Volume 3, Issue 5 — July — December — 2019

Journal-Public Economy

ISSN-On line 2524-2016

RINOE®

RINOE Journal-Public Economy, Volume 3, Issue 5, July-December 2019, is a journal edited semestral by RINOE. Taiwan, Taipei. YongHe district, ZhongXin, Street 69. Postcode: 23445: www.rinoe.org, journal@rinoe.org. Editor in Chief: MIRANDA-GARCIA, Marta. PhD. ISSN: 2524-2016. Responsible for the latest update of this number RINOE Computer Unit. ESCAMILLA-BOUCHÁN, Imelda, LUNA SOTO, Vladimir Taiwan, Taipei. YongHe district, ZhongXin, Street 69. Postcode: 23445 last updated December 31, 2019.

RINOE Journal-Public Economy

Definition of the Journal

Scientific Objectives

Support the international scientific community in its written production Science, Technology and Innovation in the Field of Social Sciences, in Subdisciplines of Structure and scope of government; Taxation, Subsidies, and Revenue: Efficiency, Optimal taxation, Incidence, Externalities redistributive effects, Environmental taxes and subsidies, Personal income and other Nonbusiness Taxes and subsidies, Business taxes and subsidies, Tax evasion; Fiscal policies and behavior of Economic Agents: Household, Firm; Publicly provided goods: Public goods, Publicly provided private goods, Project evaluation, Social discount rate; National government expenditures and related policies: Government expenditures and health, Government expenditures and education, Government expenditures and welfare programs, Infrastructures, Social security and public pensions, National security and war, Procurement; National budget, Deficit, and Debt: Budget, Budget systems, Deficit, Surplus, Debt, Debt management; State and local government; Intergovernmental relations: State and local taxation, Subsidies, and Revenue, State and Local budget and expenditures, Interjurisdictional Differentials and their effects, State and Local Borrowing, Intergovernmental relations, Federalism; Miscellaneous issues: Governmental loans and credits, Governmental property, International fiscal issues.

RINOE® is a Scientific and Technological Company in contribution to the Human Resource training focused on the continuity in the critical analysis of International Research and is attached to CONACYT-RENIECYT number 1702902, its commitment is to disseminate research and contributions of the International Scientific Community, academic institutions, agencies and entities of the public and private sectors and contribute to the linking of researchers who carry out scientific activities, technological developments and training of specialized human resources with governments, companies and social organizations.

Encourage the interlocution of the International Scientific Community with other Study Centers in Mexico and abroad and promote a wide incorporation of academics, specialists and researchers to the publication in Science Structures of Autonomous Universities - State Public Universities - Federal IES - Polytechnic Universities - Technological Universities - Federal Technological Institutes - Normal Schools - Decentralized Technological Institutes - Intercultural Universities - S & T Councils - CONACYT Research Centers.

Scope, Coverage and Audience

RINOE Journal-Public Economy is a Journal edited by RINOE® in its Holding with repository in Taiwan, is a scientific publication arbitrated and indexed with semester periods. It supports a wide range of contents that are evaluated by academic peers by the Double-Blind method, around subjects related to the theory and practice of Structure and scope of government; Taxation, Subsidies, and Revenue: Efficiency, Optimal taxation, Incidence, Externalities redistributive effects, Environmental taxes and subsidies, Personal income and other Nonbusiness Taxes and subsidies, Business taxes and subsidies, Tax evasion; Fiscal policies and behavior of Economic Agents: Household, Firm; Publicly provided goods: Public goods, Publicly provided private goods, Project evaluation, Social discount rate; National government expenditures and related policies: Government expenditures and health, Government expenditures and education, Government expenditures and welfare programs, Infrastructures, Social security and public pensions, National security and war, Procurement; National budget, Deficit, and Debt: Budget, Budget systems, Deficit, Surplus, Debt, Debt management; State and local government; Intergovernmental relations: State and local taxation, Subsidies, and Revenue, State and Local budget and expenditures, Interjurisdictional Differentials and their effects, State and Local Borrowing, Intergovernmental relations, Federalism; Miscellaneous issues: Governmental loans and credits, Governmental property, International fiscal issues with diverse approaches and perspectives, That contribute to the diffusion of the development of Science Technology and Innovation that allow the arguments related to the decision making and influence in the formulation of international policies in the Field of Social Sciences. The editorial horizon of RINOE® extends beyond the academy and integrates other segments of research and analysis outside the scope, as long as they meet the requirements of rigorous argumentative and scientific, as well as addressing issues of general and current interest of the International Scientific Society.

Arbitration Committee

Assignment of Rights

The sending of an Article to RINOE Journal-Public Economy emanates the commitment of the author not to submit it simultaneously to the consideration of other series publications for it must complement the Originality Format for its Article.

The authors sign the Format of Authorization for their Article to be disseminated by means that RINOE® In its Holding Taiwan considers pertinent for disclosure and diffusion of its Article its Rights of Work.

Declaration of Authorship

Indicate the Name of Author and Coauthors at most in the participation of the Article and indicate in extensive the Institutional Affiliation indicating the Department.

Identify the Name of Author and Coauthors at most with the CVU Scholarship Number-PNPC or SNI-CONACYT- Indicating the Researcher Level and their Google Scholar Profile to verify their Citation Level and H index.

Identify the Name of Author and Coauthors at most in the Science and Technology Profiles widely accepted by the International Scientific Community ORC ID - Researcher ID Thomson - arXiv Author ID - PubMed Author ID - Open ID respectively.

Indicate the contact for correspondence to the Author (Mail and Telephone) and indicate the Researcher who contributes as the first Author of the Article.

Plagiarism Detection

All Articles will be tested by plagiarism software PLAGSCAN if a plagiarism level is detected Positive will not be sent to arbitration and will be rescinded of the reception of the Article notifying the Authors responsible, claiming that academic plagiarism is criminalized in the Penal Code.

Arbitration Process

All Articles will be evaluated by academic peers by the Double Blind method, the Arbitration Approval is a requirement for the Editorial Board to make a final decision that will be final in all cases. MARVID® is a derivative brand of ECORFAN® specialized in providing the expert evaluators all of them with Doctorate degree and distinction of International Researchers in the respective Councils of Science and Technology the counterpart of CONACYT for the chapters of America-Europe-Asia- Africa and Oceania. The identification of the authorship should only appear on a first removable page, in order to ensure that the Arbitration process is anonymous and covers the following stages: Identification of the Journal with its author occupation rate - Identification of Authors and Coauthors - Detection of plagiarism PLAGSCAN - Review of Formats of Authorization and Originality-Allocation to the Editorial Board-Allocation of the pair of Expert Arbitrators-Notification of Arbitration -Declaration of observations to the Author-Verification of Article Modified for Editing-Publication.

Instructions for Scientific, Technological and Innovation Publication

Knowledge Area

The works must be unpublished and refer to topics of Structure and scope of government; Taxation, Subsidies, and Revenue: Efficiency, Optimal taxation, Incidence, Externalities redistributive effects, Environmental taxes and subsidies, Personal income and other Nonbusiness Taxes and subsidies, Business taxes and subsidies, Tax evasion; Fiscal policies and behavior of Economic Agents: Household, Firm; Publicly provided goods: Public goods, Publicly provided private goods, Project evaluation, Social discount rate; National government expenditures and related policies: Government expenditures and health, Government expenditures and education, Government expenditures and welfare programs, Infrastructures, Social security and public pensions, National security and war, Procurement.

National budget, Deficit, and Debt: Budget, Budget systems, Deficit, Surplus, Debt, Debt management; State and local government; Intergovernmental relations: State and local taxation, Subsidies, and Revenue, State and Local budget and expenditures, Interjurisdictional Differentials and their effects, State and Local Borrowing, Intergovernmental relations, Federalism; Miscellaneous issues: Governmental loans and credits, Governmental property, International fiscal issues and other topics related to Social Sciences.

