
**PUBLIC INVESTMENT AND ITS IMPACT ON THE REDUCTION OF
POVERTY IN PERU IN THE PERIOD 2015-2019**

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ABSTRACT

The purpose of the research was: Identify, know the few studies that exist and investigated the different approaches and methods that are applied, to know what are the investigative and interpretive tendencies with which these issues are addressed. The general objective was: To analyze the methodological approaches and designs used, as well as to know the conclusions reached, studies on Public Investment and its incidence in reducing poverty in Peru, in the period 2015-2019. Qualitative approach, with a method of reviewing the literature, of a non-experimental design, of longitudinal cut, with a technique for collecting information of a documentary analysis type. The population was made up of the universe of research at the master's and doctorate levels, as well as scientific articles, in the area of Public Management and Economics, then $P = 182$. The sample size was $n = 50$. Conclusion: Poverty is due to multifactorial causes, since it depends on variables of a social, educational, economic, cultural nature and even idiosyncrasy, which has allowed the generation of new theories that serve to study poverty, such as; Investment in Social Capital and Investment in Human Capital, which are managed through parameters such as the Human Development Index (HDI) and the Multidimensional Poverty indicator; In contrast to the measurement of Monetary Poverty, based on econometric methods, through public investment in social spending and consumption, they are variables of a defined nature, with an appropriate objective, of a seasonal and unstable type for their parameterization, they present methodology robust and are preferred for the analysis of sectoral public policy results and quantitative research.

Key Words: Documentary analysis; Public Investment; Poverty

INTRODUCTION

The purpose of the research seeks to analyze which is the research trend used, in terms of approach, methods, techniques and collection instruments and conclusions that have been

followed by researchers on the variables Public Investment and Poverty, in their different dimensions, with a focus on Peru in the period 2015-2019. The scientific interest of this article is based on locating a context that allows establishing a correspondence and relevance between the knowledge that exists on the subject, and the approach most used for its study, which, as a whole, could constitute an interpretive bias that exclude other research approaches, preventing a broader view of the phenomenon under study and the variables that compose it. In this regard Serrano, I. cited by [1] states the following:

In 1927 a mathematician formulated a principle called the uncertainty principle¹, he said, that nothing can be predicted with accuracy, there is always a margin of uncertainty in human knowledge. The principle is related to the fact that the observer, by the mere fact of being a witness, influences the reality he is observing, alters it and introduces a variable of indeterminacy.

On the basis of the above, we want to say that this is closely related to the topic that we are going to address, because it is about analyzing whether the interpretations or conclusions reached by researchers who study the variables already mentioned, under specific approaches and methods they leave some room for uncertainty in the very essence of research, within the field of social sciences, without weakening the need to renounce the claim of absolute objectivity in science. In this sense, we can affirm that this work is theoretically based on what is known as the "Interpretive Paradigm", being Lincoln and Guba (1985) its main promoters and defenders, cited by [2]. These authors establish in their postulates that said paradigm. It is based on three axioms, two of them being important, to support the context of the interpretation:

1) The nature of reality. In front of the positivist concept of reality, as something simple and fragmentable, there is the concept that realities are multiple, holistic and constructed. This implies the renunciation of the positivist ideal of prediction and control. The objective of the investigation would become the understanding of the phenomenon.

2) The possibility of causal links. Faced with the positivist assumption that all action can be explained as a result, that is, the effect of a real cause that precedes in time, the assumption that the phenomena are in a situation of mutual influence, therefore it is not feasible to distinguish causes from effects.

Therefore, the objective of an integrative review of the literature - as is the case in this work - is to summarize the accumulated knowledge regarding a field of interest and clarify important issues that researchers may have left unresolved [3].

It is pertinent to clarify that it is not intended to make an analysis on the epistemological and theoretical foundations, nor on the methodological procedures that configure the different

research paradigms of the reviewed works, but rather to outline the research problem that focuses on: What Are the methodological approaches and designs used and the conclusions they reached, studies on Public Investment and its incidence in reducing poverty in Peru, in the period 2015-2019?

METHODOLOGY

This research work is located in a qualitative approach, whose research method is the review of the literature, with a non-experimental design of longitudinal section. Authors such as [4] argue that qualitative research implies the production of results that do not use inferential statistics par excellence, which limits the enrichment of the inductive construction; however, the data can be quantifiable. Others like [5] think that qualitative research studies can develop new questions, hypotheses and / or categories during the research process, that is, before, during or after data collection and analysis.

