


The Financial and Non-Financial Benefits of Public Education

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<p>Article Info:</p> <p>Article History: Received: October 20, 2023 Accepted: November 24, 2023 Published: December 1, 2023</p> <p>To cite this: Yang, J. (2023). The Financial and Non-Financial Benefits of Public Education. <i>Eurasian Journal of Management & Social Sciences</i>, 4(2). doi:10.23918/ejmss.V4i2p173</p> <p>DOI: 10.23918/ejmss.V4i2p173</p> 	<p>Abstract</p> <p><i>The major objective of this article is to evaluate the benefits of public education in China and Poland by examining primary and secondary data. A quantitative questionnaire was employed as the research methodology to obtain in-depth comparison results. Participants were university students and graduates from China and Poland. The research data was collected via online platforms such as Google e-questionnaire and WeChat e-questionnaire, as well as traditional forms. Statistical tools were utilized for analyzing and evaluating the obtained data. The findings revealed that public education provides both economic and non-economic benefits to not only students but also other stakeholders such as families, relatives, educators, business operators, education investors, as well as the general public as a whole. It is essential for studies to evaluate the benefits of public education given the substantial influence that it has on its stakeholders. The findings additionally indicated that there are variations in the financial and non-financial benefits of public education between the nations studied.</i></p> <p>Keywords: <i>Public education, management in the public sector, educational benefit</i></p>
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1- Introduction

Public education has always been a debatable topic among the public around the world, especially when it comes to its benefits. The role of public education has gained attention from a wide range of stakeholders, including students, economists, researchers, societies, and governments. Considering public education has such a significant impact on its stakeholders, it is vital to study and evaluate the benefits of public education in a nation.

Despite the fact that there are many studies on the returns of educational investments in China and Poland, however, comparative studies on the benefits of public education between the two countries remain a research gap. The author of this article compares and evaluates the public education systems of China and Poland, thereby filling a gap.

The major objective of this article is to evaluate the financial and non-financial benefits of public education in the nations studied by examining primary and secondary data. In order to have an in-depth understanding of the benefits of public education in China and Poland, a quantitative questionnaire was chosen as the research methodology. The research is aimed at university students and graduates in the analyzed countries. The research was conducted via online platforms, notably the Google e-questionnaire and the WeChat e-questionnaire platform. The data were also collected within the aforementioned online e-questionnaire platforms. The questionnaire encompasses 11 questions that are associated with the public education systems in the analyzed countries. There are 10 closed-ended questions in which respondents may select single/multiple answers on the basis of their cognition and perspective. In addition, there is 1 open-ended question, which allows participants to explain freely their opinion on the public education systems in their home countries.

The article is divided into two parts: theoretical and empirical. Beginning with an overview of the literature on the concept and history of public education in China and Poland, the methodology of the research is then introduced. Following that, a comparative analysis of the benefits of public education in China and Poland is carried out. Finally, the essay concludes with a summary of the research findings.

In order to fulfill the objectives of the article, the author posed two research questions. They are as follows:

1. Are there any variations or parallels in the benefits of public education in China and Poland?

2. What type of benefits does public education deliver to its stakeholders?

In addition, the author drew two assumptions based on the research questions. They are as follows:

1. There might be both differences and similarities in the advantages of public education between the nations studied.
2. There might be both economic and non-economic benefits in public education systems in analyzed countries.

2. Public Education in China and Poland – Literature Review

Education has a long history in human civilization, and it has played a significant role in its evolution and development. In today's world, public education is not a new notion. Considering diverse cultures, histories, and governmental policies may have different definitions of public education, there is no universal definition of public education.

According to Hyams and Bessant (1972), each of the initial governmental Education Acts was similar to the others. Following the evaluation and comparison, some of the most prevalent characteristics of public education are listed as follows:

- Public education is a process of studying, which is provided in education organizations such as public schools,
- The study accesses among public education systems are available for everyone,
- Public education is mainly funded and supported by states and the government in a country,
- There is a compulsory education policy in every public education system, and the characteristic of compulsory education is “free, compulsory and universal”.

It is also worth mentioning that the concept of public education is not everlasting. It is still developing and revolutionizing. The desire for a well-educated society also contributes to driving public education forward. Furthermore, the conventional public education system may experience challenges it has never faced before as a result of the trend of life-long learning in the twenty-first century (Forsey, 2007).

Taking the Chinese public education system as an example, from the beginning of the new China's establishment, public education was referred to as "national education", which means that school education was organized and implemented by the government for its citizens. Another important feature of public education is that every person is required to receive a basic education (Zhao, 2012). Even though compulsory education has played a significant role in Chinese public education in the twenty-first century, the scope of public education is not constrained to compulsory education. According to the law of the People's Republic of China on compulsory education, the public education system in China consists of compulsory education, higher education programs, and adult education. A compulsory education requires nine years of study, which includes six years of primary school education and three years of junior secondary school education. The government has a duty to utilize public resources to guarantee that all school-age children receive an education. "Obligatory, universal, and free" are the three essential concepts of compulsory education in China (Pu, 2015). Despite the fact that China is a country with fifty-six diverse nationalities, all school-aged children in China have the right and duty to obtain free education. During the obligatory education era in China, everyone receives the same chance to learn regardless of their social background or origin. The administration of public education in China is the exclusive responsibility of the states, which have unified schemes and standards as well as unified textbooks and curricula. The organization of public education departments differs by province, yet they all follow the same fundamental framework. Each of department is headed by a minister of education who was selected by the Ministry of Education of the People's Republic of China. The main functions of educational supervision are usually carried out through specific directorates, which include the curriculum, examinations, vocational education, teachers' training, and adult education. Moreover, public education institutions are operated by the government or local public authorities. It is worth noting that all diplomas and degrees provided by public education institutions are confirmed and acknowledged by the Ministry of Education of the People's Republic of China (MEPC (Ministry of Education of the People's Republic of China), 2018).

When it comes to Polish public education, there are a number of characteristics that may be classified as follows:

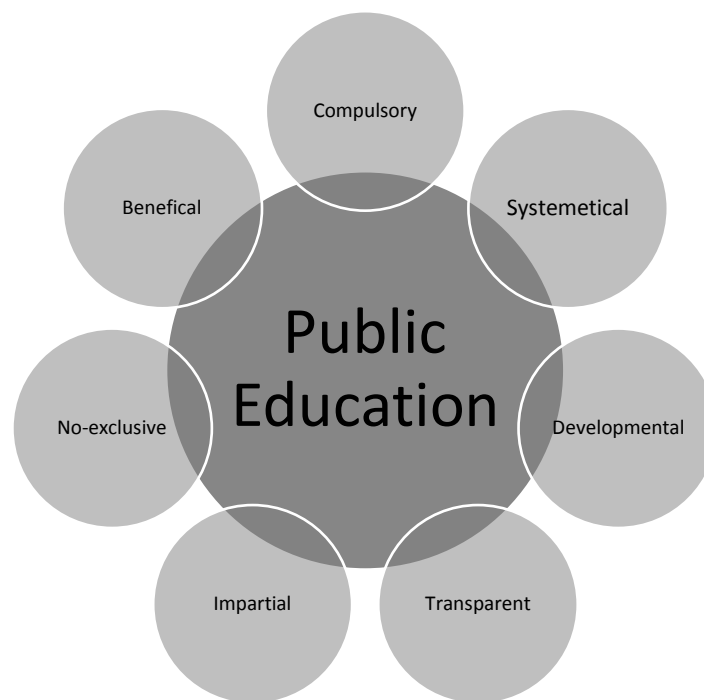
- Public institutions providing early childhood education and care,

- Public schools are set up by central or local government bodies, the education service or care is free in public institutions,
- Higher Education Institutions (HEIs) are funded and organized by the state, which are represented by the responsible authorities or public administration organizations,
- Most HEIs don't charge tuition fees for Polish citizens, though some public HEIs may charge fees for some education services (Kolanowska, 2018).

