



TRADE AND ENVIRONMENT: A HISTORICAL PERSPECTIVE

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Abstract:

The relation between international trade and environmental and social issues has deep historical roots, having been manifest ever since the first industrial revolution. Ironically, the expansion of industrial activities marked, besides the exit from economic backwardness, the commencement of an inexorable war of men against nature. Concomitantly industrialization laid the groundwork for an explosive increase in international trade, which made the latter responsible for increasing environment degradation and social rights infringement. The removal of trade barriers in the first decades after the Second World War as well as the subsequent regulation induced by globalization rendered the bad effects of man's activity upon nature even more conspicuous. Yet somewhat paradoxically, for all the harm inflicted upon the environment so far, international trade now seems to be an efficient vehicle by which dirty production still prevailing in many countries of the world could be curtailed. The paper is intended to explore, from historical perspective, how environmental issues have come to be entangled with international trade and how serious the problem is.

Key words: *industrial revolution, environmental issues, social changes, international trade*

1. How trade became responsible for environmental and social woes: the emergence of modern industry

Environment's deterioration owing to pollutant industrial activities became a daunting reality ever since the inception of the industrial revolution. Once newly-built factories started gobbling vast amounts of raw materials, releasing huge quantities of waste which, more often than not would be either dumped onto open areas or simply dispensed of in rivers, lakes, seas etc. pollution became an inseparable yet ugly part of economic activity. However, as emphasized by Kasa (2007), people failed to become immediately aware of the evil effect upon the environment, in spite of it being quite

conspicuous from the outset. Scarcely by mid 20th C did governments and the press blow the whistle in order to stir the public into action with a view to environment protection. Since environmental problems are mostly generated by economic activities aimed to create wealth, environment protection can only be secured by reshaping the production process, primarily through the recycling of waste.

International trade has vastly contributed, though indirectly, to the degradation of the environment on a world scale. The prospects of selling their goods on foreign markets will generate strong incentives for producers to ever increase output, thereby severely harming the environment and often infringing on employees (mostly blue-collared)' social and human rights. Ironically, the buyers and end-users of the respective goods in importing countries are, though unwittingly, supporting this assault on Mother Nature.

It is well-known that the beginnings of modern international trade are closely linked to the emergence of the industrial-type economic development. The creation of industries laid the groundwork for an unprecedented growth in international exchanges of goods and services in the second half of the 19th C. The process spanned the entire length of the 20th C and is still under way. In fact, industrialization "should be seen a single global process, in which individual countries follow different paths depending on their initial conditions and moment of their entry into the race." (Pollard, 1990)

We believe that a short glimpse into the history of industrialization would most certainly help one understand why international trade is responsible for the degradation of the environment as well as for the infringement of social and human rights. We also hope it will make clearer the widespread claim that international trade should become "fair trade for all".

1.1. The germs of the misery: industrialization in the West

Economic consequences

The industrialization process is two and a half years old. The first industrial revolution (IR) began in 18thC England only to spread throughout Europe, North America, and Japan in the course of the next hundred years. It was a landmark in the history of mankind due to the powerful impact it exerted upon national economies, social life, culture, transportation and last but not least, the environment. As Douglas North (2005) put it, the IR implied "the application of scientific knowledge (with its origins in the Renaissance) to solving economic and demographic problems, the result of which was an immense leap in economic productivity and human well-being and longevity."

The IR spurred an unprecedented technological development not only of industrial production but equally of auxiliary sectors such as railroads and sea transportation. Essentially, the energy resulted from the burning of coal was turned into steam power, which was used as driving force for all sorts of steam powered-machines: locomotives, mechanical looms etc. Consequently, transportation became cheaper, speedier and more comfortable, thereby allowing better distribution of goods.

