer itself, for e.g. a government or IO, might set the optimal quantity of production. To settle to right balance between the market mechanisms and government is then the key challenge.

Following this chapter, the author defines commodification and brings along Karl Polanyi thoughts on the phenomena.

The second part of the paper elaborates on illegal waste trade and its negative effects. The analysis of the data has shown that often the costs of mass production and consumption are transferred from the so-called centre to the society in emerging economies. On the case of electronic waste disposal and informal dismantling of metal scraps in Ghana has been shown that the workers suffer from health risks and the environment is demonstrably heavily polluted. Conductors of illegal waste trading can also be part of bigger money laundering and organised crimes structures bringing other risks to maintain stable and safe international environment.

## List of Literature

Altman, Daniel (2006). Q & A with Joseph Stiglitz, *International Herald Tribune - the global edition of the New York Times*, 11. 10. 2006. (<https://web.archive.org/web/20090122214457/http://blogs.iht.com/tribtalk/business/globalization/?p=177>, 5. 6. 2021).

Altman, Daniel (2008). Q & A with Demal Dervis, head of the UN Development Program, *International Herald Tribune - the global edition of the New York Times*, 13. 8. 2008. (<https://web.archive.org/web/20080916122559/http://blogs.iht.com/tribtalk/business/globalization/?p=783>, 5. 6. 2021).

*Basel Convention* (2022). Overview (<https://www.basel.int/TheConvention/Overview/tabid/1271/Default.aspx>, 6. 7. 2022).

Bénabou, Roland — Tirole, Jean (2010). *Individual and Corporate Social Responsibility*. *Economica New Series*, Vol. 77, No. 305, pp. 1-19 (<https://www.jstor.org/stable/27764393>, 14. 6. 2021).

Block, Fred (2001). *Introduction* In: Polanyi, Karl (2001). *The Great Transformation - The Political and Economic Origins of Our Time*. Beacon Press, Boston.

Bonen, Anthony — Coronado, José (2014). Delineating the Process of Fictive Commodification in Advanced Capitalism. *New School for Social Research*. (<https://newschool.academia.edu/AnthonyBonen/CurriculumVitae>, 5. 6. 2023).

Cieśla, Wojciech — Pena, Paulo (2023). Authorities struggle to track Europe's Illegal waste trade. *Investigate Europe*, 5. 5. 2023 (<https://www.investigate-europe.eu/en/2023/authorities-struggle-to-track-europes-illegal-waste-trade/>, 5. 6. 2023).

Cleveland, Mary M. (2012). The Economics of Henry George: A Review Essay. *The American Journal of Economics and Sociology*, Vol. 72, No. 2 (4/ 2012), pp. 498-511.

Copeland, Brian R. (1989). International trade in waste products in the presence of illegal disposal. *Journal of Environmental Economics and Management*, Vol. 20, Issue 2, March 1991, pp. 143-162.

Daly, Herman E. (1990). Sustainable Development: From Concept and Theory to Operational Principles. *Population and Development Review*, Vol. 16, pp. 25-43 ([https://www.jstor.org/stable/2808061?searchText=herman+daly+ecological+economists&searchUri=%2Faction%2FdoBasicSearch%3FQuery%3Dherman%2Bdaly%2Becological%2Beconomists&ab\\_segments=0%2Fbasic\\_search\\_gsv2%2Fcontrol&refreqid=fastly-default%3A07d8a60a7441e28b7291f67a56cbc7fb&seq=1](https://www.jstor.org/stable/2808061?searchText=herman+daly+ecological+economists&searchUri=%2Faction%2FdoBasicSearch%3FQuery%3Dherman%2Bdaly%2Becological%2Beconomists&ab_segments=0%2Fbasic_search_gsv2%2Fcontrol&refreqid=fastly-default%3A07d8a60a7441e28b7291f67a56cbc7fb&seq=1), 11. 7. 2022).

European Commission (2010). Being wise with waste: the EU's approach to waste management. Luxembourg: *Publications Office of the European Union* (<https://ec.europa.eu/environment/pdf/waste/WASTE%20BROCHURE.pdf>, 5. 6. 2023).

*European Council* (2023). Waste Trade, 23. 6. 2023 (<https://www.consilium.europa.eu/en/policies/waste-trade/>, 5. 7. 2023).

*European Environment Agency* (2021). The waste trade - legal and illegal (<https://www.eea.europa.eu/highlights/the-waste-trade-2013-legal-and-illegal>, 31. 5. 2021).

Farell, Joseph (1987). Information and the Case Theorem. *The Journal of Economic Perspectives*, Vol. 1, No. 2, pp. 113-129 (<https://www.jstor.org/stable/1942984>, 11. 6. 2021).

Ferronato, Navarro — Torretta, Vincenzo (2019). Waste Mismanagement in Developing Countries: A Review of Global Issues. *International Journal of Environmental Research and Public Health*, 24. 3. 2019 (<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6466021/pdf/ijerph-16-01060.pdf>, 11. 7. 2022).