Presentation of the content

In the first article we present, Su*stainability in higher education schools in México*, by CHIHUAQUE-ÁLCANTAR, Jesús, RODRÍGUEZ-CASTAÑÓN, Carlos Alberto, PAZ-CABRERA, Mauro and MANDUJANO-NAVA, Arturo, with adscription in the Universidad Politécnica de Guanajuato, in the next article we present, *Public policy to reduce the learning gap between CONAFE and SEP students in the state of Michoacán, Mexico*, by MOLINA-MARTÍNEZ, Rubén & VILLALPANDO-ZORRILLA, Juan Manuel, with adscription in the Universidad Michoacana de San Nicolás de Hidalgo, in the next article we present, *A Comparative Analisys of Poverty Theories*, by DE LA CRUZ-CONTRERAS, Brandon Alan & MENDOZA-ALVARADO, Juan José, with adscription in the Universidad Autónoma de Nayarit, in the next article we present, *Determination of the causes of the non-linking of SMEs with public entities*, by SALAZAR-PAVÓN, Eliazar, ESPARZA-TOVAR, Citlalli, GUILLEN-RAMÍREZ, Mirna Liliana and BECERRA-BUSTAMANTE, Diana Michel, with adscription in the Universadad Tecnológica Paso del Norte.

Content

Article **Journal-Public Economy**
December, 2019 Vol.3 No.5 1-13

Sustainability in higher education schools in México

La Sustentabilidad en las Escuelas de Educación Superior en México

CHIHUAQUE-ÁLCANTAR, Jesús†*, RODRÍGUEZ-CASTAÑÓN, Carlos Alberto, PAZ-CABRERA, Mauro and MANDUJANO-NAVA, Arturo

Universidad Politécnica de Guanajuato, Ingeniería Automotriz.

ID 1st Author: *Jesús, Chihuaque-Álcantar* / **ORC ID**: 0000-0002-6718-6909, **CVU CONACYT ID**: 48887

ID 1st Coauthor: *Carlos Alberto, Rodríguez-Castañón* / **ORC ID**: 0000-0001-7495-8674, **CVU CONACYT ID**: 441187

ID 2nd Coauthor: *Mauro, Paz-Cabrera* / **ORC ID**: 0000-0003-0728-7377, **CVU CONACYT ID**: 305750

ID 3rd Coauthor: *Arturo, Mandujano-Nava* / **ORC ID**: 0000-0003-2022-4397, **CVU CONACYT ID**: 270254

DOI: 10.35429/JPE.2019.5.3.1.13 Received August 30, 2019; Accepted December 30, 2019

Abstract

The increase of gases in the ozone layer is an important issue nowadays in the Universities of Higher Education in Mexico; there is a great interest in contributing to the reduction of the carbon footprint, therefore, a study was carried out to calculate the footprint generated by the students of the Polytechnic University of Guanajuato through the use of software. The participants were 27 students of the Automotive Engineering degree of the sixth semester, which during this period kept a record of the consumption of PET bottles in their various presentations. The main findings were that the total CO_2 they produce is 131.7 Kg, which would be equivalent to 0.176 barrels of oil and 1.19 m^3 of space saved in landfills. Now, taking into consideration the entire student population (3,899), the calculation was projected annually and estimating the same consumption patterns, would save 76.3 barrels of oil against 515.55 m^3 of space in sanitary landfills.

CO_2, Carbon Footprint, Universities of Higher Education in Mexico

Resumen

El incremento de gases en la capa de ozono es un tema importante al día de hoy en las Universidades de Educación Superior de México; hay un manifiesto interés en contribuir a la disminución de la huella de carbono, por lo anterior, se realizó un estudio para calcular la huella de carbono generada por los estudiantes de la Universidad Politécnica de Guanajuato mediante el uso de un software. Los participantes fueron 27 alumnos de la carrera de Ingeniería Automotriz del sexto cuatrimestre, que durante este periodo llevaron un registro del consumo de botellas de PET en sus diversas presentaciones. Los principales hallazgos encontrados fueron que el total de CO_2 que producen es de 131.7 Kg, lo que equivaldrían a 0.176 barriles de petróleo y a 1.19 m^3 de espacio ahorrado en rellenos sanitarios. Ahora, tomando en cuenta a toda la población estudiantil (3,899), se proyectó el cálculo de forma anual y estimando los mismos patrones de consumo, se ahorrarían 76.3 barriles de petróleo contra 515.55 m^3 de espacio en rellenos sanitarios o tiraderos.

CO_2, Huella de Carbono, Universidades de Educación Superior en México

Citation: CHIHUAQUE-ÁLCANTAR, Jesús, RODRÍGUEZ-CASTAÑÓN, Carlos Alberto, PAZ-CABRERA, Mauro and MANDUJANO-NAVA, Arturo. Sustainability in higher education schools in México. Journal-Public Economy. 2019. 3-5: 1-13

* Correspondence del Author (jchihuaque@upgto.edu.mx)
† Researcher contributing as first author.

Introduction

In 1987, in the document called "Our Common Future", The World Commission on Environment and Development, led by Harlem Brundtland, issued the following recommendation:

[…] The Commission's hope in the future is conditioned to a decisive political action that must now begin to manage environmental resources so as to ensure lasting human progress and human survival. We are not forecasting a future; we are presenting a warning - an urgent warning based on the latest and best scientific arguments - that the time has come to make the necessary decisions to ensure the resources that will support the present and future generations

[...] We are borrowing capital from the environment of future generations without intention or prospects for reimbursement (United Nations, 1987, p. 16, 22). In this same document the word sustainability was coined:

"It is in the hands of humanity to make development sustainable, lasting, that is, to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own" (p. 23).

Years later, in June 1992, some principles were proclaimed at the Earth Summit in Rio de Janeiro to safeguard the planet:

Principle 2: States have the sovereign right to take advantage of their own resources according to their own environmental and development policies, and the responsibility to ensure that the activities carried out within their jurisdiction or under their control do not cause damage to the environment of other States or from areas that are outside the limits of national jurisdiction. (United Nations, 1992, para. 3).

Derived from this principle, higher education institutions, companies and any economic and non-economic agent must ensure that their activities do not cause damage to the environment, whether or not they are within their influence zone. In principle 3 of this same Rio Declaration is confirmed; "The right to development must be exercised in a way that responds equitably to the development and environmental needs of present and future generations (para. 4).

The carrying capacity of the planet does not resist the current practices of consumption, manufacturing and excessive population growth, therefore, sustainability must be included in the study plans and programs of all the country's universities. In the classroom, future decision makers are born that can favor or continue to harm our common future.

In Principle 13 it instructs that:

"States must develop national legislation regarding liability and compensation for victims of pollution and other environmental damage" […] (para. 14). We can interpret that in the agenda of public and private educational institutions in Mexico they must incorporate in their regulations, standards, policies and management systems the care of the environment.

The Earth Summit calls for a mobilization in the creativity, ideals and value of the world's youth to forge a global alliance aimed at achieving sustainable development and ensuring a better future for all.

In Mexico, in the 2017-2018 educational cycle there were 3,864,995 senior students distributed in 5,455 schools (Secretariat of Public Education, 2018). Taking into account this registration and a carbon footprint of CO2 per student of 4.8 Kg for the purchase and use of water bottles in presentations of PET material; 74,431 barrels of oil could be saved against 502,915 m3 of landfill space or landfills. This would mean sending the annual amount of 55,655,928 Kg of CO2 to the atmosphere.

Article 7 and its section XI of the General Education Law (2018, p. 3) mandates:

The education provided by the State, its decentralized agencies and individuals with authorization or with recognition of official validity of studies will have, in addition to the purposes set forth in the second paragraph of article 3. of the Political Constitution of the United Mexican States, the following:

Inculcate the fundamental concepts and principles of environmental science, sustainable development, the prevention of climate change, as well as the assessment of the protection and conservation of the environment as essential elements for the harmonious and integral development of the individual and society.

ISSN 2524-2016

The basic elements of civil protection, mitigation and adaptation to the effects of climate change and other natural phenomena will also be provided.

Continuing with the evolution of the international environmental agenda, in 2002 the Sustainable Development Summit was held in Johannesburg where it is recognized that:

The global environment continues to deteriorate. The loss of biodiversity continues; fish stocks continue to run out; desertification advances collecting more and more fertile land; the adverse effects of climate change are already evident; Natural disasters are more frequent and more devastating, and developing countries have become more vulnerable, while air, water and seas pollution continues to deprive millions of human beings of a dignified life. (United Nations, 2002, p.3)

For the year 2015, the signatory countries approved the 2030 agenda, which contains 17 sustainable development goals: 1. End of poverty, 2. Zero hunger, 3. Health and well-being, 4. Quality education, 5. Gender equality. 6. Clean water and sanitation, 7. Affordable and non-polluting energy, 8. Decent work and economic growth, 9. Industry and innovation, 10. Reduction of inequalities, 11. Sustainable cities and communities, 12. Responsible production and consumption, 13. Climate action, 14. Underwater life, 15. Life of terrestrial ecosystems, 16. Peace, Justice and strong institutions, 17. Partnerships to achieve the objectives. (United Nations, 2015).