Furthermore, the IR gave a strong impetus to urbanization. (Brunet, 1990) It was natural: economic activity in towns depended on industry and trade to a higher degree as compared to villages.¹

Basically, the IR stimulated the development of three industrial branches: textiles, metallurgy and railway transportation. Metallurgy, especially production of pig iron and steel was the key sector because it supplied the vital ingredients all other industries depended on. Metallurgy in turn heavily depended on two basic ingredients, iron ore and coal. Both were then to be found in plenty in Britain, although their extraction and processing were difficult and costly. Another booming sector was textiles, especially cotton processing, whose spectacular development was due to surging demand for cotton items in the 18th C. By then, cotton yarns and fabrics already accounted for the largest share in domestic consumption of clothing. Yet spinning and weaving techniques had not scored any significant progress for centuries, which caused production to be limited quantitatively and of poor quality. In the course of the 18th C British engineers implemented a spate of inventions in the field of cotton processing such as the flying shuttle, the spinning wheel and eventually, the mechanical loom.

The IR advanced like a juggernaut, stimulating rapid progress in all the domains. Actually, historians (e.g. Kishlanski et al., 1995) consider the changes triggered by the IR as being revolutionary in respect of their consequences rather than in the way they occurred. As coke gradually replaced charcoal² in blast furnaces, the cost of metallurgic products dropped and their quality improved³, offering the British producers' comparative advantage in a bunch of basic industries: ship building, rolling stock, armament etc. Concomitantly, the use of machines on a vast scale enabled British weavers to increase efficiency, so that output soared.⁴ Consequently, by mid-19th C Britain became the leading producer and exporter of most processed products, dominating world markets including Continental Europe.⁵ Naturally, this far-reaching development could not go on failing advances in transportation. On railways, locomotives had long been drawn mostly by horses, while at sea ships had been either propelled by wind or by rowing. The steam engine provided better transportation for people, raw materials finished goods etc., thereby giving further impetus to economic development. (Weightman, 2007)

Environmental Effects

The vast industrialization process kicked off by the IR, which produced many beneficial things for mankind (mentioned earlier), has still taken too high a toll on the environment. Factory-type production of goods has generated a plethora of bad consequences: air and water pollution, soil erosion and acid rains due to deforestation and coal mining, species doomed to extinction due to irrational hunting and fishing and ultimately and most frightening, global heating. The wide-scale use of steam engines in

¹ Around the year 1800, cities were still at an incipient stage of development. Even in England, which was more advanced than the other European countries, let alone overseas regions, there were no more than 5 cities with more than 100,000 inhabitants. (A. Brunet: *La civilization occidentale*, Hachette, 1990, p.118)

production increased productivity a great deal but also generated huge amounts of waste that would be disposed of in the surrounding environment, most often into rivers. Besides, industrial activities have caused air pollution as well as smog and acid rains. Not least, carbon dioxide emissions resulted from coal burning gravely endangers life on Earth.

The use of coal as a source of power has done utmost harm to the environment. Actually, the history of the interaction between industrialization and the environment is more or less a history of coal. For all its inconveniences, coal remained the primary source of energy until the emergence of oil; and for a good reason: the quantity of coal extracted by one person could generate as much power as twenty horses. (Kishlanski et al., 1995) Besides, the steady demand for coal spurred technological innovation: owing to a spate of advances in deposit exploitation technology, coal production increased manifold in the first half of the 19th C, despite coal beds lying at ever bigger depths and labor conditions being draconian.

The consumption of huge quantities of coal and other fossil fuels, either to drive steam engines or turn out iron and steel in furnaces, gravely affected the environment, generating immense air and water pollution. This took an even higher toll on society itself, in the form of diseases and death. The most exposed to such perils were overcrowded cities, where cholera and typhoid were common due to contaminated water people drank from wells as well as the lack of sewer systems. Freedman (2009) argues that by mid 19th C, i.e. before the emergence of microbiology as a science, biologists made use of empirical observations and natural experiments to show that cholera was a waterborne infectious disease. Furthermore, the cited author shows, biologists observed that “cholera spread along the tracks of human commerce. For instance, when a ship entered a port where cholera was prevalent, sailors contracted the disease only when they came into contact with residents of the port.” However, in spite of the link between contaminated water and disease having been demonstrated by scholars, very little was done in order to improve sanitary conditions. A great deal of waste water continued to be discharged without treatment, “due to misplaced confidence on the part of public health officials in the self-purifying capacity of rivers, lakes and the sea.”⁶

Social effects

Aside from the economic impact, the IR produced compelling changes in the society as a whole, in terms of living standards, housing, population growth, labor, social structure, urbanization, child labor etc. Because the early phases of the IR essentially unfolded in Britain, this country offered the living image of a society that had undergone such a far-reaching transformation. Yet socially, the IR was rather a blessing and a curse. Despite unprecedented advances in production efficiency and living standards, the gains were unevenly distributed. Large segments of the population, especially the legions of unskilled and semi-skilled workers that packed cities' outskirts continued to live in destitution. We describe below some of the good and bad effects of the IR on social life.