Giddens, Anthony. 1990. *The consequences of modernity*. Stanford, CA: Stanford University Press.

Grant, Richard (2016). The “Urban Mine” in Accra, Ghana. IN: Mauch Christof (2016) eds. Out of Sight, Out of Mind. The Politics and Culture of Waste. *Transformations in Environment and Society* 2016/1.

Harvey, David (2005). A Brief History of Neoliberalism. Oxford, England: Oxford University Press. in Christian Fuchs, Critical Globalization Studies: An Empirical and Theoretical Analysis of the New Imperialism. *Science & Society*, Vol 74, No. 2, April 2010, 215-247.

*Harvard University* (2019). N. Gregory Mankiw - Robert M. Beren Professor of Economics, Biography (<https://scholar.harvard.edu/mankiw/biocv>, 08. 10. 2019).

Hotten, Russel (2015). Volksgawen: The scandal explained. *BBC News*, 10. 12. 2015, (<https://www.bbc.com/news/business-34324772>, 01. 10. 2019).

ISWA (International Solid Waste Association) (2014). Globalisation and Waste Management. Final Report from the ISWA Task Force ([https://www.researchgate.net/publication/275017171\\_Globalisation\\_and\\_Waste\\_Management\\_-\\_Final\\_Report](https://www.researchgate.net/publication/275017171_Globalisation_and_Waste_Management_-_Final_Report), 5. 6. 2023).

Jahan, Sarwat — Mahmud, Ahmed S. — Papageorgiou, Chris (2014). What Is Keynesian Economics?. *International Monetary Fund - FINANCE & DEVELOPMENT*, September 2014, Vol. 51, No. 3 (<https://www.imf.org/external/pubs/ft/fandd/2014/09/basics.htm>, 10. 10. 2019).

Johanisová, Naďa (2008). Karl Polanyi: Seberegulující trh je nebezpečná utopie, *Sedmá generace*, 11. 2. 2008, (<https://sedmagenerace.cz/karl-polanyi-seberegulujici-trh-je-nebezpecna-utopie/>, 12. 6. 2023).

Johanisová, Naďa (2014). *Ekonomičtí disidenti - kapitoly z historie alternativního ekonomického myšlení*. Volary: Stehlík.

Johansson, Olof (1997). Optimal Pigovian Taxes under Altruism. *Land Economics*, Vol. 73, No. 3, pp. 297-308 (<https://www.jstor.org/stable/3147169>, 14. 6. 2021).

Joltreau, Eugénie (2022). Five Years after China's Plastic Import Ban. Have Europeans Taken Responsibility?. *Briefings de l'Ifri, Ifri - Centre for Energy and Climate*, 4. 7. 2022  
([https://www.ifri.org/sites/default/files/atoms/files/joltreau\\_plastic\\_waste\\_after\\_chinas\\_ban\\_2022.pdf](https://www.ifri.org/sites/default/files/atoms/files/joltreau_plastic_waste_after_chinas_ban_2022.pdf), 5. 6. 2023).

Kinder, Peter D. (2022). NIMBY, sociology. *Britannica* (<https://www.britannica.com/topic/NIMBY>, 6. 7. 2022).

Kirzner, Israel (1997). Entrepreneurial Discovery and the Competitive Market Process: An Austrian Approach. *Journal of Economic Literature*, Vol 35(1), pp 60-85. (<http://www.jstor.org/stable/2729693>, 12. 10. 2018).

Mankiw, Gregory N. (2014). *Principles of Economics. 7th Edition*. Cengage Learning Custom Publishing.

Mauch Christof (2016). Introduction. In : Mauch Christof (2016) eds. Out of Sight, Out of Mind. The Politics and Culture of Waste. *Transformations in Environment and Society*, 2016/1  
([https://www.environmentandsociety.org/sites/default/files/2016\\_i1.pdf](https://www.environmentandsociety.org/sites/default/files/2016_i1.pdf), 7. 5. 2018).

McNaughton, Sean — Nowakowski, Kelsey (2019). How China's plastic waste ban forced a global recycling reckoning. *National Geographic* (<https://www.nationalgeographic.com/magazine/article/china-plastic-waste-ban-impacting-countries-worldwide>, 11. 7. 2022).

Medema, Steven G. (2014). Economics and Institutions: Lessons form the Case Theorem. *Revue économique*, Vol. 65, No. 2, pp. 243-261 (<https://www.jstor.org/stable/42771815>, 12. 6. 2021).



Minier, Jenny (2022). Pollution Heaven Effects (PHE) and the Pollution Heaven Hypothesis (PHH). *The World Trade Organisation* ([https://www.wto.org/english/res\\_e/reser\\_e/minier\\_13april22.pdf](https://www.wto.org/english/res_e/reser_e/minier_13april22.pdf), 6. 7. 2022).