The dynamism and redesign of the research questions can gradually generate answers to the various proposed hypotheses that arise. That is why the qualitative approach uses data collection, without any numerical measurement to discover, as well as, refining the research questions. As has been indicated in the summary of this work, the research method was based on the review of the literature, which exists around the study variables Public Investment and Poverty in Peru, in the period 2015-2019. This method allowed us to select, organize, analyze through the systematization of information, the data obtained on the data available on the web: Repositories, virtual libraries, database of scientific and academic publishers. Likewise, the literature review facilitated the process of summarizing and evaluating the existing knowledge on the subject under study, since the purpose of this research is to produce a position on the state of that knowledge. In this sense, [6] contribute the following:

"A literature review is a written argument that promotes a thesis position by building a case from credible evidence base on previous research" 2

The process of researching relevant literature about previous studies began with the identification of the inclusion and exclusion criteria, as well as the selection of the databases. Namely:

a. Inclusion criteria:

1. Publication years interval: 2015-2019.
2. Academic level: Fourth level. Thesis for Master's and Doctorate degrees.
3. Academic Articles: Publications in Open Access refereed journals
4. Languages: English and Spanish

b. Exclusion criteria:

1. Theoretical articles
2. Records of conferences, congresses or seminars
3. Theses and journals not indexed and not refereed

c. Databases used:

1. Latíndex: Regional Online Information System for Scientific Journals from Latin America, the Caribbean, Spain and Portugal. Languages: Spanish, French, English and Portuguese
2. ERIC (Educational Resources Information Center) Database specialized in education. Sponsored by the United States Department of Education). English language
3. Scielo (Scientific Electronic Library Online) Digital Library for the electronic publication and dissemination of scientific journals. Spanish Language.

Based on the above, 182 pre-selected articles were obtained for subsequent evaluation according to the criteria considered in Table 1.

Table No 1. Descriptores validados. Fuente: Base de datos Latindex, ERIC, Scielo. Elaboración propia

Descriptores Validados	Base Latindex		Base ERIC		Base Scielo	
	Trabajos Identificados	Trabajos Pre-seleccionados	Trabajos Identificados	Trabajos Pre-seleccionados	Trabajos Identificados	Trabajos Pre-seleccionados
"Inversión Pública y Pobreza en Perú"	97	13	0	0	45	22
"Public Investment and Poverty in Perú"	25	5	36	19	0	0
"Inversión Pública ejecutada y Pobreza en Perú"	76	17	0	0	34	17
"Public Investment executed and Poverty in Peru"	14	12	39	23	0	0
"Inversion publica y reducción de la pobreza en Peru"	112	25	0	0	45	17
"Public Investment and Poverty reduction in Perú"	23	5	17	7	0	0
Total	347	77	92	49	124	56

The results obtained in the initial review of the literature constitute the population for this research, that is, 182 pre-selected research papers, then; $P = 182$, from which a non-probabilistic sample made up of 50 works was extracted, where $n = 50$, which were selected after a thorough review, on the basis of elements such as: the field of research linked to Economics or Public Management, research focus, research problem, research objective, conceptual and theoretical framework, variables or categories, methodological design oriented according to the research

focus and design. As can be seen, the sample size was not carried out a priori, but was the product of adding new units until they no longer offered new information or novel data, which is known as saturation of the categories [7]. Table N ° 2 summarizes the results of the final selection process of the primary sources.

Table No 2. Selección final de trabajos. Fuente: Elaboración propia

Base de Datos	Trabajos pre-seleccionados	Trabajos Seleccionados
Latíndex	77	19
ERIC	49	2
Scielo	56	29
Total	182	50

Taking as a starting point the objective of the research, the Categories and sub-categories were determined, which were emerging and were delimited as a product of the information collected in the investigations of the selected studies and that were subject to review, as shown illustrated in Table No 3:

Table No 3. Categorías y Sub-categorías. Fuente: Elaboración propia

Categorías	Sub-categorías
Diseño Metodológico de los Trabajos revisados sobre Inversión Pública y Pobreza	Enfoque de la investigación Método de la investigación Inversión pública ejecutada Método para la medición de la pobreza Técnicas e instrumento para el recojo de la información

For the purposes of collecting and organizing the information that emerged from the literature review, collection sheets were designed for each source to identify aspects such as: a) General data of the research work: Alphanumeric identification code, Author name, Country of origin, Date of preparation, Type of research work, Title of the work, Objective and Research problem b) Methodological design: Type of approach, Research method, Variables / Categories and sub-categories, Type and size of the sample, technique and instrument for collecting information, information analysis technique, methodological limitations recognized by the author and main conclusions found. To classify the information collected, data analysis matrices were created; Like the descriptors for the inquiry and the identification cards, they were based on establishing a

comparative structure; which made it possible to provide reliability to the documentation search and analysis process.