2.1. The Significance of Public Education in China and Poland

There is a set of characteristics of public education that are significant in most countries in the world, including China and Poland (Lingard, 1996). They are presented in the graph below.

Figure 2.1. The characteristics of public education



Source: own work based on Lingard, 1996. Educational policy-making in a postmodern state. An essay review of Stephen J. Ball's Education Reform: A critical and post-structural approach in "Australian Educational Researcher", 23 (2)

Figure 2.1. presents the characteristics of public education. There are seven features of public education that have developed along with educational revolutions and reforms. In the past, not everyone had equal access to materials and resources to study systematically at an educational

institution, but this phenomenon has changed with the development of public education. Receiving an education is no longer a privilege reserved for the privileged few. As one of the fundamental characteristics, non-exclusive makes it possible for students whose families are not well-off to also have chances to receive the same education as students who are from wealthy families. It is also impartial since the information, teaching materials, and regulations are available to the public. Students can also access and evaluate school teaching standards in order to improve the teaching quality of teaching staff through public education. Another element of public education is transparency. Transparent legislation and a grading system contribute to ensuring that all students receive an equal education. Compulsory education, as one of the most important characteristics, has made a substantial contribution to society's elimination of illiteracy. For example, China has made tremendous progress in reducing illiteracy since implementing the Nine Years Compulsory Education System in 1986 (MEPC, 2012).

Furthermore, the significance of public education may be divided into several categories based on the objects involved. According to Cramer (2016), public education is important to people, nations, economies, and society.

Table 2.1. illustrates detailed information about the objects.

Table 2.1. Details of the objects associated with the significance of public education.

Objects	Details of the objects
People	students, teachers, employers, the public in general
Nation	states and local public authorities, institutions
Economy	unemployment rate, employment rate, GDP, economic growth, national income
Society	culture, civilization, demography

Source: own work based on the basis of Cramer, K. J. (2016). The Turn Away from Government and the Need to Revive the Civic Purpose of Higher Education. "Perspectives on Politics".

The objects of public education are often grouped into four groups, which include people, nation, economy, and society. There are a range of stakeholders for each object. For instance, "people" usually refers to students, educators, and the general public. Accessible public education offers people, especially students with equal opportunity to develop their strengths and accomplish their life objectives. A number of studies also demonstrate that public education has a range of

advantages for students (Haas, 2013). These benefits and advantages include knowledge obtained through studies, friendships, life-long lessons, physical and psychological benefits, relevant skills for future career development, and so on.

Furthermore, public education is generally the most economical option for most families. Since it is financed mainly by the states, public education is the investment of the government. It is aimed to improve the education level of the population. According to Haas, a number of researches demonstrated that a well-educated population is associated with stronger economic growth, higher productivity, greater creativity, and greater innovation. Public education promotes the overall education level in a country and creates more opportunities for job-seekers. In addition, those who have attended a higher education institution are more tolerant, better citizens, and more engaged in social activities. They are also much more enlightened about the world and happier (Haas, 2013).

2.2. The History of Public Education in China and Poland

Different nations have comparable or dissimilar public education systems, and each country has its own path in development in terms of public education. It is essential to learn about the history of public education in various civilizations. Governors can learn from the problems in other states' public education systems and improve and reform their systems. Being aware of the evolution of public education systems equips decision-makers in public education systems with the knowledge they need to plan for the future development of their systems and implement them in schools.

2.2.1. The History of Public Education in China- A Brief Summary

According to historical records as well as archaeology research, the earliest public education system appeared in China can be traced back to Xia dynasty. The name of the educational unit was "GuanXue", which means state schools. With the demands for education from more diverse classes of people, there was an increase in the number of educational institutions. However, due to the corruption and incompetence of the governors of "GuanXue", another form of educational institute, "SiXue", which means private schools, was founded and popularized. State schools were soon displaced by private schools with the appearance of "SiXue". Throughout Chinese education history, private schools have played a significant role in the development of the national education system (Sun, (2019).

In 1986, the Chinese public education system entered a new phase with the implementation of the Nine Years Compulsory Education Law. Since China's opening-up policy in 1978 and the implementation of its education reform in 1986, the educational development of the country has been guided by the motto “education must be modernized, aimed to connect with the world, and oriented to the future” (Gu, 1998).

The Ministry of Education of the People's Republic of China announced the amended nine-year compulsory education law in 2006, with the goal of building a medium- and long-term educational development strategy. In this procedure, “ensuring inclusive and equitable high-quality education and promoting lifelong learning opportunities for all” were highlighted as the objectives of Chinese education modernization development (Yuan, 2018).

In February 2019, the Central Committee of the Communist Party of China and the State Council announced and printed “China's Education Modernization 2035”. The modernization plan was designated to serve as the framework of China’s education revolution and development in the coming years. In the meantime, it is also a guidebook that systematically illustrates the background, critical concepts, key content, major objectives, and related tasks of this education system reform (Xi, 2018).

There were a number of basic concepts and goals highlighted in “China's Education Modernization 2035” (Xi, 2018). The following are the details:

- In response to the 2030 agenda for sustainable development of the United Nations (UN),
- To build a moderately prosperous society,
- To Meet the requirements of educational transformation and improvement in China,
- To achieve comprehensive national development,
- Life-long learning plan,
- Personalized and creative teaching,
- Integration of knowledge and practice,
- Integrated development and sharing.

2.2.2. The History of Public Education in Poland- A Brief Summary

Poland has gone through several phases in its history of public education due to a variety of political reasons. According to historical chronology, the development of Poland's public education system may be categorized into several periods.

In 1364, King Casimir III established The Jagiellonian University in Kraków, which is one of the oldest universities in Europe. Later on, the idea of compulsory education was created and advocated by Andrzej Frycz Modrzewski in 1555. In 1773, Polish Ministry of Education (Komisja Edukacji Narodowej) was established by King Stanisław August Poniatowski, it was recorded as the first ministry of education in the world. During the time of the partition (1795-1918), education played an extremely important role in the preservation of Polish culture and national identity. According to Charzynska and others, the founding of the Flying University in Warsaw was a significant step in maintaining Polish civilization (Charzynska et al., 2012).