Regarding the introduction of environmental education in Mexico, at its various levels it was from 1970. In the case of Higher Education institutions (HEIs), the integration of environmental education and sustainability emerged in the last two decades of the Last century. Documents such as the Talloires Declaration stand out, where about twenty HEIs gathered and assumed educational commitments in relation to sustainability. This meeting was followed by others, such as Halifax, Canada (33 universities) held in 1991 (Ortiz, Cruz & Bello, 2019).

In Mexico, the history of Institutional Environmental Plans (PAI) is contrasting, the Ministry of Environment, Natural Resources and Fisheries (SEMARNAP from 1994-2000) was when this practice was promoted in Mexican universities. The EPI can be understood as a proposal made by the academics of each institution, so that with its own characteristics it incorporates the environmental theme to its classrooms and so each university takes care of its environment, recycles its materials, reforests its green areas and creates awareness in its students on the culture of water and energy care, and aim to provide an education for sustainable development (UANL, 2006, cited by Ávila, 2014, p. 41).

In 1999 the National Association of Universities and Institutions of Higher Education (ANUIES) developed the first version of the Plan of Action for Sustainable Development in HEIs. It would be composed of four dimensions: academic, business, environmental and research; plus a new taxonomy that adds the dimensions: social, administrative, economic, philosophical and personal. (Gutiérrez and Martínez, 2010).

The Mexican Consortium of University Environmental Programs for Sustainable Development (Complexus) was established in December 2000 with the intervention of several Higher Education Institutions, by the Center for Education and Training for Sustainable Development (CECADESU) of the SEMARNAT [Secretary of the Environment Environment and Natural Resources] and by ANUIES; The Action Plan for Sustainable Development in HEIs was signed. The objectives of Complexus are:

1. Seek the improvement of academic work in environmental matters and sustainability in HEIs.
2. Encourage that among its members, programs that promote the development of knowledge, skills, competencies, skills, values and attitudes necessary in terms of sustainable development are established.
3. Promote the incorporation of the environmental dimension in higher education curricula.

ISSN 2524-2016

4. Strengthen training and updating programs in environmental education and sustainable development to improve the academic quality of higher education teachers.
5. Promote the dissemination of information on sustainable development among the institutions that constitute the Complexus, for the exchange of knowledge and experiences.
6. Promote the creation of environmental programs of institutional scope. Promote the creation and strengthening of environmental management systems within HEIs.
7. Promote the integration to IES Complexus that have environmental programs of institutional scope.
8. Establish collaborative relationships with related organizations. (Complexus, 2019).

The role of education in the planning, organization, dissemination and control of sustainable development is undeniable, as well as the requirement to consume it in the different areas of society: environmental, social and economic; in such a way that HEIs are established as key instances to carry out the correction of the development paradigm; by one whose achievement has a humanitarian approach, by generating knowledge, as well as human and technical resources prepared to address environmental challenges, and thus implement a transformation of society.

It would correspond to HEIs to carry out four actions to consider contributing to sustainability:

Internal management: The identification of a university community based on democracy, equity, transparency and promotion of sustainable development.

Teaching: This feature involves training actions to the academic plant with a nuance of social responsibility.

Research: Promote an agenda that links researchers and teachers in projects that solve problems, both urban and rural.

Social projection: Try to carry out development projects that may be the origin of applied research and teaching resources for the university community. (Cantú-Martínez, 2017)

The objective of this study was to identify the degree of ecological footprint produced by students of the Polytechnic University of Guanajuato [UPG] by consuming liquids packed in PET bottles.

In his encyclical called Laudato Yes, Pope Francis calls for an urgent challenge to protect our common home. The economic powers continue to justify the current world system, where speculation and a search for financial income prevail and ignore all context and the effects on human dignity and the environment. Awareness of the severity of the cultural and ecological crisis needs to translate into new habits. Many know that the current progress and the mere sum of objects or pleasures are not enough to give meaning and joy to the human heart, but they do not feel able to give up what the market offers them.

In countries that should produce the greatest changes in consumption habits, young people have a new ecological sensitivity and a generous spirit, and some of them admirably fight for the defense of the environment but have grown in a context of high consumption and well-being that It makes difficult the development of other habits. That is why we are facing an educational challenge (Papa Francisco, 2015, p. 159).

The Baby Boomers generation (1946-1964), the X generation (1965-1984) have failed to regenerate natural resources, we have consumed everywhere the share of water, air, species and forests that belonged to the Millennials (1985-1994) and these in turn are depleting the natural assets of generation Z (1995) and if we do nothing, this last generation will be condemning an uncertain future of men and women who are about to be born. Species in extinction, warmer and at the same time colder climates, growth of natural disasters, water scarcity, forests that are covered with asphalt by the so-called "economic development". Despite the 20 years since the beginning of sustainability in higher education universities, its process is not in development, much less in consolidation, it is in an incipient stage, therefore the urgency of placing sustainability on the university agenda, include them in the curricular maps, in the didactic contents, and not only in the discourse. HEIs are more concerned with being certified in ISO 9001 quality systems, than in ISO 14001 environmental care.

ISSN 2524-2016

The UAEM [Autonomous University of the State of Morelos] is the first and only institution of higher education at the national level that has implemented and certified its Environmental Management System in accordance with the requirements of ISO 14001 in its 2015 version. University that has had an important development and evolution in its commitment to training, research and extension of culture, with a sense of care and respect for natural resources and the environment, with a strong focus on sustainability. (UAEM, 2017, para. 8)

The intellectual capital of this country is gestated mainly in university classrooms, if it does not commit to the sustainability of the planet, what can you expect from the rest of the population with a modest and average schooling of 9 years?

Social responsibility is an option for Public Institutions of Higher Education to have an effective impact on collective well-being, inclusion and sustainability. The university is a knowledge production system where the individuals who will later guide the social course in economic and political terms converge. HEIs have had to worry about responding to the demands of the industry or the productive sector, and as a result of this, an education without values has been generated that allows to strengthen some collective identity, since it is only educated to respond to the demands of the market, without incorporating social [and environmental] needs (Rivera, 2019).

If universities will align with environmental commitments, the carbon footprint could be positively impacted, the latter defined how:

"The total amount of greenhouse gases produced to directly and indirectly support human activities, usually expressed in equivalent tons of carbon dioxide (CO2)." (Time for Change, 2019, para. 1). Most of the scientific community and a growing number of social, business and political groups have accepted the evidence that climate change is caused by human activities, concluding that it constitutes one of the greatest environmental challenges I could get in the way of sustainable development. The cause of this phenomenon would be found in the high atmospheric concentrations of Greenhouse Gases (GHG).

Scientists know the greenhouse effect since 1824, when Joseph Fourier calculated that the Earth would be colder if there was no atmosphere. This greenhouse effect is what makes the Earth's climate fit for life. Without it, the surface of the Earth would be about 60 degrees Fahrenheit colder. In 1895, Swiss chemist Svante Arrhenius discovered that humans could increase the greenhouse effect by producing carbon dioxide, a greenhouse gas [...] Through the combustion of fossil fuels and other GHG emissions, humans are increasing greenhouse effect and warming the Earth. (National Geographic, 2010, para. 6).

In the same vein, the Intergovernmental Panel on Climate Change (IPCC) published a report explaining why we should stop global warming at 1.5 ° C. It is a bleak reading. If the planet warms up at 2 ° C, twice as many people will face water shortages as if the warming is limited to 1.5 ° C. That additional warming will also expose more than 1.5 billion people to extremes of deadly heat, and hundreds of millions of people to vector-borne diseases, such as malaria, among other damages. (Yangyang Xu, Veerabhadran Ramanathan & David G. Victor, 2018).

According to The National Institute of Ecology and Climate Change (2018, para. 4), the following impacts are already observed and will continue to be experienced in the coming decades:

Increase in the global average temperature of the oceans and the earth's surface. World average increase in sea level.

Sea acidification

Alteration of the abundance of algae, plankton and fish in marine environments.

Modification of natural precipitation patterns. Recurring floods

Increase in the number and intensity of hurricanes, mainly in the North Atlantic.

Longer droughts

Increase in the number of days and warm nights globally.

Decrease in the availability of water for human, agricultural and hydroelectric consumption.

Decrease in agricultural productivity

Reduction and thinning of snow layers in Greenland and Antarctica.