RESULTS

Next, the results derived from the organization and collection of the information are presented and analyzed. It is worth noting that although frequency tables and percentage data were used, their interpretation was fundamentally qualitative. Next, the matrices that were designed for this purpose and yielded the following information:

Table No4. Fuente: Elaboración propia

Matriz N° 1.		
Enfoques utilizados en la muestra		
Enfoques de Investigación	Cantidad de trabajos	Valor %
Cuantitativo	36	72
Cualitativo	12	24
Mixto	2	4
Total	50	100

Matrix No. 1 (table No. 4) indicates that 72% of the research works that make up the selected sample correspond to quantitative approaches.

Table No 5. Fuente: Elaboración propia

Matriz N° 2. Frecuencia de Indicadores y/o Subcategorías, emergentes	Enfoques de la investigación		
	Cuantitativo	Cualitativo	Mixto
Inversión social	11	6	2
Inversión Pública ejecutada	15	2	0
Pobreza extrema	12	8	1
Pobreza Monetaria	13	7	2
Métodos para la medición de la Pobreza	9	2	0
Total frecuencia	60	25	5

In Matrix No 2 (Table No 5), it was obtained that of the total of 90 times that the indicators and / or subcategories were treated methodologically in the selected sample, 60 times corresponded to studies with a quantitative approach.

Table No 6. Fuente Elaboración propia

Matriz N° 3. Técnicas e instrumento de recojo de la Información	Enfoques de la investigación		
	Cuantitativo	Cualitativo	Mixto
Muestreo probabilístico / Cuestionario	6	0	0
Encuesta /Cuestionario estructurado	26	0	1
Observación /Entrevista	0	2	0
Entrevista/ Guia de entrevista	4	7	1
Grupo Focal/ Entrevista	0	2	0
Analisis de Documentos/ Ficha	0	1	0
Total Frecuencia	36	12	2

In the previous Matrix, N ° 3 (Table N ° 6), it can be deduced that out of 50 works reviewed (sample size), 26 of them, that is, 52% used at least one Technique for collecting the quantitative information, with the highest frequency being the survey.

Matriz N° 4. Objetivo de investigacion con mayor frecuencia	Frecuencia
Medir el impacto de la inversión publica en la reducion de la pobreza	8
Explicar la Incidencia de la inversion publica sobre la reducion de la pobreza	6
Examinar la Influencia de las decisiones en inversion sobre la pobreza	4
Evaluar la Incidencia de la inversion publica en sus tres niveles de gobierno sobre la reducción de la pobreza	7
Explicar el impacto de la inversion publica en el desarrollo economico regional	7
Determinar cuál es la incidencia de la ejecución de la inversión pública en la calidad de vida de la población	6
Analizar la incidencia de la Inversión Pública en el Bienestar social de la población	5
Indagar sobre la influencia de la inversion publica y el desarrollo de índice humano de la población	2
Otros	5
Total Frecuencias	50

Tabla N° 7. Fuente Elaboración propia



Figura N° 1. Fuente: Elaboración propia

Then, in Matrix N ° 4, (Table N ° 7) the results are observed, referring to the frequency of the objectives set out in the research works reviewed, the highest frequency was obtained: "Measure the impact of Public Investment in Poverty Reduction ", with a value of 8 represents 16%, followed by " Evaluate the incidence of Public Investment in the three levels of government on

poverty reduction ”and“ Explain the impact of Public Investment in regional economic development ”, with a value of 7 represents 14%, respectively, added to 28%.

Likewise, in Figure No1, (Table No 8) the spectrum of the frequencies of the objectives of the reviewed investigations is graphically shown.

Matriz N° 5. Conclusiones de investigación con mayor frecuencia	Frecuencia
Se halló una correlación inversa y negativa. Si hay un impacto significativo en la reducción de la pobreza	30
El impacto de la inversión pública en la reducción de la pobreza es parcial. No existe coordinación entre los niveles de gobierno	1
Siendo la pobreza una variable multidimensional, la inversión Pública es mas efectiva cuando no se limita al gasto en consumo	4
La inversión Pública no influyó en la reducción de la pobreza. Su relacion es inversa positiva	12
Otros	3
Total Frecuencias	50

Tabla N° 8. Fuente: Elaboración propia



Figura N° 2. Fuente: Elaboración propia

Finally, in Matrix No. 5. (Table N ° 8), shows the main conclusions reached by the authors in the reviewed investigations, where it can be observed that 30, represents 60%, they conclude that; “An inverse and negative correlation was found. If there is a positive impact on poverty reduction”, followed by “Public investment did not influence poverty reduction” with a value of 12 frequencies, it represents 24%.

