

The Inequality Caused by Economic Globalization

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Abstract. Economic globalization has caused an increase in inequality between developed and developing countries. This essay will interpret the impact economic globalization has on inequality, the cause of this phenomenon, and give out suggestions for developed countries to decrease inequality by studying the case of French and Niger cooperating in Uranium mining. France, with advanced technology and massive demand for Uranium, cooperates with Niger which is a poor biased country but preserves massive amounts of Uranium. Uranium mining in Niger has caused income inequality, environmental inequality, and inequality of work conditions. Because Uranium mining created radiation and pollution which is harmful to both workers and the environment, and Niger gets profits that are lower than the average price while France gains the massive electricity produced by Uranium at a low price. The essay will explain the increase of inequality through the theory of inequality exchange, a central concept in the investigation of world system theory, and it is also a classic problem in foreign Marxist development economics research.

1 Introduction

Economic globalization has tightened the relations between nations and brought new opportunities to all countries. However, a side effect of economic globalization is the increased inequality between developed and developing countries. The previous scholars have investigated the inequality caused by economic globalization by comparing the panel data of the developed and developing countries groups and focusing on the change in income inequality and the Gini index. The previous investigation on this topic has a vacancy: a few scholars focus on a typical case and deeply and comprehensively analyze the relationship between economic globalization and inequality.

This essay will fill the vacancy by studying the case of France and Niger's Uranium mining. The essay selects this case due to, firstly, the long-term interactions between the two countries; France has colonized Niger for 40 years, and the impact of the colonization last till today; secondly, the forms of cooperation between the two countries are pretty typical and common word wide. The developed countries can afford the technology and established companies in developing countries, which have wealthy resources and cheap labor.

This essay will briefly interpret the cooperation and Uranium mining between France and Niger, expose the impact that economic globalization has on inequality in the aspect of workers' conditions, workers' income, and environments, analyze the reason for the impact, and give out suggestions. The essay will explain economic globalization's impact on inequality with the theory of inequality exchange. Unequal exchange is a central concept in the investigation of world system theory, and it is also a classic problem in foreign Marxist development

economics research. Marx believes that after economic globalization, international value is not measured by domestic socially necessary labor time, but measured by international socially necessary labor time. Because of differences in labor intensity and productivity across countries, national values are not equal to international values, giving rise to international unequal exchange. France and Niger are two countries that have a considerable difference in their labor intensity and productivity, which leads to the increasing inequality between the two countries. This theory corresponds with the case.

2 Case study

It is starting with a brief introduction of the two countries, France and Niger, and the introduction of Uranium and its function.

2.1 France and its energy policy

France has been a developed country since the proposition of the concept of a developed country in 1960; it is one of the top 10 GDP rankings, and its average GDP in 2012-2022 was 2.7 trillion [1]. France's two main energy goals are to achieve energy security and become an energy exporter. Due to the awareness of sustainable development and the development of new resources, nuclear and Uranium have become popular energy. Since France has a low reserve of nuclear and Uranium energy, to achieve these goals, France needs to import massive of raw resources and export them after the process [2].

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2.2 Nigerian condition and its Uranium preservation

Niger locates in the Midwest of Africa, with a land area of 1267000 square kilometers and a population of 27070000 in 2023. [1] Niger has become a French colony since 1922, and the country obtained its independence from France in 1960. [3] Due to the history of being colonized by France for nearly 40 years, the official language of Nigerians is French.

Niger is a poverty-stricken country, with an average GDP in the recent ten years of 11.95 billion, which is 225th in size compared to France. Its people have lousy living conditions, the Nigerians suffer from natural disasters such as drought, and the poverty headcount ratio of 2.5\$ a day was 50.9% in 2018. In 2020, approximately more than ten million people (42.9% of the total population lived in extreme poverty, 49% of people used at least essential drinking water service, and only 17% of the Nigerian population lived in urban areas [1].