Decrease of glaciers worldwide

Loss of biodiversity and change in the composition of ecosystems.

Increased propensity to forest fires

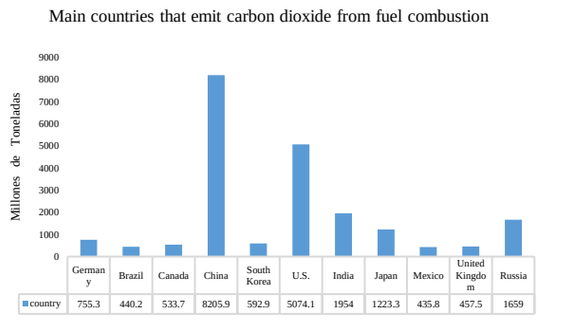
Alteration of biological cycles and geographical distribution of flora and fauna.

Climate change is not only an environmental problem but also a development problem, with profound potential impacts on society, the economy and ecosystems (Montañés, 2016).

It is estimated that the economic losses caused by climate change could cost between 18 and 20% of the world's gross domestic product (GDP) (WWF, 2010).

Humans are transforming Earth's natural landscapes so dramatically that as many as one million plant and animal species are in danger of extinction, representing a serious threat to the ecosystems of which people from all over the world. world depend for their survival, concluded a new comprehensive study of the United Nations [...] is the most detailed look that exists to the decline of biodiversity across the planet and the dangers it creates for human civilization [...] A crisis is coming of extinction, because the rate of extinction is currently between tens and hundreds of times faster than it had been in the last ten million years. (Plumer, 2019, Para. 1).

Graph 1 shows the emissions of carbon dioxide by selected countries, during 2012 and with an update to 2016. The first place is held by China with 8,205.9 million tons of carbon dioxide. While Mexico emits 435.8 million tons of carbon dioxide.



Graphic 1 Emissions of carbon dioxide
Source: INEGI (2015). Mexico in the world 2015. Recovered from http://internet.contenidos.inegi.org.mx/contenidos/productos/prod_serv/contenidos/espanol/bvinegi/productos/nueva_estruc/mex_mun2015/702825075613.pdf

Despite the environmental problem in Mexico, it is regrettable that in the National Development Plan 2019-2024, only a 16-line paragraph is allocated for environmental issues, without containing strategies, programs or action plans that allow climate change mitigation:

[… There are] insoslayables ethical, social, environmental and economic mandates that must be applied in the present to guarantee a minimally habitable and harmonious future. Ignoring this paradigm not only leads to the gestation of imbalances of all kinds in the short term, but also entails a severe violation of the rights of those who have not been born. Therefore, the Federal Executive will consider in all circumstances the impacts that its policies and programs will have on the social fabric, on the ecology and on the political and economic horizons of the country. (National Development Plan, 2019, p. 37).

Innerarity (2009, quoted by Didriksson, 2019, p. 28), prevents us from continuing to believe in the “enemies of the future”, who, in the face of pressure from events, the image before the media and the Political antagonism always lends itself to the irresponsibility of assuming short-term visions, the logic of the urgent, the decision of the fundamental caught in electoral times. This author tells us: [...] "It is not the urgency that prevents the elaboration of long-term projects, [it is the absence of the project that subjects us to the tyranny of the present".

On September 23, 2019 at the Climate Action Summit convened by the UN in New York and before 60 leaders of the world, world youth manifested itself through the voice of Greta Thunberg of only 16 years old:

[…] We will be watching you. All this is wrong. I shouldn't be up here. I should be back at school [...] My dreams and childhood have been stolen from me with empty words [...] People are suffering. People are dying. Whole ecosystems are collapsing. We are at the beginning of a mass extinction. And the only thing they can talk about is money and fairy tales of eternal economic growth. How dare they? [...] How dare they keep looking the other way and come here saying that they are doing enough, when the necessary policy and solutions are not yet in sight? [...] They are based on my generation absorbing hundreds of billions of tons of its CO2 from the air [...] We have to live with the consequences [...] They are failing us. But young people are beginning to understand their betrayal. The eyes of all future generations are upon you. And if they choose to fail us, we will never forgive them. (BBC, News World, 2019, para. 12).

Educational policy in Mexico is limited to a six-year term, it has no long-term vision. The economic austerity of any government or School of Higher Education, are not enough arguments to let do and let pass the opportunity to live with dignity, there are estimated costs of environmental deterioration that exceed any calculation. Today, men and women, universities, governments, companies, NGOs and Society are the ones who will give or deprive future generations of environmental assets. From the classrooms sustainable minds must emerge, if man soiled our house in common [planet earth], that same man can also clean it and ensure the natural cycle of survival of all beings.

In 15 years, more than 3'188,000 tons of PET waste for recycling have been recovered in Mexico, which has been achieved:

Avoid the emission of 10’577.474 tons of CO2 into the atmosphere, which is equivalent to having planted 274 million trees or 726 Bosques de Chapultepec. With the accumulated collection, the equivalent of 140 Aztec Stadiums could be filled from floor to ceiling (Zindel, 2017).

According to data from SEMARNAT, in 2017 about 9 billion bottles of polyethylene terephthalate -PET- were generated in Mexico, as well as 86 thousand 343 tons of garbage are produced daily, about 770 grams per-capita (Rodríguez, 2019).

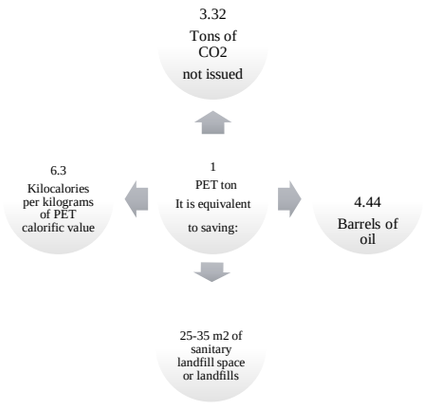


Figure 1 Equivalences of a ton of PET in CO2 and in oil barrels
Source: Zindel J. (2017)

Methodology

The study is quantitative and descriptive, it is descriptive "because it seeks to specify the properties, characteristics and profiles of people, groups, communities, processes, objects or any other phenomenon that is subjected to an analysis (Hernández, Fernández & Baptista, 2010, p. 85).

The research is also non-experimental since no variable was manipulated and the behavior of the consumer [student] was observed in a natural environment.

The study was applied in 27 university students attending the fourth semester of Automotive Engineering at the UPG, morning shift, during the September-December 2017 school year. The average age of the participants ranged from 20 years. Regarding its city of origin [all belonging to municipalities of Guanajuato] 60% were from the city of Celaya, 25% from Cortazar and 15% from Villagrán. The data collection process was via survey, the amount of PET bottles consumed by each of the study subjects was recorded weekly. Through a commercial software it was possible to identify the carbon footprint emitted by each of them by consuming this type of material.

Table 1 shows that the most consumed PET bottle presentation is 600 ml (189), versus the 2000 ml bottle that only had 93 records in the four months of study.

Bottles (ml)	September	October	November	December	Total bottles
600	32	56	70	31	189
1000	40	59	33	23	155
1500	36	55	45	32	168
2000	9	41	22	21	93

Table 1 Bottle count, September to December 2017
Source: Own Elaboration

The variables demanded by the software to determine the calculation of the carbon footprint produced by PET bottles in the atmosphere are: Weight, both bottle and screw cap.

Bottle body	Weight (g)	Plug	Weight (g)
600 ml	24	600 ml	1.5
1l	30	1l	1.56
1.5l	42	1.5l	2
2l	60	2l	3.05

Table 2 Weight in grams of bottles and caps
Source: Self Made

Other variables considered in the research for CO2 estimation were:

Material and Manufacturing. The type of packaging material is fed into the software (PET Terephthalate Polymer and in case of the caps its composition is polypropylene), the mass and the primary process type (polymer molding) of both the body of the bottle is fed as of the tapas.

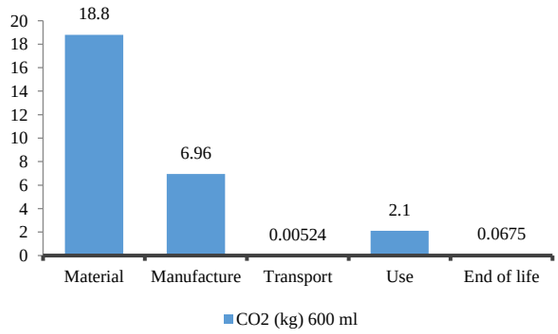
Transport. In this variable, the type of transport in which the bottles usually arrive at the UPG cafeteria was captured in the software, it was estimated that they are transported in cargo units close to 14 tons and that travel an average distance per unit of 35 kilometers.