Compulsory education was introduced by Prussian authorities in Polish provinces which belonged to Prussia (1825), and Austrian authorities in Galicia (1873). Compulsory education in Poland was officially implemented in February 1919. Children aged 7 to 14 years old were the target audience for this compulsory education plan (Halecki, 1961).

However, during World War II (1939-1945), all secondary and higher institutions were closed to Polish students. Furthermore, the elementary school courses were stripped of all national characteristics. As a result, a massive underground teaching movement was formed under the leadership of the Polish Teachers' Association and the Committee for Public Education of Poland. public education became more politically charged during the post-war period (1945-1989). The objective of the public education system was to maintain a favorable and desired social structure with specified proportions of different social classes (Charzynska et al., 2012). Across the country, public schools and other educational institutions of the public education system used the same curriculum and textbook materials. Furthermore, the criteria of the education system were integrated into Polish education system during this time period.

Until the nineties, the majority of secondary school students enrolled in different forms of vocational education institutes, with just a small number of pupils having access to higher education. As a result, Poland made a series of national structural reforms in the late nineties, which also included an education reform. The purpose of this education reform was to raise the education level of the population and provide educational opportunities for all school-aged

children. From a political standpoint, supporters of the reform were those who desired a departure from the communist-era educational system (Jakubowski, 2015, p. 6-10). The establishment of the comprehensive lower secondary gimnazjum in 1999, postponed the choice between general and vocational tracks. Consequently, for students who would have been in vocational school before the reform, this approach effectively prolonged one year of general curriculum education. In 2000, Poland took part in the initial edition of the Program for International Student Assessment (PISA) of the Organization for Economic Cooperation and Development (OECD), which is the world's biggest worldwide research on students' (15-year-olds)' achievement, including over 70 countries globally. Following the first PISA test in 2000, when Poland underperformed compared to the European Union (EU) and OECD criteria, education reform was made and implemented. It has undergone thorough challenges and has been proven to have a considerable positive influence on student achievement (Zbigniew, 2014).

In 2008, there was a curriculum reform in the public education system in Poland (Kolanowska, 2018). Since 2009, the new school assessment system has progressively replaced the old highly bureaucratic inspection system. The new system generates reports that are made publicly transparent, but the major purpose was to improve teaching and learning rather than to ensure accountability. Furthermore, there was a reform of the public education system in Poland in the school year 2016 to 2017. Under the present public education system in Poland, compulsory education ends at the age of 18. It generally starts when children are over 6 years old and ends after 12 years of learning (usually in a high school).

3. Financial and Non-financial Benefits of Public Education – A Theoretical Approach

A number of studies have pointed out that the study of human capital is both the issue of macroeconomics and microeconomics. Hence, the economic benefits of education can be divided into two directions: macroeconomic and microeconomic.

3.1. Macroeconomic Benefits of Public Education

Macroeconomics examines the economy as a whole. It focuses on broad issues such as the number of unemployed people, the number of employed people, Gross Domestic Product (GDP), government deficits, inflationary increases, and so on. Macroeconomics, to be more precise, is concerned with a number of critical components of an economy, shown in the following aspects:

- The level of economic activities in a society,
- The amount of goods and services a country produces,
- The jobs that are available in a country's job market,
- Living standards of citizens,
- The reasons causing firms to hire more employees or to lay them off,
- Macroeconomics also determines what causes the economy to have sustainable growth over the long term.

Regarding the main concerns of macroeconomics, the macroeconomic benefits of education can be divided into three main categories, including benefits on employment, businesses, and enterprises, as well as economic growth (Greenlaw & Shapiro, 2017).

3.1.1. Benefits of Employment

Since the majority of public educational institutes are supported by the states and available to the public, individuals can obtain the necessary knowledge and skills to be qualified for certain occupations at a minimal cost. Some countries also provide free training programs to a certain group of people. For example, according to the Chinese Career Training Platform. Also known as CVTP, those who are unemployed due to a shortage of education or scarce abilities might enhance their education and gain new skills in order to find suitable employment once their training or studies are completed (CVTP, 2023).

A number of studies suggest that education is one of the main means to improve the intelligence and skills of human capital. A study of "The Role of Education and Employment" in Sub-Saharan Africa indicated that education has been one of the major push factors of employment in the research region. It also should be noted that a well-educated labor force is very important to the development of industries and firms due to the demand for high-quality human resources (Getrude, 2020).

According to Greenlaw and Shapiro, education has a considerable positive impact on employment. On the one hand, individuals with a higher education level and extensive knowledge acquired throughout their education have greater job-hunting opportunities than those without. Businesses, on the other hand, are less inclined to hire from within if the job-seekers are under-educated or unskilled because they will have to spend a large amount of time and resources teaching and

training those people, which is not cost-effective in the long run. Furthermore, due to its influences on the quality of the labor force, education has an indirect impact on the demand and supply of the labor market. The law of labor market demand and supply indicates that the lower the labor supply, the greater the labor demand (businesses and employers) (Greenlaw & Shapiro, 2017). For example, in general, the amount of labor supply for scientists is smaller than for restaurant waiters. Similarly, astronauts have a far smaller labor supply than taxi drivers. There are also fewer well-experienced surgeons than nurses in the labor market. As a result, those with higher education qualifications are linked to the most demanded human capital supply from the standpoint of businesses and employers (the demand on the labor market).

3.1.2. Benefits of Economic Growth

According to Smith, the main idea of division and specialization of labor is that the way one produces goods or services is divided into multiple tasks that different workers perform, instead of all the work being performed by the same worker. Furthermore, Smith's studies also indicated that high-quality and well-educated workers can boost the productivity and efficiency of industries and firms. As a result, by dividing workers according to their talents and specialties, a business's productivity will increase significantly. As a result, when the productivity of a large number of businesses increases, the Gross Domestic Product (GDP) also grows (Newbert, 2017).

The diverse specialization of labor needs a heterogeneous type of worker with different skills and experiences. Education is the main approach to gaining the required knowledge and skills. Smith (1976.)'s division and specialization of labor also indicate that specialization in a particular position makes employees focus on the part of the production process where they are professional.

Workers can be divided into different divisions referring to different education levels, diverse specializations, talents, experiences, interests, and so on. As a consequence, certain people have an advantage in some occupations over others. According to Turner, education choices are considered the fundamental basis of particular advantages. Furthermore, education is one of the main forces for the diversification of specialization of labor. For instance, only those who studied and graduated with law degrees are qualified to be lawyers. Also, if people specialize in the fields in which they have advantages, they will do their best and be more effective than if they do the job in that they don't have knowledge or advantages.

Human capital formation, which includes education, health, and other individual factors, is one of the most important predictors of economic development. In the late 1980s, Romer was one of the major contributors to the field of determinants of long-term economic growth from a macroeconomic perspective (Bernanke, 2018).