Firstly, the IR paved the way for unprecedented growths in productivity, which in turn allowed for increases in workers' wages. Higher earnings raised people's purchasing power and ultimately their living standards. Yet this did not necessarily mean bonanza: industrialization also paralleled a continuous rise in the cost of living, which, to a large extent offset the gains in productivity. During the first decades of the 19th C, prices of consumer goods especially foodstuffs followed an increasing trend so that "in 1810 the cost of the diet was 5 percent higher than in 1801 and 60 percent higher than in 1791". (Ashton, 1954)

Secondly, the IR gave great impetus to population growth and urbanization. Demographically, noticeable increases took place in most European countries and the United States. In less than 15 years, between 1801 and 1815, the population of Britain doubled, from 10.7 to 20.9 million. The other countries scored similar increases. (Milza & Berstein, 1998) Consequently, around the year 1850 the population of Europe was not only larger than ever before but also more urbanized: there were 45 cities with over 100.000 inhabitants, that is, almost double as compared to the beginning of the century. (McEvedy, 1986) The urbanization process was accelerated by the massive migration from villages to towns. A large numbers of workers moved to urban areas in search of work in factories. Yet urbanization had its downside as well. Towns became overcrowded: most of the newcomers lived in the slums on the outskirts of big industrial cities, where living conditions were precarious.

Thirdly, the supplanting of men with machines made unemployment soar: merely half of the total workforce could find regular employment in cities. (Mayhew & Douglas-Fairhurst, 2010) Workers however skilled were not able to compete with machines and this angered them a great deal. The "Luddites' Movement", which took place in early 1800s is an iconic episode of the clash between men and machines. Manual textile workers stubbornly refused to accept mechanization, considering it as a serious threat to their jobs. Their protest was an attempt to preserve the traditional organization of labor in this domain, based on manual weaving. (Lesourd & Gérard, 1976) The forces of progress were nevertheless too strong to be curbed in this way so that in less than 30 years (between 1820 and 1850) the number of manual weavers in Britain dropped to a fifth. Joblessness was a drag on workers' attempt to negotiate better working conditions with their employers, namely shorter working hours, higher wages, milder discipline, less accidents, health protection etc.⁷

Fourthly, production in factories heavily relied on child labor exploitation. Although child labor was no novelty, it assumed grotesque dimensions under the IR, in the context of increasing population and lack of mass education. Employers forced children to work without wages, just for board and lodging. Many children were forced to work in the same bad conditions (in coal mines and textile factories) as the adults but for much lower pay than the latter. The worst conditions were in rural textile mills, where child apprentices were hired as primary workers. In these "dark satanic mills" as Charles Dickens called them children worked for twelve to sixteen hours a day, six days a week without recess for meals. (Tuttle, 2001) According to Ashton (1948), the children falling victims to such misfortune were not treated like humans but rather like

animals; those who ran away would be whipped and even shackled. Not infrequently those who got exhausted could break down and get run over by carts. Others would wind up being killed by gas explosion or crushed or even decapitated by machines parts.

1.2. Industrialization in the developing world: more misery still

With a few exceptions developing countries were excluded from the first industrialization wave that swept through Europe and North America in the second half of the 19th C and the first half of the 20th C. "On the whole, the developing world remained overwhelmingly oriented towards primary production." (Szirmai, 2009) World War II triggered a paramount change of this deeply entrenched international order. During the last 70 years, manufacturing has become a basic economic sector in many developing countries, which determined fundamental shifts in world manufacturing and trade.