Use. In the university cafeteria, water bottles undergo a 24-hour refrigeration process, connected to a 120 KW load power source

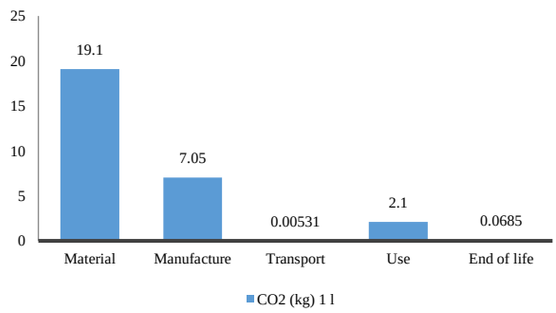
Results

In Graphic 2, the results of the 600 ml bottles are presented, the kilograms of CO2 of the material were evaluated: manufacturing, transportation, use and final life process.

Resulting in the amount of CO2 of 27.9 Kg; originated by the consumption of 189 bottles of the 27 students, during 4 months. In the results of Graphic 3, the 1 liter bottles, the kilograms of CO2 of the material were evaluated, generating the amount of 28.4 Kg of CO2, through the purchase and consumption of 155 bottles.

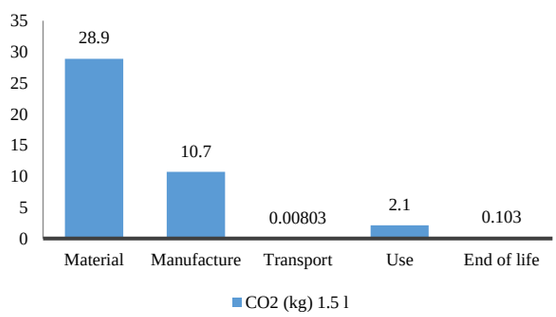


Graphic 2 Impact of CO2 in 600 ml bottles
Source: Self Made

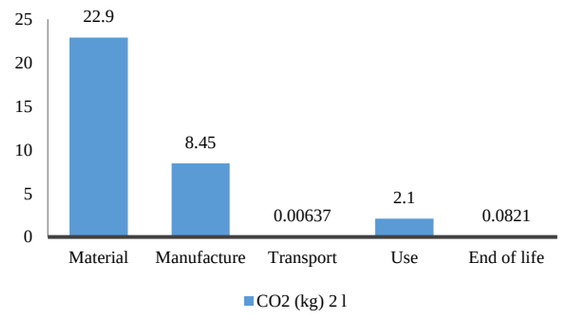


Graphic 3 Impact of C02 on 1L bottles
Source: Self Made

In the results of the Graphic 4, the 1500 ml bottles, the software produced a CO2 result of 41.8 Kg in the use of 168 bottles. While in Graphic 5, the 2000 ml bottles would have an emission of 33.6 kg of CO2 through the provision of 93 bottles.



Graphic 4 CO2 impact on 1.5L bottles
Source: Self Made



Graphic 5 CO2 impact in 2L bottles
Source: Self Made

Graphic 6 shows the summary of the CO2 emissions of the different sizes of PET bottles: 600 ml, 1 liter, 1.5 liter and 2 liters, with the different amounts of CO2 per PET bottles.

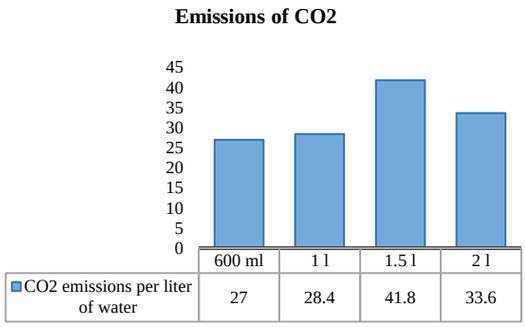


Gráfico 6 PET bottles and their quantity in kilograms of CO2
Source: Self Made

Table 3 shows the 600 ml to 2 liter containers, the amount of the carbon footprint in kilograms for each of the bottles and their total CO2.

Container	Liters consumed	Total carbon footprint of CO2 (kg)
600 ml	113.4	27.9
1 l	155	28.4
1.5 l	252	41.8
2 l	186	33.6
Total	706.4	131.7

Table 3 Total carbon footprint in CO2 of each of the bottles
Source: Self Mad

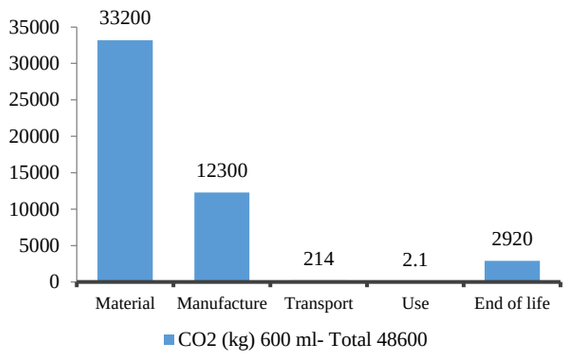
Table 4 shows the results of a total of 131.7 kilograms of CO2, in four months, and if we get an average of 27 students, it gives us the amount of 4.8 kilograms of CO2, per student. In the UPG there is a school enrollment of 3,899 students, estimating patterns of water consumption and similar types of packaging, for forecasting purposes.

It is expected that a total of 19, 018 kilograms of CO2 would be reached at the university level four-monthly and converting them from Annualized environmental impact would reach 57,055 kilograms of CO2.

UPG	Students	Total Carbon Footprint Total CO2	No. of months
Automotive Group	27	131.7	4
Total UPG	3,899	19,018	4
Total UPG	3,899	57,055	12

Table 4 Total CO2 data with different months
Source: Self Made

Since the end of 2017, nine drinking fountains were installed at UPG to mitigate the consumption of water in PET bottles. The results: the equivalent of 333,523 bottles of 600 ml were consumed, which meant a total CO2 savings of 48,600 kilograms, which would result in avoiding the production of 64.99 barrels of oil or 439.15 m3 of landfill space.



Graphic 7 Analysis of consumption in the drinking fountains of the UPG
Source: Self Made

Conclusions

The carbon footprint generated by the consumption of liquids in PET bottles in its various presentations by the study subjects is 131.7 Kg of CO2. In the 1500 ml bottles, the maximum amount of kilograms of CO2 (41.8 Kg) was found in 168 bottles of the 27 students for 4 months. The estimate of the total carbon footprint in the UPG for one year would be 57,055 kilograms of CO2 (only bottles included).

ISSN 2524-2016

Decarbonising student consumption habits is an institutional entrustment. In 2016, the UPG won the State Energy Efficiency Award, granted by the State Government through the State Council and the Ministry of Innovation, Science and Higher Education for the implementation of a program called "Color Code", consisting of the Student Committee of Energy Management (CEGE), which consists of making energy savings by turning off office lights or common areas according to the summer and winter seasons, with visual aids in yellow, green and red.

Since December 2017, the UPG has put into operation an ecological parking lot with a capacity of 48 drawers for hybrid vehicles (3,600 m2). As of January 2018, there have been talks, workshops and training courses in environmental education for administrative staff, teachers and students, institutional cleaning campaigns, etc. 9 drinking fountains have been installed that allow drinking water directly or through the filling of bottles. The reuse, reduce and recycle program has been consolidated to mitigate environmental impacts, organized tree planting brigades inside and outside the University, and implemented a permanent battery recycling campaign. The institution has two wastewater treatment systems and has installed solar panels at various strategic points.

Regarding the recycling of solid waste during the May-August 2018 period, 9 kg of plastic, 586 kg of PET glass, 48 kg of PET color, 51 kg of scrambled PET, 315 kg of paper and 669 kg of cardboard were recycled. This results in a decrease of 5,179 kg of CO2, 292,926.44 L in water savings and 10,371.88 KW / H of energy. This would mean avoiding the cutting down of 16.72 trees or providing oxygen for 66.88 people, it would mean lighting up 3.57 homes for a year, saving 49. 9 m3 of landfill space or removing a compact car (González, 2019).

In the PIDE 2025 (Institutional Development Program) of the UPG, it seeks the ISO 14001: 2015 certification for the year 2020, without a doubt, a great challenge and an opportunity to contribute to environmental sanitation.