Nigeria's pillar industries are agriculture and the exportation of raw Uranium. Agricultural products represent 40% of the Nigerian GDP [4]. Niger owns massive Uranium resources; according to World Nuclear Association (2021), Niger owns 276,400 tons of Uranium, which is 4.5% of words total, ranked 8th after Australia, Kazakhstan, Canada, Russia, Namibia, and South Africa. Niger has cumulatively produced 152,352 tons of Uranium between 1945 and 2020 [2]. In 2020, Niger exported 4315 Ut valued at 285.1 million in 2020, and 73.5% of them, which is 3173 Ut worth 208.1 million, were exported to France. The total share of France in Nigerian exportation is 34 212.4%, ranked first. This proportion makes France the biggest market for Nigerians in not only the Uranium aspect [5].

2.3 Uranium's importance and function

Uranium has become a popular and necessary resource since it is the only natural nuclear fuel that the nuclear power industry relies on, and Uranium has its effects in various.1942, Uranium was mainly used to make the atomic bomb due to the discovery of the tremendous energy that 235U would release in its nuclear fission chain reaction. Since 1950, Uranium has been increasingly used as the nuclear fuel for nuclear power generation; 1 kg of fully fissionable Uranium can release the same amount of energy as burning 2700t of high-quality coal.

In addition, Uranium can be used in various ways. It can be used for agriculture as a source of irradiation for agricultural irradiation breeding, food preservation, and sterilization in the food industry. For the pharmaceutical industry, the Uranium can be used in radiotherapy, diagnostic imaging, etc. For industry and geology, Uranium can be used in industrial flaw detection, automatic control, geological exploration, archaeology of cultural relics, etc [6].

2.4 French Uranium mining industry in Niger

French development of Uranium in Niger can be tracked

down to 1956. The French Commissariat a Energie Atomique (CEA) has been assigned to begin the exploration for Uranium in Niger in 1956. Then since 1970, French companies, including SOMAIR, COMINAK, and COGEMA, started their Uranium mining in Niger; their mining concentrated in a few areas, including Arlit, Akouta, etc. Most of these mining operations continue till today [7].

in 1983 and 2001, COGEMA was merged with other state-owned entities to create Areva in a two-step process. Although Areva is a private company, the French state still holds most of its capital. Today, the two companies, SOMAIR and COMINAK, mentioned above are owned by Areva, respectively, at 63.6% and 34%. Areva now supplies 40% of EDF's needs, and 40–50% of Areva's Uranium comes from Niger [8].

3 Analysis

3.1 The inequality of work conditions

The human rights activist group criticizes Areva for its work in Niger, saying that Areva is the worst company globally. In 2008, The Public Eye reported that Areva's work in Niger took place under horrendous conditions and caused radioactive pollution, leading to the consequences of the death of numerous workers. [2].

According to the report from The Public Eye, the company Areva fails to give employees basic life and health protection and takes no effective action against radioactive contamination. Due to the backwardness of the legal system and the zero experience with the development of the radioactive mining industry, there are no local trade unions that are capable of guaranteeing workers' rights, and it's difficult for victimized workers and victims' families to protect themselves through legal means; While the French workers have Comprehensive labor law system and labor union as their assurance. Uranium mining impacted the fragile miners' security system in Niger and worsened the Nigerian miners living conditions; it increases the inequality between the French and the Nigerian workers.

3.2 The inequality of the trade

Niger does earn profits from the Uranium mining and the Uranium exportation. Still, the Uranium that Niger has exported to France is worth much more than the profits Niger has earned from the trade. Looking back to the past ten years, in 2021, Niger exported natural Uranium 3173 tons to France, using the raw Uranium imported from Niger, France produced massive electricity worth \$8.9 billion. while Niger gain 285.1 million from its total natural Uranium exportation and only received 3.2% of the total value created by the raw Uranium Niger exported to France. Also, France's total importation from Niger is worth \$212 million, and 34% of them are from Uranium. Nigerian importation from France is worth \$675 million, which is 22% of Nigerian total imports; the data clarified a negative trade balance of \$ 463 million [2].