This period was identified by the development of “endogenous-growth” models. The model depicts the correlation between technical advancement and human capital. Furthermore, the model also illustrates the production of goods and/or services in a country or region. The empirical framework derived from the “endogenous growth” model can be summarized by a simple equation:

$$(1) \quad Dx = F(x_1, x_2)$$

According to the model (Barro, 2001), Dx is the dependent variable, which is the growth rate of per capita output, while x_1 and x_2 are independent variables. x_1 is the current level of output per capita, and x_2 is the long-term aim of the output per capita. Dx is inversely correlated to its level of development, as represented by x_1 , while x_2 is a given (normally by economic forecasting) value. In equation (1), the independent variables x_1 and x_2 are strongly positively correlated across one country or region to another. This suggests that certain nations or regions with higher long-term objective levels of per capita output are also seen to be economically prosperous (x_1 is greater and x_2 is higher). For a given value of x_2 , the economic growth rate, Dx , rises with x_1 . In return, the changes in value x_1 depend on governmental policies and on the quality of the human capital. In other words, when the economic development goals are given, the economic growth rate Dx is highly dependent on x_1 , which is the current level of output per capita. As mentioned earlier, Smith’s studies indicated that the productivity of businesses grows when the quality of human capital improves.

3.2. Microeconomic Benefits of Public Education

In comparison with macroeconomics, microeconomics focuses on smaller economic units such as individuals, families, businesses, industries, and so on. Correspondingly, the microeconomic approach of measuring educational benefits examines the monetary and non-monetary returns of education among individuals, families, communities, enterprises, and so on.

3.2.1. Benefits on Individual and Households' Financial Situation

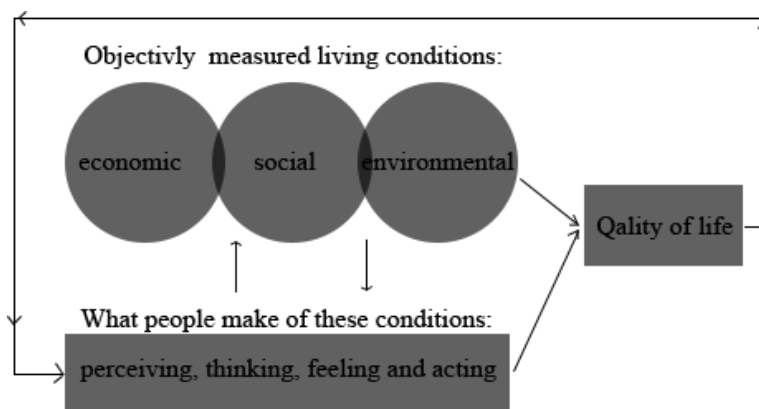
According to Bernat and Gasior (2020), increases in remunerations and the outcome of employment are the most predominant financial returns for individuals and their families. On the one side, education allows people to have more opportunities and earn more money. When people's basic needs are satisfied, on the other hand, they may spend more money on hobbies and other activities to improve their quality of life. With a higher income, individuals have more opportunities to receive better physical health care as well as healthier nutritional and food options.

Furthermore, according to a study by Brady (2013), a professor of political science and public policy at the University of California, education is not only private goods but also public goods, individuals are the direct beneficiaries, whereas the general public benefits indirectly. In addition, the growth rate of the entire economy is raised through investment in public education in a country or region. The study also indicated that individuals with less than a high school education have seen their income decline over time in comparison to high school graduates. On the contrary, those with college degrees have seen their lifetime earnings rise in comparison to high school graduates. This phenomenon applies to people of all races and nationalities.

3.2.2. Benefits on Individual and Households' Life Quality

The indicators of human happiness and high quality of life differ from one person to another and are determined by how individuals think about them (Diener & Suh, 1997). The relationship between living standards and how individuals perceive them is seen below.

Figure 3.1. The life quality model



Source: own work based on the basis of Michalos, A.C. (2017). *Education, Happiness and Wellbeing*. "In: *Connecting the Quality of Life Theory to Health, Well-being and Education*", p. 17-20

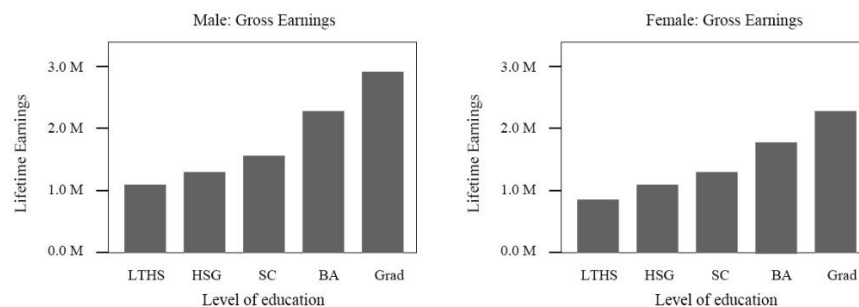
As shown in the model, individuals' quality of life is strongly influenced by how they perceive the major three objectively measured living conditions, namely, economic, social, and environmental circumstances. As can be observed, the three objectively measured living conditions overlap. Each component has a particularly significant influence on one's life quality.

Furthermore, the relationship between education and well-being was described by Vingilis and Sarkella (1997, p. 162-170) in the following way:

"[...]without the appreciation that factors such as housing, unemployment, poverty, and lone-parent family status predict rates of smoking, teen pregnancy, crime, disease, hospitalization, and premature mortality communities will be limited in the programs and policies they have in their arsenal to sustain or improve on current levels of health and well-being, [...] Indeed, knowledge is the crucial first step in planned approaches to enhancing community health [...]"

Furthermore, education leads to a better level of income (Tamborini et al., 2015). A great deal of studies have indicated that monetary return is one of the most important benefits of education. For example, according to a survey of Income and Program Participation (SIPP) who are matched with their longitudinal earnings records based on administrative tax information from the Social Security Administration (SSA) in the United States, during the prime-age years (around 30 to 50 years old), a positive relationship exists between higher educational attainment and 10-year cumulative log remunerations for both men and women. The findings indicate that when other factors being equal, the typical value of a bachelor's degree attainment on 10-year cumulative earnings during these age ranges (20s, 30s, 40s, and 50s) is much higher for both men and women in comparison with those who had a high school diploma. Figure 3.2. shows the differences of lifetime earnings in terms of varied education levels.

Figure 3.2. Educational return for males and females with different education levels



Source: own work based on the basis of Tamborini, Kim, and Sakamoto. (2015). *Education and Lifetime Earnings in the United States in "Demography"*. No. 52(4), p. 1383-1407.

The bar charts clearly show that both men and women who had a less than high school diploma (LTHS) received the least lifetime income, people who obtained a bachelor's degree (BA) earned more than twice as much as those with an LTHS, those who completed graduate school had the biggest return on investment in education. Overall, the level of education has a significant impact on the lifetime earnings of both males and females.

3.3. Non-financial Benefits of Public Education

A number of studies demonstrated that public education has a lot of significant benefits on social development. Specifically, public schools play an important role in developing students' knowledge, skills, and other capabilities. The general intelligence of a country can increase when the intellectual talents of each individual in the population improve (Karl, 1997). Moreover, education also enhances impartial judgment, decision-making, and critical thinking abilities. As a result, a well-educated society also tends to have a higher sense of harmony (Means, Voss, 1996).