The planet needs a green industrial surge, these exponential times of global warming undermine the fundamental and foundational rights of man: right to a healthy environment, to a dignified life, right to health, right to water, right to adequate food. It is not enough to consecrate and incorporate these rights in international treaties and in the country's magna Carta; when in practice they are not executed, they are violated, they are tainted, these rights are minimized. The UPG community is committed to mitigate and safeguard the environmental assets of the earth.

Recommendations

It is pertinent to recommend for future analogous studies, an extension of the sample, profiles of more diverse students (origin: urban and rural, by socioeconomic level, gender parity, etc.) to make a comparison between the carbon footprint produced by a public institution versus private campus; that allow to find more more correlations or divergences. The carbon footprint found in the 27 students through the consumption of PET bottles impacts the permanence of ecosystems individually, collectively and geometrically.

Universities in Mexico must declare and appropriate for the environment, in practice they must have indicators that show good use of water consumption and treatment, light, recycling of waste, implementation of alternative energy, good disposal of solid waste and dangerous, etc. Most educational institutions do not have environmental management committees installed, there is no sensitivity of administrative staff, teachers and students in natural resources care. HEIs must be a reference and cornerstone in the promotion, research and implementation of ecological measures that allow reducing the carbon footprint and consequently ensure that the inhabitants of the future can enjoy the benefits of nature.

The resources of the mother earth cannot be subject to the voracity of the markets, nor to the whim of the rulers in turn, they are heritage assets of humanity, which do not recognize borders, religion, ideologies or economic systems. If the application of sustainability in the educational field is wrong [guiding axis of every country], an environmental decomposition can be predicted in the rest of the sectors: business, social, government, etc.

ISSN 2524-2016

The land does not need men and women, governments and businesses to exist, but humans do need it to live. The labels on the products, in a general way, must indicate the ecological footprint they cause. It is necessary to modify the behavior and purchasing patterns of all students and consumers in general. On the other hand, promoting sustainable consumption is viable, a family does not need superfluous goods, having the essential is not synonymous with poverty, it is responsible behavior; subordinated to the commitment to the 21st agenda of the United Nations Organization. It must be ensured that the next generations have sufficient resources for survival.

Those interested in continuing this line of research are suggested to work in a software that allows measuring all the polluting variables that are generated in the educational facilities and not only studying the impact of PET; in order to issue a ranking of the most sustainable institutions, those that make tangible and intellectual efforts to reverse the ecological damage of their community and therefore of the planet. It is no longer a warning as stated by Harlem Brundtland more than 30 years ago, the problem is already causing human deaths, species extinction, water scarcity, unsettling temperatures, immigration, poverty. Therefore, the obligation to make sustainability a daily practice in public and private universities in Mexico.

References

Ávila Romero, L. (2014). Los programas ambientales universitarios en México. Entre el discurso ambiental y los negocios verdes. *Sociedad y Ambiente*, 1 (3), 26-51.

BBC News Mundo (septiembre 23, 2019). *Greta Thunberg: el desafiante discurso de la adolescente sueca ante los líderes mundiales en la cumbre del clima de la ONU*. Recuperado el día 24 de septiembre de 2019 de https://www.bbc.com/mundo/noticias-internacional-49804774

Cantú-Martínez, P. (octubre-diciembre, 2017). Instituciones de Educación Superior y la Sustentabilidad. *Ciencia UANL*. Núm. 86. Recuperado el día 18 de abril de 2019 de http://cienciauanl.uanl.mx/?p=7357

Complexus (2019). *Misión y Objetivos*. Recuperado el día 20 de abril de 2019 de http://www.complexus.org.mx/Mision.aspx

González, C. (2019). *PIDE UPG 2025*. Documento de trabajo. Universidad Politécnica de Guanajuato.

Didriksson, A. (2019, diciembre). Un futuro recobrado para la Educación en México. *Revista Práctica Docente, 1* (2) pp. 25-44. Recuperado el día 10 de septiembre de 2019 de http://practicadocenterevistadeinvestigacion.com/ojs/index.php/PD/issue/view/Practica%20Docente.Revista%20de%20Investigaci%C3%B3n%20Educativa/practica%20docente%2C%20vol%2C%201%2Cn%C3%BAm%202

Gutiérrez, B. & Martínez, M.C. (abril-junio de 2010). El plan de acción para el desarrollo sustentable en las instituciones de educación superior. Escenarios posibles. *Revista de la Educación Superior*. Vol. XXXIX (154), pp. 111-132.

Hernández, R., Fernández, C. & Baptista, P. (2010). *Metodología de la Investigación* (Quinta edición). Perú: Mc Graw Hill.

Instituto Nacional de Ecología y Cambio Climático (2018). *Efectos del Cambio Climático*. Recuperado el día 23 de abril de 2019 de https://www.gob.mx/inecc/acciones-y-programas/efectos-del-cambio-climatico

Ley General de Educación (2018). *Capítulo I. Disposiciones Generales.* Recuperado el día 18 de abril de 2019 de https://www.sep.gob.mx/work/models/sep1/Resource/558c2c24-0b12-4676-ad90-8ab78086b184/ley_general_educacion.pdf

Montañés, N. (2016). *Cálculo de la huella de carbono de un envase con ayuda del software "CES EduPack".* Recuperado el día 18 de abril de https://riunet.upv.es/bitstream/handle/10251/68299/Monta%C3%B1%C3%A9s%20-%20C%C3%A1lculo%20de%20la%20huella%20de%20carbono%20de%20un%20envase%20con%20ayuda%20del%20software%20%C2%BFCES%20EduPack%C2%BF..pdf?sequence=1

Naciones Unidas (1987). *Informe de la Comisión Mundial sobre el Medio Ambiente y el Desarrollo*. Recuperado el día 15 de abril de 2019 de http://www.ecominga.uqam.ca/PDF/BIBLIOGRAPHIE/GUIDE_LECTURE_1/CMMAD-Informe-Comision-Brundtland-sobre-Medio-Ambiente-Desarrollo.pdf

Naciones Unidas (1992). *Declaración de Río sobre el Medio Ambiente y el Desarrollo*. Recuperado el día 18 de abril de 2019 de https://www.un.org/spanish/esa/sustdev/documents/declaracionrio.htm

Naciones Unidas (2002). *Informe sobre la Cumbre Mundial sobre el Desarrollo Sostenible*. Recuperado el día 24 de abril de 2019 de https://documents-dds-ny.un.org/doc/UNDOC/GEN/N02/636/96/PDF/N0263696.pdf?OpenElement

Naciones Unidas (2015). *Cumbre de las Naciones Unidas sobre Desarrollo Sostenible*. Recuperado el día 25 de abril de 2019 de https://www.un.org/development/desa/es/about/conferences.html

National Geographic (2010). *¿Qué es el calentamiento Global?* Recuperado el 20 de abril de 2019 de https://www.nationalgeographic.es/medio-ambiente/que-es-el-calentamiento-global

Ortiz, T., Cruz, G.E., & Bello, L. (2019). La representación social de la problemática ambiental en profesores de ingeniería civil, de la Escuela Superior de Ingeniería y Arquitectura del Instituto Politécnico Nacional. *Revista de la Educación Superior*, *48* (190), pp. 185-209. Recuperado el día 10 de septiembre de 2019 de http://resu.anuies.mx/ojs/index.php/resu/article/view/716/290

Papa Francisco (2015). *Carta Encíclica Laudato Sí*. Recuperado el día 21 de abril de 2019 de https://www.vidanuevadigital.com/wp-content/uploads/2015/06/Laudato-Si-ES.pdf

Plan Nacional de Desarrollo 2019-2024 (2019). *Capítulo Desarrollo Sustentable*. Recuperado el día 18 de mayo de 2019 de https://lopezobrador.org.mx/wp-content/uploads/2019/05/PLAN-NACIONAL-DE-DESARROLLO-2019-2024.pdf

Plumer, B. (6 de mayo, 2019). La civilización acelera la extinción de más de un millón de especies y altera el mundo a un ritmo 'sin precedentes'. *New York Times*. Recuperado el día 7 de mayo de 2019 de https://www.nytimes.com/es/2019/05/06/civilizacion-extincion-reporte-onu/?rref=collection%2Fsectioncollection%2Fnyt-es&action=click&contentCollection=noticias&region=stream&module=stream_unit&version=latest&contentPlacement=2&pgtype=collection

Rodríguez A. (Marzo, 2019). El punto de venta también puede ser verde. *Revista Merca2.0*. Núm. 205. p. 72