DISCUSSION

The results are quite clear to show that, in the analyzed sample, quantitative approaches predominate in 72%, with a frequency of 36 cases out of a sample of 50 reviewed papers, followed by qualitative and mixed investigations with 24% and 4%, with frequencies of 12 and 2 cases, respectively. When the figures are followed, it is evident and consistent with the structure of the sample, that the quantitative indicators indicated in Matrix N ° 2, constitute 63% of the total indicators treated methodologically in the sample, above the sub-categories qualitative, which represent 27%, while the mix of indicators and sub-categories, constitute the remaining 10%. The findings found up to now are proof of how the concept of reality has been shaping, in terms of the variables under study, as something constructed, accredited by the credibility of scientific knowledge.

Continuing with the analysis, we find that in Matrix N ° 3, some interesting findings are presented for this study, since it indicates that of a total of 36 reviewed quantitative approach papers, 26 of them used the survey as a collection technique. of the information and the questionnaire, as an instrument, that is, 72% of the total. It is well known that, in the field of quantitative research, the aforementioned technique and instrument are one of the most used, based on the fact that one of the characteristics of this type of approach is the measurement of variables, so the main challenge they face in carrying out measurements in the social and human field is how to link abstract concepts with empirical indicators [8]. The foregoing is one of the weaknesses assigned to this type of tools that are very typical of quantitative work, which could become a risk of committing interpretive bias, taking into account that the different survey modalities have disadvantages and limitations, compared to the triple dilemma: time, work and money. This will translate into higher or lower quality-validity of the surveys. Regarding what is expressed in the lines above, authors such as [9] have the following opinion:

The sources of error -whose sum is the total error- in the surveys are diverse:

- Statistical error (sampling): it is a statistical error that relates the sample and the population. Varies according to sample size and sampling method.
- Systematic error (of the sample, of measurement): inadequate selection of the population and of the units, incorrect substitution of rejections, the result of an inadequate observation of the units. Thus, due to the absence of information due to non-response, loss of data, misleading answers, poorly formulated (biased) questions, indicators of inappropriate dimensions, disturbances or biases introduced by the interviewer, inadequate response from the interviewee (cannot remember, poor understanding, response stereotyped or socially desirable).

The next finding reveals that of the 50 research objectives reviewed, 28 of them representing 56% of the total, seek to measure, evaluate and explain the impact and / or the correlation between the variables public investment and poverty. The questions would then be appropriate: If these investigations used the survey as a technique, what was the standardized margin of error? Since this item was not reported in any of the 26 papers reviewed, from a methodological point of view was the quality of the data evaluated in relation to the research problem? This and other questions are part of the dialectic of the interpretive paradigm that this research attempts to propose.

When we analyze the last Matrix, No. 5 (Table No. 8 and Figure No. 2), we see as the conclusion with the highest frequency, with a value of 30 out of 50 works reviewed, that is, 60% of the sample, was: "An inverse and negative correlation was found" which, in plain words, can be translated as; Every time that the States invest in public spending, the poverty of their peoples is proportionally reduced by a percentage. Another important piece of information is that, of the 50

works reviewed, 12 of them, that is, 24%, report that: "Public investment did not influence poverty reduction." We then see how other authors, within the same quantitative stream added the mixed one, differ in terms of results, having used similar study methodology. In this sense, it is worth rescuing the opinion of [10] in his scientific work on Public Investment and Economic Growth:

In this sense, non-productive public spending is introduced, to show that it will not generate an increase in profitable investment opportunities, therefore, the public spending policy should avoid wasting it in unprofitable uses, such as financing greater consumption, public and / or private, and instead be destined to the promotion of favorable conditions to obtain a higher productivity of the investment, public or private, not substitute. Public spending per se, through consumption, does not structurally reduce poverty; on the contrary, disguised the intervention, making or making it dependent. For this reason, lately the design of public investment in economic and social infrastructure (airports, highways, ports, electricity services, gas, water, health and education, among others) of the countries with growth, has focused on generating increases both in labor productivity as in total factor productivity and not only through social spending in the form of subsidies, bonuses, among others.