The non-financial benefits of education include a variety of aspects. They are listed as follows :

- Improving social security by reducing crimes.
- Increasing public awareness about environmental and fauna protection.
- Improving public well-being by receiving financial and non-monetary benefits. For example, improving public health status by leading a healthy lifestyle, reducing morbidity, mortality, absolute poverty, and so on.
- Contributing to the building of a sustainable future by cultivating good citizenship.

3.3.1. Benefits of Improving Social Security and Enhancing Social Well-Being

According to a study by Lochner from the University of Western Ontario, individuals with a higher level of education are more aware of legal principles and the consequences of their actions. The study developed a model of crime from an economic perspective in 2004. Human capital raises the potential costs of crime from past jobs and the predicted expenses of prison term, according to the model. It should be noted from the research that "violent and property crimes" are more likely to be committed by young under-educated males than other groups of people (Lochner, 2004).

Education may have a positive influence on social security by reducing the crime rate (Lochner, 2011). Another study suggested that education may affect people's social behavior such as political participation, social networking, criminal behavior, risk-taking, and so on.

Considering education has a benefit in decreasing crime in communities, a lower crime rate in society has a direct impact on the security of communities and residents' well-being. According to a study from the University of California, education has a positive impact on the population's health status (Haas, 2013). Education also promotes awareness of the importance of a healthy diet and lifestyle, both of which have direct positive effects on people's well-being.

3.3.2. Benefits of Environmental Protection

In recent years, the protection of the environment and ecosystems has been highly emphasized by scientists, scholars, NGOs, as well as international and national public institutions. Environmental challenges such as global warming, scarcity of earth's resources, loss of biodiversity, air and water pollution, and so on are inspiring people to take action to protect the environment.

A number of studies have revealed that public education has a close relation with the awareness of ecosystem conservation and sustainable development of the resources on the planet. One of the research concerning the awareness of environmental and biodiversity protection shows that the more educated a society is, the higher and greater its social consciousness is (Christoforotou, 2016).

Furthermore, the research of 175 tertiary students at Charles Darwin University in Australia highlighted how individuals understand and name local mangrove and savanna ecosystems, as well as which areas they would like to protect. The findings have indicated that environmental education is critical to raise ecosystem protection awareness. According to the findings of the research, a well-educated person, for example, is more concerned about the environment and the community in which he or she lives. Furthermore, in comparison to less educated people, higher educated people tend to protect more wild lives. The study also demonstrates the significance of public education in promoting and sustaining bio-diversity in a nation's or region's ecosystems (Birut, 2006).

4. Research Methodology

The main objective of this research is to assess the current public education systems and evaluate the benefits of public education in China and Poland. The research participants include university students and graduates from both countries. Two hundred and twenty university students and university graduates were invited to take part in the research. (One hundred and ten people from

each country). Data were collected via both online and traditional forms. The questionnaire was translated into both Chinese and Polish, taking into account the fact that not everyone is able to fill in the questionnaire in English. All participants were given a brief introduction of the questionnaire, notified of the study's purpose, and informed that the study was interested in their own perspectives on the topics presented. Respondents were also told that there were no absolutely correct answers to any of the survey's questions. They were encouraged to select and describe on the basis of their authentic thoughts. The questionnaire was completely voluntary, anonymous, and confidential, only the author had access to view and study the collected data. The duration of the procedure for collecting data was approximately 2 months. The data collected during the survey were later analyzed and evaluated carefully.

The following is an overview of the questionnaire of the study. There are both open-ended and closed-ended questions in the questionnaire, which encompass both single-choice and multiple-choice questions. First of all, the respondents were asked to indicate their demographic information, such as the country of the region, gender, and age. Then, on the fourth single question, the respondents were asked to select the type of schools they studied during primary school and secondary school from four options: private schools in their own country, public schools in their own country, private schools abroad, and public schools abroad. Furthermore, the respondents were also required to indicate their education levels. Afterward, the respondents were requested to identify the economic and non-economic benefits of public education from their perspective, with the option of selecting up to three of the most significant benefits from a list of eleven typical benefits of public education. The respondents were then asked to choose the kind of educational benefits that they consider to be the most important educational benefits. The 10th question allowed the respondents to rank the importance of education level to them on a scale of one to five, with one indicating that it is not at all significant and five indicating that it is very important. Finally, the last question is an open question that allows the respondents to freely express their opinions on public education in their own countries. Table 4.1. presents an overview of the primary data collected throughout the research in terms of geographical and educational background information.

Table 4.1. Details of the objects associated with the significance of public education

Country of region	China		Poland	
	No.	Rates	No.	Rates
Distributed questionnaires	110	100%	110	100%
Number of completed questionnaires	109	99.1%	104	94.5%
Gender				
The number of male-respondents	50	44.6%	50	48.1%
The number of female-respondents	54	48.2%	51	49.0%
The number of respondents with unspecified genders	5	4.5%	3	2.9%
Age				
Ages: 18-21 years old	13	11.6%	12	11.5%
Ages: 22-25 years old	16	14.3%	54	51.9%
Ages: 26-29 years old	48	42.9%	20	19.2%
Ages: 30-35 years old	29	25.9%	12	11.5%
Ages: 36-40 years old	1	0.9%	4	3.8%
Ages: over 40 years old	2	1.8%	2	1.9%
Educational information				
Private schools in own countries (primary school - secondary schools)	5	4.5%	9	8.7%
Public schools in own countries (primary school - secondary schools)	106	95.5%	95	91.3%
Private schools in own countries (HEIs)	7	6.4%	10	9.6%
Public schools in own countries (HEIs)	102	93.6%	94	90.4%
Education level (high school diploma)	3	2.8%	21	20.2%
Education level (bachelor's degree and specialized degree)	83	76.1%	55	52.9%
Education level (master's degree)	22	29.2%	24	23.1%
Education level (doctoral degree)	1	0.9%	4	3.8%

Source: own work based on the research conducted.

The table shows that the information collected from the two countries is comparable. In both countries, the return rates of the questionnaire were both over 90%. The respondents were generally young individuals among university students and graduates. Furthermore, the data showed that the majority of respondents (over 90 percent) studied at public educational institutions in their home countries, supporting the research objective of examining the public education systems in the nations surveyed. Furthermore, the statistics indicated that a large percentage of the