Rivera, C. (2019). Sobre la función social del conocimiento humano mediante la vinculación y transferencia del conocimiento en América Latina. *Revista de Educación Superior*. *48* (189), pp. 121-132. Recuperado el día 10 de septiembre de 2019 de http://resu.anuies.mx/ojs/index.php/resu/article/view/621/281

Secretaría de Educación Pública (2018). P*rincipales Cifras del Sistema Educativo Nacional* 2017-2018. Recuperado el día 19 de abril de 2019 de https://www.planeacion.sep.gob.mx/Doc/estadistica_e_indicadores/principales_cifras/principales_cifras_2017_2018_bolsillo.pdf

Time for Change (2019). *What is a carbon footprint – definition?* Retrieved April 19 from https://timeforchange.org/what-is-a-carbon-footprint-definition

Universidad Autónoma del Estado de Morelos [UAEM] Departamento de Comunicación (2017). *UAEM única universidad en México certificada en norma ambiental ISO 14001:2015*. Recuperado el día 24 de abril de 2019 de https://www.uaem.mx/difusion-y-medios/publicaciones/boletines/uaem-unica-universidad-en-mexico-certificada-en-norma-ambiental-iso-140012015

World Wildlife Fund [WWF] (2010). *Impactos y Vulnerabilidad el Cambio Climático en México*. Recuperado el día 21 de abril de 2019 de http://d2ouvy59p0dg6k.cloudfront.net/downloads/03_impactos_nacionales_e_internacionales_del_cambio_climatico.pdf

Yangyang Xu, Veerabhadran Ramanathan & David G. Victor, (2018). *Global warming will happen faster than we think*. Retrieved April 20 from: https://www.nature.com/articles/d41586-018-07586-5

Zindel, J. (2017). Un estilo de vida ecológico y saludable. *ECOCE* 15 años, 15, 20-25.

Article **Journal-Public Economy**
December, 2019 Vol.3 No.5 14-26

Public policy to reduce the learning gap between CONAFE and SEP students in the state of Michoacán, Mexico

Política pública para reducir la brecha de aprendizaje entre estudiantes del CONAFE y de la SEP en el estado de Michoacán, México

MOLINA-MARTÍNEZ, Rubén* & VILLALPANDO-ZORRILLA, Juan Manuel

Universidad Michoacana de San Nicolás de Hidalgo, Institute of Economic and Business Research

ID 1st Author: *Rubén, Molina-Martínez* / **ORC ID**: 0000-0002-9840-6441, **Research ID Thomson**: K-7424-2018, **CVU CONACYT ID**: 147012

ID 1st Coautor: *Juan Manuel, Villalpando-Zorrilla* / **ORC ID**: 0000-0003-2845-5202, **CVU CONACYT ID**: 745999

DOI: 10.35429/JPE.2019.5.3.14.26 Received September 10, 2019; Accepted November 18, 2019

Abstract

This proposal is the result of a real qualitative and quantitative investigation of the conditions in which the educational system is for both organizations compared from 2000 to 2018 in Michoacán, The National Council for Educational Development (CONAFE) and the Ministry of Public Education (SEP). The validity of the hypothesis required the application of a multimodal structured survey in 2017, and allowed to verify the learning gap between CONAFE and SEP students in Michoacán. The purpose of this chapter is to design an appropriate public policy on educational matters that allows solving the hypothesis: Reduce the learning gap between students of two public organisms that provide basic education in the state of Michoacán, CONAFE and the regular service of the SEP in general. The proposal is framed in the Logical Framework Methodology model, recommended for Mexico by the National Council for the Evaluation of Social Programs (CONEVAL). The proposal adds steps to the guiding model that allow clarifying how to design an educational public policy to be presented in the instances of programmatic decision; consider eleven stages and not just eight.

Educational Public Policy, Learning gap, CONAFE, regular service of SEP, Logical Framework Methodology

Resumen

En la presente investigación, se muestra un análisis jurídico nacional en correspondencia al derecho laboral de la participación de los trabajadores en las utilidades de las empresas en México, mostrando en el mismo estudio, su fundamentación jurídica y el procedimiento de cálculo conforme a lo establecido en la Constitución Política de los Estados Unidos Mexicanos, la Ley Federal del Trabajo y la Ley del Impuesto Sobre la Renta para el caso de las personas morales. Asimismo, con base en la estadística descriptiva se exhibe el comportamiento sobre la manifestación del cumplimiento en la presentación de la declaración anual del régimen fiscal analizado, así como la expresión de los montos distribuidos entre sus subordinados; con cifras emitidas por el Servicio de Administración Tributaria (SAT) en su padrón de contribuyentes y datos anonimizados por los ejercicios fiscales del 2010 al 2015. De igual forma, en atención a los datos disponibles de la Encuesta Nacional de Ingresos y Gastos en los Hogares (ENIGH) por los años 2012, 2014, 2015, 2016 y 2018, se ostenta una amplia brecha en la dispersión y bajos ingresos de la percepción económica presentada.

Reparto de utilidades, Derecho laboral, Personas morales

Citation: MOLINA-MARTÍNEZ, Rubén & VILLALPANDO-ZORRILLA, Juan Manuel. Public policy to reduce the learning gap between CONAFE and SEP students in the state of Michoacán, Mexico. Journal-Public Economy. 2019. 3-5: 14-26

* Correspondence to Author (email: ruben.molinam@gmail.com)
† Researcher contributing as first author

Introduction

In this paper, the problem identified is resolved, which is the learning gap (BA), and it was possible to establish through a quantitative and qualitative research. The analysis allowed the BA to be determined as a dependent variable based on three independent variables, the Public Education Policy (PPE), the Socio-Economic Profile (PSE), and the School Potential (PE).

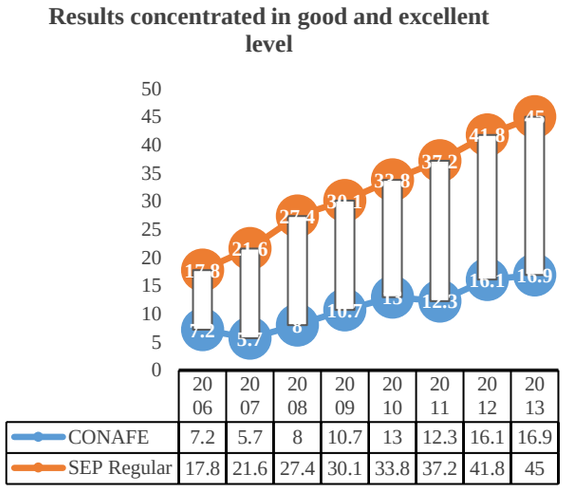
The Learning Gap can be defined as the difference in learning that exists between some students and others, considering the relationship of socioeconomic profile, school potential, the level of achievement of learning in reading and the institutional capacity of educational public policies to reach his objectives.

The Public Education Policy is defined as a set of interrelated decisions that are adopted by an actor or groups of political actors that involve the definition of goals and means for their achievement in the framework of solving a public educational problem, associated with decisions they adopt Governments and their representatives through their institutions.

The Socioeconomic Profile is defined as the socioeconomic status of the students, considering their context, their integration and school performance. And the School Power is the institutional capacity of the schools, which integrates the organizational aspects, resources, teaching profile and its evaluation.

Through a quantitative analysis of hard data, the result of international and national evaluations, the learning gap that our country maintains with respect to other countries and within the country was determined between two organizations that provide basic education, 1) CONAFE and 2) the SEP in its regular general services in public schools, focused on primary education in its field of oral and written language and communication, recognized as a "Spanish" subject. Without neglecting the other areas of knowledge: Mathematics and Science as a logical and theoretical consequence of the mastery of language, which can be observed in a concentrated way in Graphic 1. The study addressed the theories that support the study variables and their conceptualization for the entity. It was analyzed from two perspectives: 1) the humanistic critical theory adopted by UNESCO, and; 2) the economist functionalist theory, adopted by the OECD.

Both coincide in the search for better results and coordination in educational matters as a pillar of formation of the social individual necessary to face the challenges and problems of a globalized world.