The above describes very well the current reality of Peru, where although it is true there have been great advances at the macroeconomic level, to mention before the Covid-19 pandemic: maintain inflation no higher than 3% per year, maintain a diversified trade balance. Favorable conditions for national-foreign or specific associated investment, flexible exchange rate regulated by the market, under the discretion of the intervention of the Central Reserve Bank of Peru, among others. When analyzing what has been done in public investment and in reducing poverty during the last 15 years, we see that there are figures that go from 55% to 25% of poverty reduction levels.

It is less true that these statistics constitute an abstract vision of reality, since, when breaking down these numbers, we find that there are regions in Peru, such as Apurímac, with a population of approximately 458,000 inhabitants, with rural areas that reach 64.6% of their population. population, where the level of education of its inhabitants is distributed: 3% with higher education, 35.3% with secondary education and 61.8% with primary education and / or without education. Likewise, 52.3% of women and 47.7% of men are living in poverty. As if that were not enough, 67% of its population suffers from chronic diseases, in addition, 97% of the population works in informal jobs, while 39.5% does not have access to basic services such as public water, electricity and water services. garbage collection, according to [11] in official figures as of 2018. The statistics presented represent the reality of the Sierra And in a area of Peru and the same is replicated in the Jungle area of the country.

In a broader sense, poverty is considered to be a socio-economic problem that in recent decades has been a matter of interest to the States of the world, it is the first objective of the Sustainable Development Goals, by which all public policy, in actions aimed at initially propping up, reducing poverty levels and ultimately putting an end to it. This is another broad topic, which is only touched to publicize the poverty reduction guidelines and the normative and regulatory framework.

The complexity of poverty lies in the multiple variables that compose it, as well as those that can contribute to its reduction or increase. Thus, today it is said that poverty is due to multifactorial causes, since it could depend on variables of a social, educational, economic, cultural nature and even idiosyncrasy, which has allowed the generation of new theories that serve to study poverty , as they are; Investment in Social Capital and Investment in Human Capital, which are parameterized through meters such as the Human Development Index (HDI) or the Multidimensional Poverty indicator, which manages indicators in education, health, access to public services, telephony and Internet, among others, to determine the welfare condition of the population, whose methodology is approved, in the process of considering them as a primary indicator and reference; In contrast, the measurement of monetary poverty, through public investment in social spending and consumption, which are variables of a defined nature, with an appropriate objective, of a seasonal and volatile nature, are referential and expanding

Specify that the methodologies for measuring monetary poverty, despite its theoretical construct, empirical proof; They are robust, applicable, being considered as a primary reference indicator, because the strata of poverty and extreme poverty are delimited, according to spending capacity, determining levels of vulnerability of segments of the population of monetary poverty and extreme poverty, categorized at the level of the district delimitation , provincial, regional; which is obtained from the data contained in the National Household Survey, an official statistical process in Peru. This method of measurement is the one that predominates in research with a quantitative approach.

For this reason, after the analysis, it is not intended to enter into the debate on which research approach and paradigm is preferred, for a better application for the generation of scientific knowledge in the field of social sciences, presuming its reliability, as it is reproducible and with a greater degree of generalization of its results - since we consider that it is a debate that is currently overcome- however, we believe it is necessary to enrich this work, cite the opinion of authors such as, [12] who state the following: Those who see the debate in terms of a contrast between paradigms generally provide a whole list of attributes that are claimed to distinguish between qualitative and quantitative global conceptions. Therefore, the quantitative paradigm, given the context, methodologies developed and strengthened with official instruments, is the one that presents the greatest growth and considerations, to demonstrate the levels of the

population in monetary poverty and extreme poverty, under the econometric models and statistical tests that demonstrate the poverty gaps.

CONCLUSION

In summary, the quantitative paradigm has a positivist, hypothetical-deductive, objective, results-oriented global conception typical of the natural sciences. In contrast, the qualitative paradigm is claimed to postulate a phenomenological, inductive, structuralist, subjective, process-oriented global conception typical of social anthropology. Such paradigmatic characterizations are based on two assumptions that have a direct consequence on the debate about methods. First, a type of method is assumed to be irrevocably linked to a paradigm in such a way that adherence to a paradigm provides the appropriate and exclusive means of choosing between types of methods. That is, because they conceive the world in different ways, researchers have to use different research methods. The monetary poverty indicator method, by establishing verifiable, specific minimum levels of spending, relies on robust methodology, has statistical support, whose collection instrument is official and is constantly updated. The method of the Human Development Index and Multidimensional Poverty indicators, information is also obtained from an official instrument, they are broader, they provide enough information by sectors, their development obeys for the intervention at the level of sub-national, national and bloc of nations, has a robust methodology; however, in the time parameter in which the analysis was focused, they are the least used in the studies that originated this research.

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