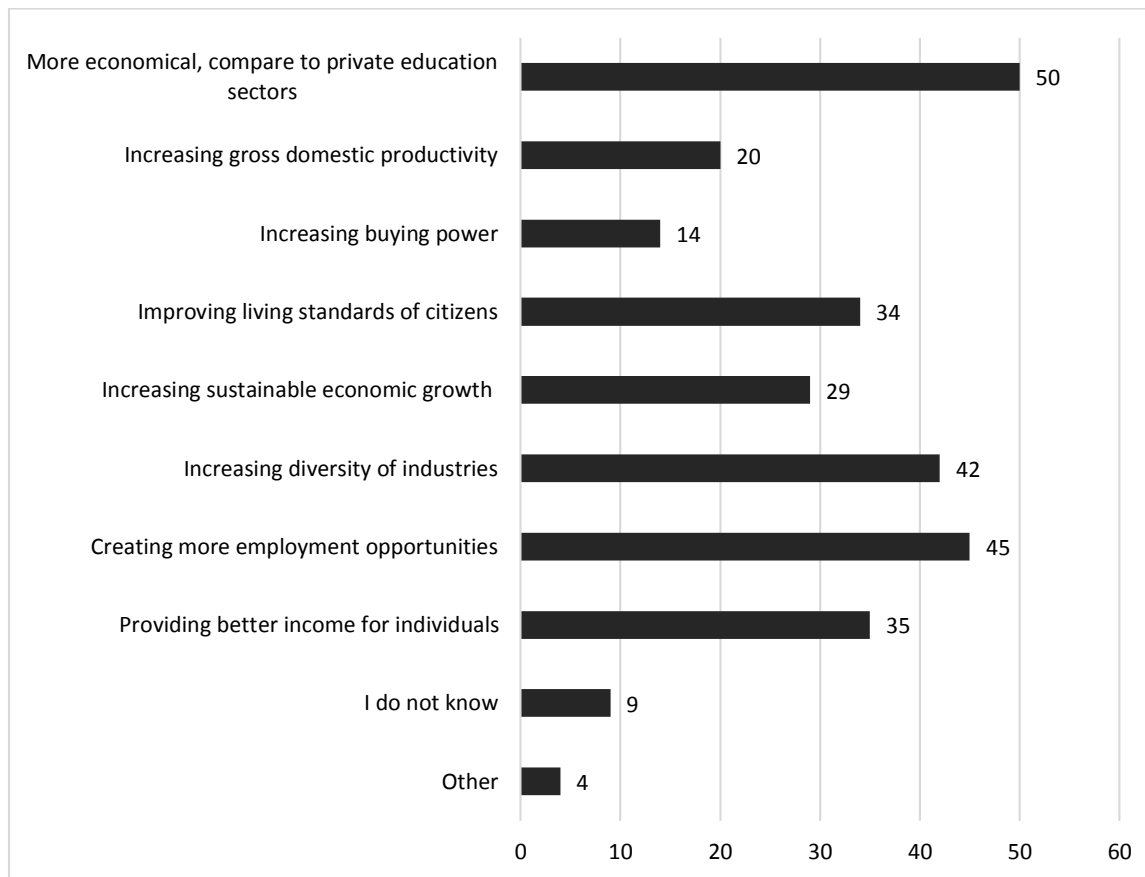
respondents were pursuing or had completed their bachelor's degree (76.1 percent in China and 52.9 percent in Poland).

5. The Benefits of Public Education – Research Results

5.1. The Benefits of Public Education in the Eyes of Respondents from China

The participants were asked to choose a maximum three most important benefits of public education from their perspectives. Figure 5.1.1 demonstrates the economic benefits of public education in the eyes of the respondents from China.

Figure 5.1.1 The most important economic benefits of public education in the eyes of Chinese respondents



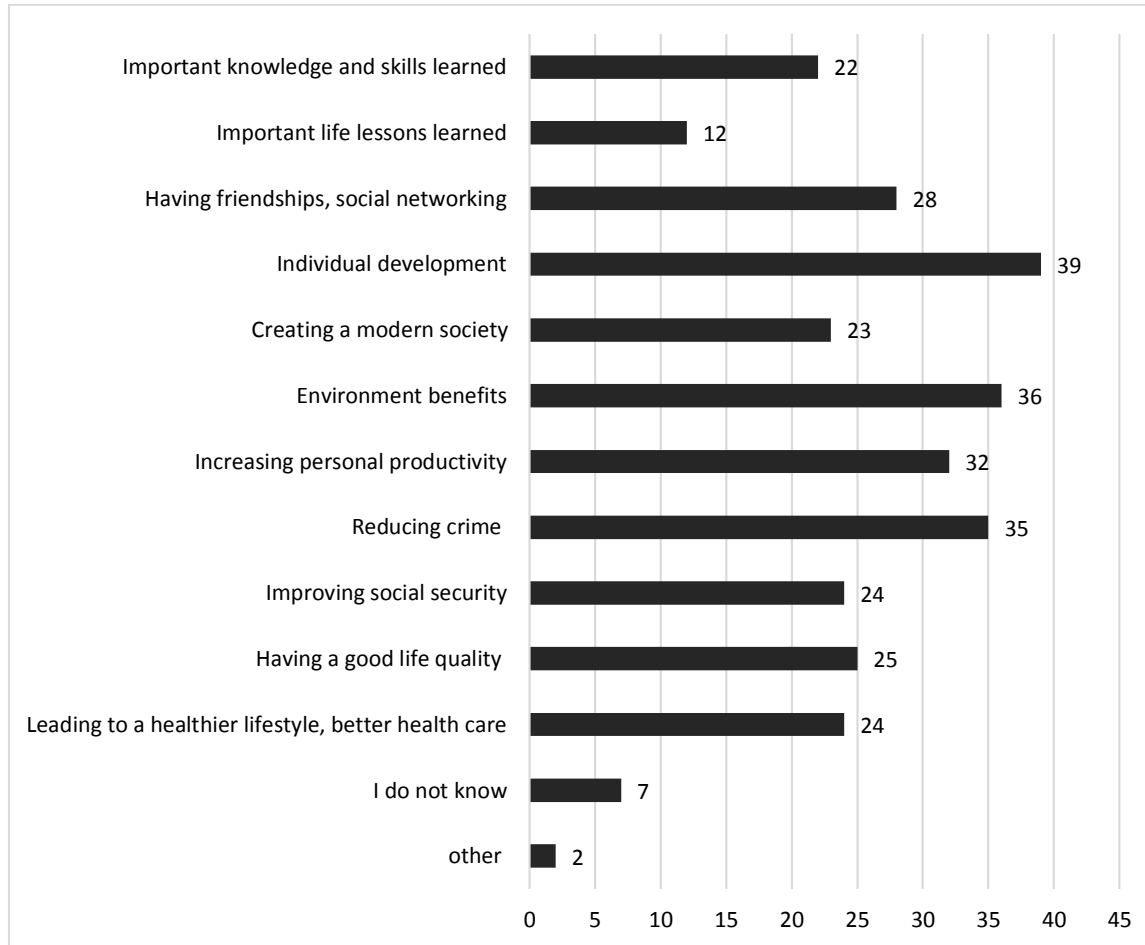
Source: own work based on the research conducted.

Figure 5.1.1 clearly shows that the three most important economic benefits of public education from Chinese respondents' perspectives were: more economical, compared to private education sectors (50 out of 109), creating more employment opportunities (45 out of 109), and increasing diversity of industries (42 out of 109). In addition, increasing buying power, GDP, and sustainable

economic growth were the three least important economic benefits of public education for Chinese respondents, according to the findings.

Furthermore, the participants were asked to select maximum the three most important non-economic benefits of public education from their perspectives. The findings are presented in Figure 5.1.2.