Industrialization at all costs

The organization of the post World War II world economy did not differ very much from the 19th C metropolises-periphery pattern instituted by Victorian England. Not only was the gap between the developing South and the industrialized North tremendous but the prevailing order seemed to be condemning the former to eternal poverty and backwardness. Within this type of structure, "the metropolises tend to develop and the satellites to underdevelop." (Frank, 1969) Therefore, developing countries' eagerness to do away with their long standing subservient status is perfectly accounted for.

"The advantages of technical progress have been mainly concentrated in the industrial centers and have not directly extended to the countries making up the periphery of the world's economic system." (United Nations, 1950) – read a warning by the UN Commission for Latin America, expressing the powerful current according to which, developing countries must, ostensibly, embark upon industrialization programs at all costs. In other words, industrialization was considered the key economic strategy that could help developing countries come out of poverty. Two popular arguments back this doctrine: firstly, the experience of western industrialized countries, which had reached high development standards in the 19th C and the first half of the 20th C thanks to industrialization, was a potentially success model for other countries in the world. Secondly, developing countries found the existing international division of labor, as instituted by the IR, quite unfavorable to them as a group. On the one hand, the North-South trade was structurally polarized: countries in the South would export mostly raw materials and agricultural produce to partners in the North, importing manufactured goods in exchange. On the other hand, this structure of exchanges was poorly lucrative for developing countries but it made them highly vulnerable to world market conditions: whereas prices of manufactured goods were stable or rising, those of primary goods were fluctuating and more often than not, falling.

Galvanized by the industrialization doctrine, which promised large prospects of rapid development and less economic dependence on the industrialized North, a host of developing countries from Latin America, East Asia and Central and Eastern Europe pursued industrialization-based economic policies beginning with the 1950s. Newly communist economies, especially USSR and China were the standard bearers in this race. In the USSR for example, the need to industrialize was often described as a life or death struggle. "We are fifty or a hundred years behind the advanced countries, Stalin claimed in the 1930s. We must make good this difference in ten years. Either we do it, or we shall be crushed." (Daniels, 1965) Consequently, the Russian leader imposed an infernal rhythm to the industrial building process. Thousands of mines and hydro plants were raised between 1927 and 1940. Industrial production was growing at dizzying rates and so was the capital stock. As regards China, its industrial development exploded after 1950. "In the first five-year plan, between 1952 and 1957, China was to experience rapid economic growth – an average of 9.2 percent. Industrial production more than doubled, with spectacular gains in industries as disparate and bicycles and steel." (Hutton, 2007) The other former socialist countries followed similar specialization patterns.

Not surprisingly, industrialization in the developing world followed the same pattern as the one entrenched by the IR in the West in the 19th C. As Gereffi (1990) notes, in an incipient phase, the output mostly consisted of local manufacture of basic consumer goods, the key industries being textile, clothing, footwear and food processing. Subsequently, as domestic production grew, indigenous goods increasingly substituted for imports of a variety of capital- and technology-intensive manufactures such as petrochemicals, steel, machinery and even automobiles. In the particular case of East European nations, Audretsch (1993) suggests that during the 1980s, the respective economies underwent "a shift in the trade structure", from "Ricardo goods" toward "high-concentration industries", namely the very industries in which Western countries show visible comparative disadvantage, according to the cited author.⁸

The industrialization policy eventually bore fruit: economically, the 1950s and 1960s were two decades of spectacular growth for countries that had set this policy into practice. Ideologically, the fulminating development of urban towns and factories in this period created the belief that the socialist ideology was within reach. (Grant, 2012)

Pollution shifts from North to South

Following the rapid industrialization promoted by a great number of developing countries, the latter shortly became world exporters of products such as pig iron, steel, basic chemicals, synthetic rubber, cement, yarns, fabrics, clothing, footwear etc. Yet the newly emerged exporters were not the designers of the respective products. A wide range of high raw materials- and energy-consuming items had been abandoned by the countries that had gone through the IR, only to be embraced by poorer countries that were eager to industrialize at all costs. Consequently, according to statistics (Mayer, 2004), during the second half of the 20th C and the first decades of the 21st C

manufactured exports have grown more rapidly in developing than in developed countries although the growth has been more in quantitative rather than in value added terms.