The direct cause of the phenomenon above is the

technical and economic gap between Niger and France. France's GDP in 2022 is 2.78 trillion, and the Poverty headcount ratio in 2020 is 9.1. While the GDP of Niger in 2022 is 15.34 billion, and the Poverty headcount ratio was 50.9 in 2018 [1]. although Niger owns massive of Uranium resources, the country lacks the technology that is capable of investigating the location of the Uranium or tapping into mineral resources. Also, the government of Niger cannot afford the funds needed to develop its uranium resources. Meanwhile, France, with its advanced technology and sufficient capital, can investigate and develop a source of Uranium. Due to the factors mentioned above, Niger is highly relaying to France in this trade and putting itself into a disadvantaged position with weak bargaining power. Nigerian disadvantaged position can be reflected by the share he holds in the Uranium mining company. The first uranium mining company, Société minière de l'Aire, was a joint venture between Niger and France. The Niger Uranium Company holds 33% of the shares, the General Atomic Energy Company of France 29.6%, the Société française d'améliorerie (SFA) 11.8%, and the rest is divided among four other foreign companies [9]. Also, due to the absence of the technology to put raw Uranium into use, the only two goods that Niger afford for trade are the massive raw Uranium and cheap labor. Since both of them have a low added value, the profits that Niger earns from the exploration and mining won't be much.

The reason for the increasing inequality is explained by the theory of unequal exchange. The root cause of this phenomenon could be the theory of unequal exchange and the Nigerian history of colonized by France. Arghiri Emmanuel has improved on the basis of Marx's theory of the value of labor and the price of production, pointing out that there is a problem in national trade such as the value transfer from the low-wage countries towards the high-wage countries [10]. There is a considerable difference between Niger's per capita wage and France's per capita wage. Employing workers from countries with lower per capita wages can save French companies a great deal of money, so France tends to cooperate in mining with countries with extensive uranium resources and a large amount of cheap labor. Moreover, because of the recent French colonization of many West African countries, including Niger, Niger is a French-speaking country with a history of French cultural influences, which is conducive to cooperation. As a result of these factors, Niger, which is backward and has been colonized, is the best choice for French cooperation, even though it ranks eighth in terms of uranium reserves.

3.3 The environmental inequality

Despite the impact on inequality mentioned above, Uranium mining in Niger also has had a great impact on environmental inequality. "The dangers are evident: radioactive waste ... is stored in free air... This fact is well known... exceeded exposure levels are found in the schools, in the air, water..." [11]. The radiation created by Uranium mining pollutes the water bodies in the surrounding area, including the domestic and drinking water in school. It severely affects the health of the local

inhabitants. What's worse, the mining company still takes no action to these symptoms.

Furthermore, in water-scarce surroundings, NGOs found it startling that corporations were allowed to extract water freely without paying the tariff, which applies to other water users. Several examples were provided of water being extracted from groundwater aquifers, which are no longer replenished.

Due to the lagging economic and medical resources in the mining area of Niger, it is hard for the inhabitants who are suffered from the polluted water to be treated timely and thoroughly. The death rate in mining areas will sharply increase. Moreover, medical treatment costs are a considerable burden for the poor inhabitants and the local government. The increasing number of deformed babies and ailing workers will decrease the number of available laborers, which will exacerbate the poverty level of the mining area. At the same time, the NGO has found out that the Uranium mining company can extract and use the underground water for free, while the residents have to pay for the water, which leads to a drastic reduction in the availability of clean water for residents and the sharply rising water price. This will cause further increases in poverty and social tensions due to the inability to protect basic health and life, leading to instability in the country.

The Uranium mining pollution also affects another estate in Niger. The water shortage and the soil pollution caused by Uranium mining will seriously damage the surrounding agriculture, leading to the consequence that the residents in the mining area will have to move or import cereals from another region. With the polluted environment, the farmers in the surrounding area will lose the land they rely on and be jobless. To subsist, they will have to find another job, and the miners will be the most possible option since Uranium mining is one of the pillar industries with low employment thresholds and is near the farmer's settlement. The jobless farmer provides more labor for the mining company; inevitably, more labor supply leads to less bargaining power and salary for the miners. Also, the polluted water will eventually cover the whole country due to the water circulation. Agricultural products represent 40% of the GDP, which is the On Economic Security and the Political Economy of livelihood of more than 80% of the population [12]. To destabilize Niger's agricultural development is tantamount to destabilizing Niger's very foundations.