Figure 5.1.2. The most important non-economic benefits of public education in the eyes of Chinese respondents

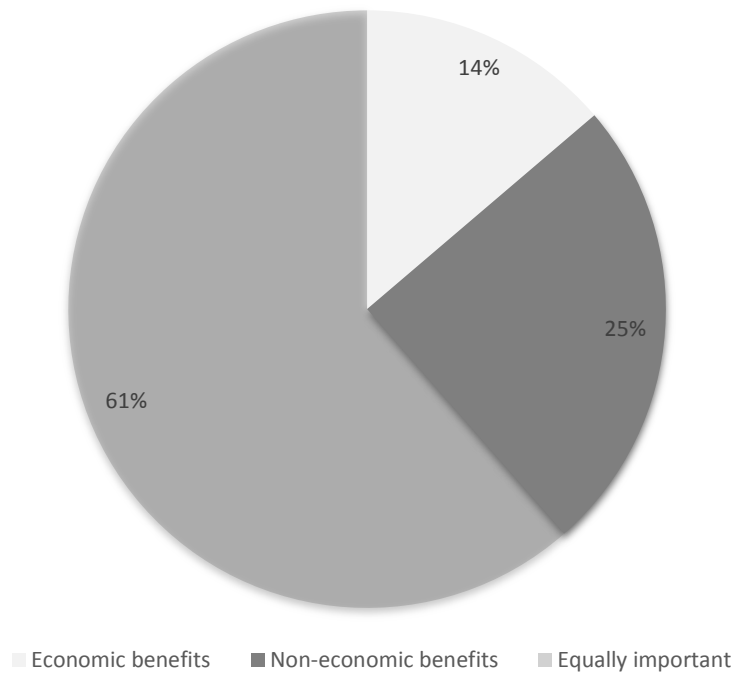


Source: own work based on the research conducted.

Figure 5.1.2. indicates that the most important non-economic benefits of public education in Chinese respondents' perspectives include the development of individuals (39 out of 109), environmental benefits (36 out of 109), and reducing crimes (35 out of 19). Furthermore, the findings also show that the least important non-economic benefits of public education from Chinese respondents were: important life lessons learned, important knowledge and skills learned, as well as creating a modern society.

When it comes to the importance of educational benefits, most Chinese respondents indicated that the economic benefits and non-economic benefits were equally important. The findings can be seen in Figure 5.3.

Figure 5.1.3. The comparison of economic and non-economic benefits of public education in the eyes of Chinese respondents

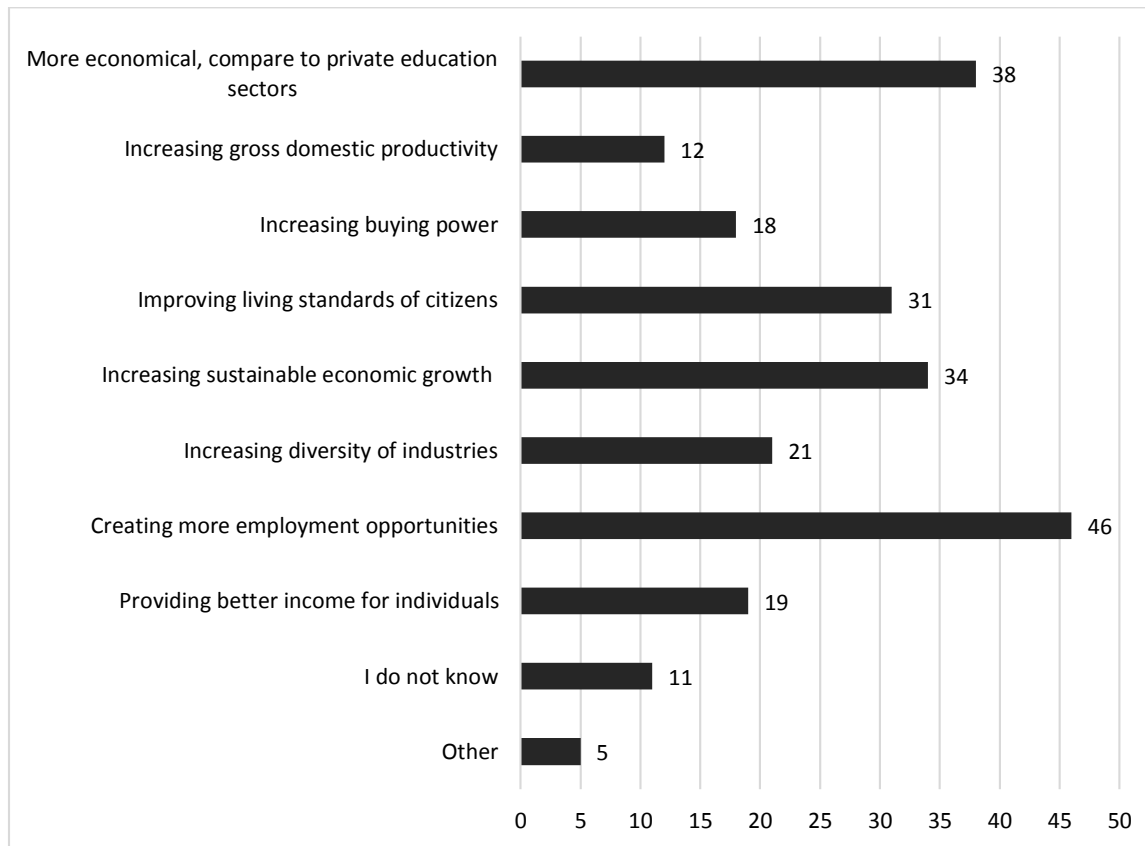


Source: own work based on the research conducted.

Figure 5.1.3 shows that the majority of Chinese respondents (61 percent) thought the economic benefits and non-economic benefits of education were equally important. In addition, the proportion of people who valued non-economic benefits outweighed those who valued economic benefits, with 25 percent and 14 percent respectively.