Unfortunately the industrialization process that has been unfolding within the developing world did very little to ease the burden upon the environment. Polluting industries such as petrochemicals, metallurgy, textiles etc., instead of being laid on cleaner bases by their initiators simply relocated to developing countries in search of cheaper factors of production, primarily lower wages. A still more important factor that prompted developed countries to transfer these industries abroad was the tightening of environment regulation, which rendered their production ever harder and costlier, whereas in most of the hosting countries such regulation did not even exist. The phenomenon is nevertheless not that clear-cut: dirty industries have unquestionably moved to developing countries but it is not certain whether they migrated from the developed countries. According to Low (1995), "increased toxic intensity in developing countries, may merely reflect dispersion, or industrial expansion, rather than migration...Neither is it apparent whether industries have chosen to locate in developing countries, rather than industrial countries, because of more lenient environmental regulation."

Regardless of the cause, the shift of dirty industries to developing countries has had dire consequences upon the latter. The impact of pollution is more severe than in developed countries, leading to ill health, death and disabilities of millions of people annually. The sad part of the story is that whereas developed countries have the resources and technologies to combat pollution, such means are often beyond developing countries' financial possibilities. But even though the latter had possessed such possibilities, stopping pollution would hamper their economic development and competitiveness because their economies are highly dependent on natural resources. The exploitation and processing of most of these resources are vital for the respective nations' economies but damaging for the environment.⁹

2. Globalization and trade: further threats

As pointed out earlier, industrialization gave major impetus to international trade in the second half of the 19th C. Consequently, the environmental and social woes engendered by industrial development become international trade problems. In other words, it was a mere change of background: the problem simply shifted from industry to trade. Globalization made things worse by allowing a host of local ecological problems to grow global. Although environment degradation most often impacts upon ecological resources and ecosystems at local or national level, it can still afflict a great deal of resources and ecosystems, which are commonly shared simultaneously by everybody on the Earth, being under nobody's jurisdiction or sovereignty. (Ostrom, 1990) This type of goods is epitomized by the atmosphere and the climatic system although the sphere also includes the marine environment and the global hydrological systems. (Held et al., 2004)

The atmosphere is the common resource that is most intensely exposed to global activity through cross-border pollution, which implies the transmission of pollutants through air, soil, water from the place they are generated to other countries or regions, so that environment degradation will shift to other legal jurisdictions. (Held et al., 2004) It follows that global pollution calls for international cooperation since no one jurisdiction taken separately can cope with it. Pollution spillovers must be paid for through appropriate taxes or regulations. (Bhagwati,2005) One may add other threats stemming from the functioning of nuclear plants, which may create exponential risks of environment degradation in case of meltdown or the relocation of polluting industries. (Yearly, 1995) Aside from that, the free movement of goods and capital across borders spurred growing globalization of wastes flow and new forms of trade in waste. Because picking through waste and re-cycling it is a labor intensive activity it has been moved to peripheral countries and justified as creating employment there. (Hudson, 2009)

For better or for worse, international trade has come to be closely linked to globalization. This marriage has a good part and a bad one: the good part lies in the noticeable expansion of commercial exchanges worldwide, under the drive of globalization. "Over the past decade – analysts show – more countries than ever before have been persuaded to push aside protective barriers and further integrate into the world economy, attracted by the possibilities of world markets."(Tussie, Woods; 2000) The bad part derives from the murkier facet of globalization, resulting from its inseparable link to the activity of multinational companies. This image is almost automatically extended onto international trade. People worldwide who are anxious and even scared by globalization think that free trade splits the wealth of the world unevenly, most often contrary to developing countries' interests. "For reasons that are difficult to fathom, contends Columbia University scholar Jagdish Bhagwati (2002), the antiglobalization agitationists seem to think that...if you are for free trade, you must also be for free short-term capital flows, for free direct foreign investment, for free immigration, for free love, for free whatever!"