Mises, Ludwig von (1998). *Human action. A Treatise on Economics*. Auburn, Alabama: Ludwig von Mises Institute.

Müller, Simone M (2016). The “Flying Dutchmen”: Ship’s Tales of Toxic Waste in a Globalised World. In: Mauch Christof (2016) eds. Out of Sight, Out of Mind. The Politics and Culture of Waste. *Transformations in Environment and Society* 2016/1. ([https://www.environmentandsociety.org/sites/default/files/2016\\_i1.pdf](https://www.environmentandsociety.org/sites/default/files/2016_i1.pdf), 7. 5. 2018).

Myles, Gareth D. (1995). *Public Economics*. Cambridge: Cambridge University.

OECD (2022). Pollution heavens? Energy prices are not key drivers of offshoring (<https://www.oecd.org/economy/greeneco/pollution-haven-hypothesis.htm>, 6. 7. 2022).

*PeoplesDispatch* (2021). The Global Waste Trade, 13. 5. 2019 (<https://peoplesdispatch.org/2019/05/13/the-global-waste-trade/#>, 31. 5. 2021)

Polanyi, Karl (2001). *The Great Transformation - The Political and Economic Origins of Our Time*. Beacon Press, Boston.

Ruskin, John (1879). *Unto this Last: Four Essays on the First Principles of Political Economy*. New York: John Wiley & Sons.

Stiglitz, Joseph E. — Walsh, Carl E. (2006). *The Economics*. W. W. Norton & Company, Inc. New York.

Tetřevová, Liběna (2008). *Veřejná ekonomie*. Příbram: Professional Publishing.

UN Environment Programme (2019). Human Rights and the Environment (<http://web.unep.org/divisions/delc/human-rights-and-environment>, 07. 10. 2019).

*UN Office on Drugs and Crime* (2013). Illicit trade in electrical and electronic waste (e-waste) from the world to the region, In: Transnational Organized Crime in East Asia and the Pacific: A Threat Assessment ([https://www.unodc.org/documents/toc/Reports/TOCTA-EA-Pacific/TOCTA\\_EAP\\_c09.pdf](https://www.unodc.org/documents/toc/Reports/TOCTA-EA-Pacific/TOCTA_EAP_c09.pdf), 8. 7. 2023).

*UNEP* (2015). Illegally Traded and Dumped E-Waste Worth up to \$19 Billion Annually Poses Risks to Health, Deprives Countries of Resources, Says UNEP..., 12. 5. 2015. (<https://www.unep.org/news-and-stories/press-release/illegally-traded-and-dumped-e-waste-worth-19-billion-annually-poses>, 8. 7. 2022).

Vaverková, Karolína (2019). Zástupci Filozofické fakulty UK navrhnu zrušení smlouvy s Home Credit. *Echo24.cz*, 10. 10. 2019, <https://echo24.cz/a/Sfc24/zastupci-filozoficke-fakulty-uk-navrhnu-zruseni-smlouvy-s-home-credit>, 10. 10. 2019.

*World Economic Forum* (2019). A new Circular Vision for Electronics. Time for a Global Reboot ([https://www3.weforum.org/docs/WEF\\_A\\_New\\_Circular\\_Vision\\_for\\_Electronics.pdf](https://www3.weforum.org/docs/WEF_A_New_Circular_Vision_for_Electronics.pdf), 7. 7. 2022).

Wu, Yu-Shan (1995). Comparative Economic Transformations: Mainland China, Hungary, the Soviet Union, and Taiwan. Stanford University Press. p. 8.

Yamaguchi, S. (2018). *International Trade and The Transition to a More Resource Efficient and Circular Economy: A Concept Paper*. Trade and Environment Working Papers – 2018/03, OECD Publishing, Paris, (<http://www.oecd.org/environment/waste/policy-highlights-international-trade-and-the-transition-to-a-circular-economy.pdf>, 11. 7. 2022).

Yeung, Peter (2019). The Toxic Effects of Electronic Waste in Accra, Ghana, 29. 5. 2019, *Bloomberg.com* (<https://www.bloomberg.com/news/articles/2019-05-29/the-rich-world-s-electronic-waste-dumped-in-ghana>, 8. 7. 2022).

Zeller, Christian (2004). *Die globale Enteignungsökonomie*. Münster, Germany: Westfälisches, pp. 9–20.

## **List of Appendices**

Appendix no. 1: Supply and demand curve describing the costs and benefits relationship (diagram)

Appendix no. 2: Social and private cost: a case of Aluminium production (diagram)

Appendix no. 3: Estimated value of global waste and scrap trade by OECD (graph)

Appendix no. 4: Imports of used computers into Ghana by source country (map)

Appendix no. 5: Exports of metal scrapes from Ghana by destination country (map)

Appendix no. 6: Efficiency comparison of primary and urban mining (table)

Appendix no. 7: Nature of the Threat when mismanaged handling of e-waste (table)