5.2. The Benefits of Public Education in the Eyes of Respondents from Poland

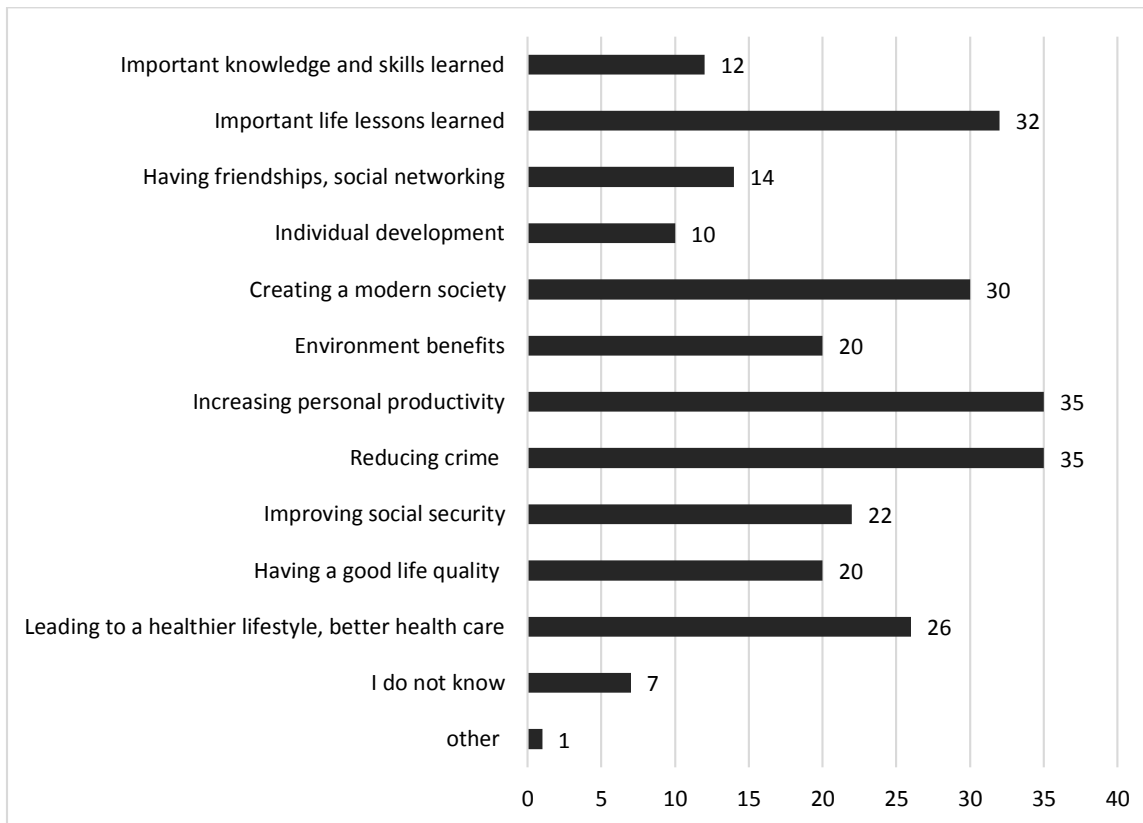
When it comes to the three most important economic benefits of public education, Polish respondents' answers differed slightly from Chinese respondents. The research findings are presented in Figure 5.2.1.

Figure 5.2.1. The most important economic benefits of public education in the eyes of Polish respondents

Source: own work based on the research conducted.

The bar chart illustrates that the three most important economic benefits in Polish respondents' perspectives were: creating more employment opportunities (46 out of 104), more economical, compared to private factors (38 out of 104), and increasing sustainable economic growth (34 out of 104). In addition, the least important economic benefits in Polish respondents' opinions were: increasing GDP, increasing buying power, and providing better incomes for individuals.

Furthermore, the participants from Poland were also asked to select a maximum three most important benefits of public education in their opinions, as shown in Figure 5.2.2.

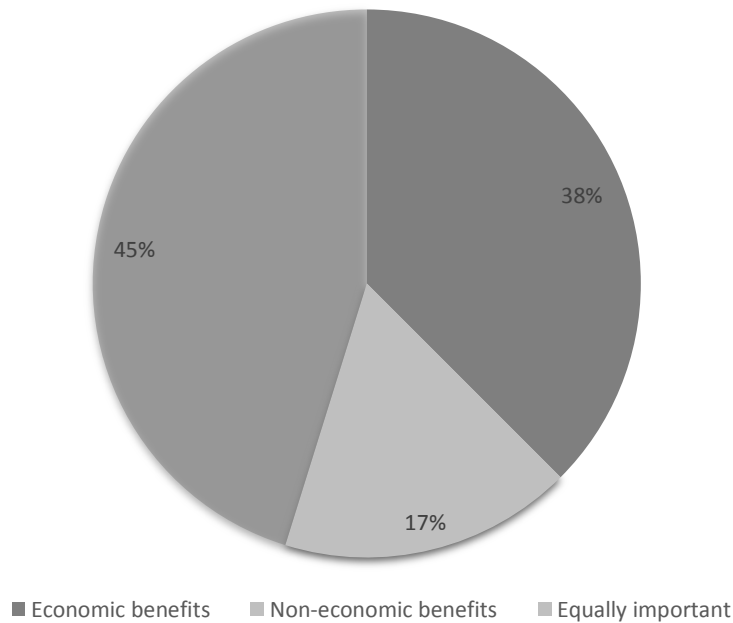
Figure 5.2.2. The most important non-economic benefits of public education in the eyes of Polish respondents

Source: own work based on the research conducted.

Figure 5.2.2. clearly shows that the three most important non-economic benefits for Polish respondents were: increasing personal productivity (35 out of 104), reducing crime (35 out of 104), and important life lessons learned (32 out of 104). Additionally, the results also show that the least selected non-economic benefits for Polish respondents include individual development, important knowledge, and skills learned, as well as having friendships and social networking.

Furthermore, in comparison with the respondents from China, most Polish respondents also thought that the economic benefits and non-economic benefits of education were equally important, as shown in Figure 5.2.3.

Figure 5.2.3. The comparison of economic and non-economic benefits of public education in the eyes of Polish respondents



Source: own work based on the research conducted.

Figure 5.2.3. illustrates that 45 percent of respondents from Poland believed that the economic and non-economic benefits of education were equally important. However, the percentage of those who considered economic benefits were more significant than non-economic ones was larger, with 38 percent and 17 percent respectively.

6. Conclusion

After examining and evaluating primary data from the research questionnaire as well as secondary data from public sources, the author was able to respond to the two research questions and verify the validity of the assumptions.

In terms of the benefits of public education systems in analyzed countries, the findings based on the research data indicated that public education provides both economic and non-economic benefits to students and other stakeholders. Furthermore, the three most important economic benefits of education from the Chinese respondents' perspective were: "more economical, compared to private education sectors", "creating more employment opportunities", and "increasing diversity of industries", whereas "creating more employment opportunities", "more economical, compare to private factors", and "increasing sustainable economic growth" were the three most important economic benefits from Polish respondents' perspectives. Furthermore, the

most important non-economic benefits of public education systems from the Chinese respondents' perspective include the "development of individuals", "environment benefits", and "reducing crimes". However, Polish respondents thought that "increasing personal productivity", "reducing crimes", and "important life lessons learned" were the three most important non-economic benefits of public education in the eyes of Polish respondents. As can be noticed, there are both similarities and differences in the benefits of public education in China and Poland from the education receivers' point of view.

Furthermore, secondary data demonstrated that public education had microeconomic, macroeconomic, societal, as well as individual benefits. Students, as one of the most important stakeholders in public education, receive the most direct benefits, such as employment, remuneration, and improved living quality. Public education also benefits society because of a variety of social advantages, including lower crime rates, increased ecological awareness, better citizenship, economic growth, and so on. Overall, findings based on primary and secondary data addressed the two research questions and validated the assumptions, that public education provides both economic and non-economic benefits.

What has yet to be determined is whether the economic or non-economic benefits of public education are more important. The results of this study revealed that respondents from two countries had heterogeneous viewpoints. The importance of educational benefits, on the other hand, is related to people's values and experiences. When it comes to such matters, there is no black-and-white answer. The results might be influenced by cultures, educational levels, personal cognitive awareness, individuals' and families' financial situations, and so on.

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