The marriage between international trade and globalization has got the latter entangled into environmental and social issues. Although they had long been outside its scope, these topics are now on every trade talk agenda. As a result, multilateral trade talks have become difficult and cumbersome. Negotiations intended to dismantle protectionist barriers so that international exchanges take place without restrictions are hampered by endless disputes between western and developing countries. The former complain they are faced with unfair competition, especially in labour-intensive industries, because the latter fail to comply with minimum social and environmental standards. Reportedly, manufacturers in developing countries continue to make use of sweatshops, child labour, overwork and other practices (involving infringement of human rights) that offer them unjustified competitive edge against their counterparts in the developed world. However, this point of view is hardly shared by academics.¹⁰ In their turn, many developing countries decry their lack of access on developed countries' markets due to a host of non-tariff barriers, including heavy subsidies for farmers, which the latter refuse to remove.

The disagreement around free trade has highlighted the need for fair trade, namely a form of trade which should make everybody better off. In any case, it may be one solution to poverty and marginalization. (DeCarlo, 2007) The World Fair Trade Organization defines fair trade as being “a trading partnership, based on dialogue, transparency, and respect, that seeks greater equity in international trade. It contributes to sustainable development by offering better trading conditions to, and securing the rights of, marginalized producers and workers – especially in the South.” Yet regrettably, the battle for fair trade is going on at a very slow rate, with no winner on either side. We deal with this issue in the third part.

3. The battle for fair trade

Upsurge in collective action after 1970

Despite the wicked effects of human activity on nature being fully grasped before mid 20th C, no sooner than the 1960s did the first alarm bells ring. An early whistle blower was Rachel Carson (1962), who pointed to the evil and stressed the urgency that something had to be done in order to stop it. Carson’s call did not remain singular; it was followed by a row of successive reports to the Club of Rome, that were launching scathing warnings as to the dangers economic activity was posing to the future of the Planet. Concomitantly, the US Congress started debating the urgency of adopting a national environmental policy, which should “require all federal agencies, whose actions were often seen as significant sources of pollution, to adhere to certain environmental values and goals.” (Luther, 2005) Soon afterwards, the US Congress adopted the National Environment Policy Act (NEPA) and subsequently, the Environmental Protection Agency (EPA) was established. Europe shortly followed suit, launching similar initiatives at both national and community level. Two important yardsticks on this path were the 1972 summit of heads of state and government of the European Economic Community (EEC), held in Paris respectively the first Environmental Action Program, adopted by the EEC in July 1973.¹¹ Still, European environmental policy only took shape in the 1980s, when over 100 major pieces of environmental legislation were adopted. (Lenschow, 2007)

In parallel, the environmental and social problem was embraced by international organizations and advanced under the auspices of the United Nations. Other international organizations such as the Council of Europe and the Organization for Economic Cooperation and Development (OECD) placed the environment on their agenda at the end of the 1960s. In 1971 the General Agreement on Tariffs and Trade (GATT) issued a study entitled “Industrial Pollution Control and International Trade”, focused on the implications of environmental protection policies on international trade. The GATT also agreed to set up a Group on Environmental Measures and International Trade (also known as the EMIT group), which would be open to all GATT members. At the 1982 GATT ministerial meeting, members decided to examine the measures needed to bring under control the export of products prohibited domestically (on the grounds of harm to human, animal, plant life or health, or the environment).

This led to the creation, in 1989, of a Working Group on the Export of Domestically Prohibited Goods and Other Hazardous Substances.¹²

The apex of the pre-WTO period (until 1995) was the 1992 United Nations Conference on Environment and Development (UNCED), also known as the Rio “Earth Summit”, which drew attention to the role of international trade in poverty alleviation and in combating environmental degradation. UNCED coined specific notions such as “environmentally sound technologies” and “environmentally preferable goods”. The former is defined as technologies “which protect the environment, are less polluting, use all resources in a more sustainable manner, recycle more of their wastes and products, and handle residual wastes in a more acceptable manner than the technologies for which they were substitutes”. The latter is defined as products “which cause significantly less environmental harm at some stage of their life cycle (production, processing, consumption or waste disposal) than alternative products that serve the same purpose, or products the production and sales of which contribute significantly to the preservation of the environment”. (Tothova, 2005)

In recent years, environment has played an ever greater part in European Union’s policy and this is likely to increase in the future. If the first five EAPs outlined the major policy objectives in respect of environment protection (norms of environment pollution, caps on industry waste release etc.), the last two programs go as far as establishing the standard of production that is environmentally-friendly including the cessation of dumping chemical residual waste. The last EAP will be guiding European environment policy until 2020.¹³