Uranium mining will also affect the development of other industries in the Niger. First, the lack of water and land contamination caused by uranium mining will directly prevent the development of agriculture in the neighborhood. The people living in the areas around uranium resources will be in a situation where they will have to buy food from other areas or move to other areas, while the water sources contaminated by radiation will affect the development of agriculture in the whole country through the water cycle. The development of agricultural products represents 40% of the GDP, which is the On Economic Security and the Development of the Niger. Agricultural products represent forty percent of the GDP, which is the On Economic Security and the Political Economy of livelihood of more than eighty percent of the population. Shaking down Niger's agricultural

development is tantamount to shaking down Niger's very foundation.

3.4 The negative effect of the Uranium mining

Furthermore, Uranium mining is not a sustainable industry; Uranium preservation will be empty sooner or later, and due to the change in French energy policy, the quantity demanded for Uranium has constantly decreased in recent years. After the cooperation, France will not be affected or polluted since all the mining was done in Niger, while Niger suffered from the pollution and its further effect. Due to its lagging technique, Niger will possibly rely on other developed countries to resume the environment. Also, due to the effect on agriculture mentioned above, Niger's agricultural output will not be able to guarantee the subsistence needs of its nationals, which means that Niger will have to import massive cereals while the country loses two primary industries. These factors will cause the aggravation of Nigerian poverty, increase its dependence on other countries, and even lead to a turbulent situation and increase the inequality between France and Niger.

4 Suggestions

4.1 Draw into more participation country

To decrease the inequality in this trade between France and Niger, firstly, Niger should use its advantages of cheap labor and massive Uranium resources sufficiently. Niger could use its advantages mentioned above to attract another country that also has the requirement of Uranium to cooperate. Cooperation with other countries will expand the exploration of Uranium, earning Niger more profit and crucially decreasing French share in the Uranium mining industry, preventing the phenomenon of French domination of the whole industry. With more competitors, Niger will have more Discourse to negotiate with France and lead to the consequence of higher Uranium prices and the right and health security for the Nigerian workers.

4.2 Join in cooperative organizations

Secondly, Niger could join the cooperative organization as a solution. The Belt and Road initiative would be an option. The Belt and Road initiative follows the idea of a "Community of Human Fate". The Belt and Road initiative stands together through storms and stress with all countries and is devoted to realizing the aspirations of the people of the world for a better life. Joining the Belt and Road initiative could be a solution because Niger can not only earn profits from the trade but get support in Infrastructure and technology. It accurately meets Nigers crucial needs, and with the infrastructure and the technology, Niger has the capital to develop indecently. Furthermore, The Belt and Road initiative is following the idea of sustainable development, which means that the BRI will take action against the radiation pollution created by Uranium mining. These actions will decrease the effect of Uranium mining in the local environment, and improve

the Nigerian workers living conditions. The Belt and Road initiative has already cooperated with many countries, and together the cooperative countries have worked out many win-win results. For example, in 2021, the first hydropower investment project in China–Pakistan Economic Corridor the Kalot Hydropower Station, was officially connected to the grid The establishment of the hydropower Station would benefit the two countries with the power it provides, and since it is expected to reduce 3.5 million tons of carbon dioxide emissions annually, the hydropower station would furtherly benefit the whole word.

5 Conclusion

Economic globalization enhances the inequality between France and Niger, including environmental inequality, as the Uranium mining polluted Niger's environment and income inequality since the price Niger gets paid for the Uranium is lower than the average. At the same time, France gets the most value by fabricating, and the workers' conditions are unequal since the radiation from the Uranium is harmful. The main reason for this phenomenon is the vast difference in labor intensity and productivity between these two countries. With low technique, it is unavailable for Niger to mine and process Uranium, making Niger fall into a passive condition in the trade.

If Niger maintains the cooperation form and takes no action to decrease the inequality, Niger's position will be worse than before the economic globalization. The consequences of the increasing inequality could be the degeneration of agriculture, increasing poverty of the Nigerian people, and the polluted environment. According to the essay, cooperating with more countries and joining cooperative organizations such as BRI could be the solution. The investigation proposed by this essay still remains insufficient and requires future scholars to solve it. First, the essay focuses on the case study, which does not provide a quantitative analysis of inequality in this case. Secondly, the essay does not mention the relationship between the previous colonization and the present cooperation.

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