Environment protection: a drag on multilateral trade talks

Does free trade have good or bad influence on the environment? Viewpoints on this issue are by no means convergent. The WTO lies on the “good influence” side. The 1996 WTO Singapore Report points out that trade liberalization in certain sectors has the potential to yield benefits for both the multilateral trading system and the environment. More specifically, the mentioned report shows that the removal of trade restrictions and distortions will likely improve environmental quality, through: (a) more efficient factor-use and consumption patterns through enhanced competition; (b) poverty reduction through trade expansion and encouragement of a sustainable rate of natural resource exploitation; (c) an increase in the availability of environment-related goods and services through market liberalization; and (d) better conditions for international cooperation through a continuing process of multilateral negotiations.¹⁴ On the “bad influence” side, there are people, and they are not few, who believe that trade liberalization is harmful for the environment. They also claim that under WTO dispute settlement system, trade liberalization takes precedence over environmental, health and safety concerns. (Trebilcock, Howse, 2007)

The question whether free trade is beneficial or harmful for the environment is not a simple head-or-tail problem. Agreeing that trade liberalization is good for the environment is not enough. It depends on the extent to which environment and trade goals can be made complementary and mutually supportive. (United Nations, 2005),

namely the good results will not be likely to show up failing adequate national environmental policies. This is where the WTO has a great role to play. "Through its goals, rules, institutions and forward-looking agenda, the WTO provides an important means of advancing international environmental goals. The Doha Agenda includes specific negotiations on trade and environment and some tasks assigned to the regular Trade and Environment Committee."¹⁵ Hoekman and Kostecki (2002) point to some factors that drove environmental issues onto the agenda: "increasing recognition of the existence of cross-border environmental spillovers, perceptions that national environmental policies were inadequate, concerns that trade was bad for the environment, fears that national environmental policy would reduce the competitiveness of domestic firms, and a perception that national environmental policies were increasingly being used for protectionist purposes."

The adding of environmental and social clauses onto the WTO agenda is obviously aimed at resolving some of the respective problems through the usage of trade sanctions. The advocates of this option hope that, by imposing trade sanctions to nations that infringe or overlook social and moral standards, the latter will be forced to toe the line. Or, the alternative might be a race to the bottom, namely a rush by countries to lower environmental and social standards with a view to staying competitive on world markets and keep attracting foreign investment. Arguments pro and against this second possibility are in plenty. The only certainty is that the problem has little chance to be solved in the near future.

4. Conclusion

Since the industrial revolution two hundred years ago, the expansion of mass production has been boosting international trade. On the other hand, the rise in trade constantly stimulated investment in industrial production. This complex of factors has exerted steady and systematic pressure on social life and environment. The increased mechanized-production raised the supply of goods on world markets but also exerted a damaging influence on environment. Industrial emissions as well as the dumping of waste have given air and water pollution worrying dimensions. Because industries grew with the aim of reaping economies of scale, international trade became the most efficient vehicle of linking domestic production to foreign markets. In this way, international trade and environment protection have become closely entangled, while environment protection and human suffering alleviation have become imperatives, not only for each nation individually but for mankind in general.

The attempt by various organizations such as United Nations, World Trade Organization, and European Union to include environment protection in their primary preoccupations is now bearing fruit in that it established a linkage between environment, international law and international trade. Environmental issues have come to largely influence governments' international trade policy. Still, the relationship between trade and environment remains a complicated and contentious one. The wide use by countries of trade restrictions and trade sanctions on environmental grounds

has a noble purpose: to compel nations to comply with environmental and social standards. Yet it is equally raising the temperature of trade talks, lessening the odds that a solution be reached. Whether reason will eventually triumph or things will degenerate into a race to the bottom, remains to be seen.

Notes

1. Around the year 1800, cities were still at an incipient stage of development. Even in England, which was more advanced than the other European countries, let alone overseas regions, there were no more than 5 cities with more than 100,000 inhabitants. (A. Brunet: *La civilisation occidentale*, Hachette, 1990, p.118)
2. Coke is produced by distillation of bituminous coal in closed containers.
3. Coke was used both as ingredient and fuel in furnaces. High-quality steel was produced by the so-called puddling method, which implied burning coal with the goal of removing impurities from pig iron. The melted metal is poured into special containers, where it is stirred until the burning of gas carbon is completed, there resulting steel with superior characteristics. Pouring, forging and rolling operations were then combined into a single production flow, which is the basic requirement for a metallurgical works.
4. The amount of cotton processed by the British industry increased from 2 million pounds in 1760 to 366 million pounds in 1850. (Fernand Braudel: *A History of Civilization*, Penguin Books, 1993, p.382)
5. By 1870, Britain still provided half of the world's production of pig iron and a third of the one of steel...Before the mid-19th C, textile branches accounted for 43 percent of the value added by the entire British industry and exported 41 percent of production.(J.A. Lesourd, Cl.Gérard: *Nouvelle histoire économique, tome I, le XIX-e siècle*, Armand Colin, Paris, 1976, p.148)
6. "Industrialization and the Environment". Boundless US History. 21 Jul. 2015. available at: www.boundless.com/u-s-history/textbooks/boundless-u-s-history-textbook/the-market-revolution-1815-1840-13/the-industrial-revolution-110/industrialization-and-the-environment-596-9029/
7. Workers were condemned to long working hours. Normal shifts were usually 12-14 hours a day, with extra time required during busy periods. Wages were low and discriminatory: because women and children were paid much less than men, employers preferred to employ women and children. Moreover, many men were sacked when they reached adulthood; then they had to be supported by their wives and children. Discipline rules were draconian: workers irrespective of age and gender were often hit with leather straps. Accidents were rife especially among children: for instance, children would be forced to crawl into dangerous, unguarded machinery, which led to many accidents. Not least, bad working conditions put people's health in great danger: in textiles for example, cotton thread had to be spun in damp, warm conditions so that when they went out into the cold night air led to many cases of pneumonia. The air was full of dust, which led to chest and lung diseases and loud noise made by machines damaged workers' hearing.(Living and working conditions, Back to British society 1815-1851 index, GCSE Bitesize, BBC, available at:<http://www.bbc.co.uk/schools/gcsebitesize/history/shp/britishsociety/livingworkingconditionsrev1.shtml>)
8. The author classifies industries into five categories as follows: "Ricardo goods", "product-cycle goods", "high-advertising goods", "R&D-intensive goods" and "high-concentration goods". Products that fall into the "Ricardo goods" category are generally "high in natural resource content and serve as key inputs into producing processed and semi-processed goods." "High-concentration industries" include industries such as "tobacco, petroleum products, edible oils, tubes, office machines, telecommunications and domestic electrical equipment, motor vehicles, railway vehicles and aircraft sectors."
9. For instance, the exploration of oil and the activities of multinational oil companies in the Niger Delta region of Nigeria has caused substantial land, water and air pollution. However, for Nigeria to maintain its current economic growth path and sustain its drive for poverty reduction, oil exploration and production will continue to be a dominant economic activity. This is also the case with a number of other developing countries. China as the most illustrative example, would not have achieved the impressive economic growth and development it has recorded in recent years if she had cared about pollution at the initial stage of development. (Oluwasola Omoju. Environmental pollution is inevitable in developing countries. Breaking energy, Sept. 23rd, 2014, available at: <http://breakingenergy.com/2014/09/23/environmental-pollution-is-inevitable-in-developing-countries/>)
10. According to Bhagwati (2005) for instance, "the complaint about competition with producers in countries with lower standards is...unjustified, plausible as it appears." Since we are preparing a second article focused on this facet of international competition, we shall not expand on the topic in the present article.
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12. WTO – Early years: emerging environment debate in GATT/WTO, 2015, available at: https://www.wto.org/english/tratop_e/envir_e/hist1_e.htm

13. European Commission. Environment Action Programme to 2020, available at: <http://ec.europa.eu/environment/newprg/index.htm>
14. Trade and Environment at the WTO, World Trade Organization Secretariat, 2004
15. WTO: Trade and Environment. World Trade Organization, 2015, available at: https://www.wto.org/english/tratop_e/envir_e/envir_e.htm

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