	2006	2007	2008	2009	2010	2011	2012	2013
CONAFE	7.2	5.7	8	10.7	13	12.3	16.1	16.9
SEP Regular	17.8	21.6	27.4	30.1	33.8	37.2	41.8	45

Graphic 1 Average results by modality in primary education, 2006-2013
Source: Own elaboration based on data from the Center for Social Studies and Public Opinion (CESOP, 2015)

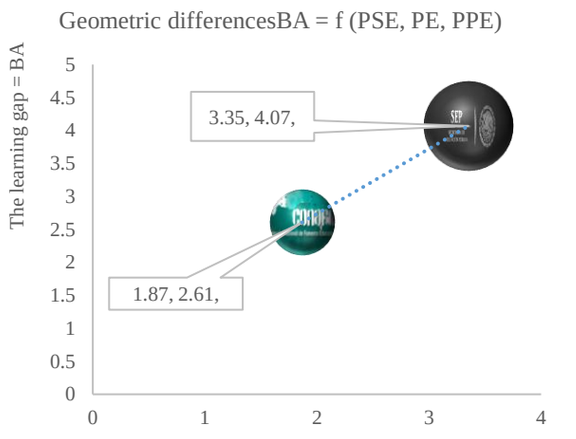
The foregoing allowed the learning gap to be clearly established as a study problem, whose research hypothesis was put forward as follows: Implementing an educational public policy that allows improving the Socioeconomic Profile and School Potential of CONAFE students, it is possible close the learning gap that these maintain with respect to the students of the regular SEP, in primary education in Michoacán. As well as independent variables, 1) The Public Education Policy (PPE); 2) The Socioeconomic Profile (PSE), and; 3) The School Potential; in addition to the method and approaches proposed to address the problem analysis in context.

The analysis of the bibliography determined the most relevant aspects, elements and dimensions for the study variables and contextualized the necessary indicators for the design of the research survey, applied as a data collection instrument to the target population: teachers of the state of Michoacán, for the organizations involved in the provision of primary education to students of school age, both CONAFE and the regular SEP, and allowed to define the research variables from a socioeconomic, educational and normative perspective of educational public policies in our country.

ISSN 2524-2016

However, the educational gap, which is abstractly analyzed for primary education in the language (Spanish) has a smaller learning gap. Quantitative data show that for math and science, the gap is even greater; and it can be considered from the theory that these are a consequence of the construction of new knowledge under the domain of language.

The results obtained allowed to identify and analyze the highest peaks of behavior between the two organisms, and focus attention on the indicators that present the greatest differences. For which, a model of Cartesian graphical representation and linear mathematics was designed to quantify the study variables in a scheme. Combining the indicators of the variables from a non-probabilistic approach, through an analysis of weighted means of unit proportional behavior with data obtained from the applied survey, which are observed in Graphic 2.



Graphic 2 Graphical representation of the components of the variables
Source: own elaboration with data from the applied research survey

It can be clearly seen that there is a significant difference in the value concentrates for each variable. For example, the Socioeconomic Profile (PSE) variable, CONAFE has a concentrated value of 1.87 points, while the SEP obtains a concentrated value of 3.35 points, which marks a gap between agencies for the same variable of 1.48 points, positive for the SEP. The same is true for the other variables, in the case of School Potential (PE) the difference is 1.46 points, also positive for the SEP; and in the case of the PPE the difference is again positive for the SEP with a difference of 6.71 points.

In general, the position of the sphere with respect to the learning gap that is quantified in the vertical axis (of the ordinates) shows that the farther up and up is the organism evaluated will be better. Therefore, the public policy to be designed will be one that allows improving CONAFE results and positions it as far to the right and up as necessary to reach the SEP body. The concentrated values of the SEP variables will be the new indicators to be achieved by CONAFE as objectives and goals in the design of Public Policy.

Public Policy Proposal

The arithmetic results obtained for the SEP (Graphic 2) will be the indicators that CONAFE will aim to achieve in Michoacán based on the hypothesis proposed to improve its results and indicators and reduce the learning gap that exists in its students regarding the Regular SEP in primary education in the state of Michoacán.

The public policy proposal in educational matters is made considering the elements and design model based on the Logical Framework Methodology (MML), recommended for the design, implementation and evaluation of public policies in our country by CONEVAL (ILPES, 2004), and must be aligned with the regulatory standards detailed below: The National Development Plan is aligned according to the Planning Law and the Political Constitution of the United Mexican States (art. 26 and 134), through the Federation Expenditure Budget (Results Based Budget), establishing that the Sectorial and Social Programs will have a Matrix of Results Indicators (MIR), a requirement of the long-term strategic planning of the Federal Public Administration and its federal entities for the fulfillment of the great national objectives, goals and government strategies; part of the New Public Management and Results Management strategy and the Performance Evaluation System. The MIR will be based on the Logical Framework Matrix.

The educational public policy proposal presented below is outlined in steps of a process, with aspects and elements that nourish the logical framework matrix (MML). It describes the analysis of those involved, the process of weighting specific weights of the groups involved, and their risks or threats in the possible intervention of public policy.

The MIR, a consequence of the Logical Framework methodology, establishes the indicators of the budget program, for compliance. Subsequently, the costs of the program, the budget, its impact on the institutional macro budget and those responsible are addressed (considering the educational expenditure of the PEF 2016). Giving way to the proposal of educational public policy, which seeks to solve the research problem: The learning gap between the students of CONAFE and the regular SEP, in primary education, in the state of Michoacán.

Analysis of involved

The analysis of those involved is presented in the following Table of Expectations (1), in which the strength of 1 to 5 points is established, the negative valence for the resistance groups. The total result is the multiple of the valence by force. Positive results are expected to maintain compliance and effectiveness (efficiency and effectiveness). Leaders for Community Education or LEC teachers are considered involved for CONAFE. For the SEP, the most representative unions of the entity, the National Union of Education Workers (SNTE) and the National Coordinator of Education Workers (CNTE) are considered to be involved.

Group	Interest or expectation (positive, if they benefit within the program, and negative if it hurts)	Valencia (V)	Strength (F)	Resulting (V * F)
LEC´s currently in CONAFE	They are a focus of criticism for the results and characteristics of the system. However, they will be great beneficiaries of integrating the program.	Positive	3	+ 3
Union of workers of SNTE and CNTE	They are groups that can present resistance, depending on the possible hiring of teachers under conditions of law and without integrating them into any teachers union.	Negative	2	- 2
Parties and political groups	In electoral times there is a high burden of social and political conflicts in communities far from the entity. It can be a factor that reduces the strength of the program.	Negative	1	- 1
Villagers in the communities	Group directly and indirectly benefited from the consolidation of a better educational service, so their support is expected.	Positive	3	+ 3
CONAFE students	They are the main beneficiaries. The expectation is positive considering the short-term benefits in terms of resources.	positive	3	+ 3

Table 1 Expectations table of the stakeholder analysis
Source: own elaboration based on the MML (ILPES, 2004)

The behaviors of the groups or individuals involved can be differentiated by geography or other factors, such as crime and insecurity, or social groups that deprive in areas or regions of the entity. However, not all of these factors were possible to be included due to their complexity of study. In the end the arithmetic sum is positive of + 6 points, which implies that there are more positive than negative aspects in the proposal.

Problem Tree

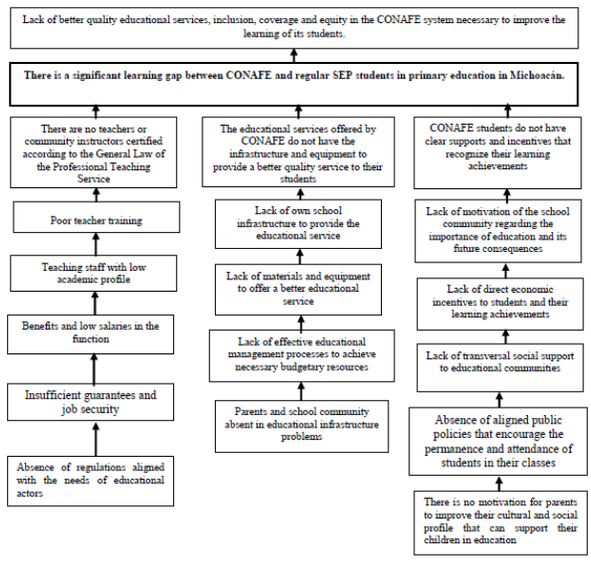


Figure 1 Problem Tree
Source: Own elaboration based on the MML (ILPES, 2004: CONAFE, 2016a, 2016b)

The problem tree, Figure 1, is the result of the diagnosis, foundation, conceptualization and identification of the research problem and its relational variables, which has been configured with the triangulation of hard data and the results of the field work (surveys and analysis of data) initially raised.

Objective Tree

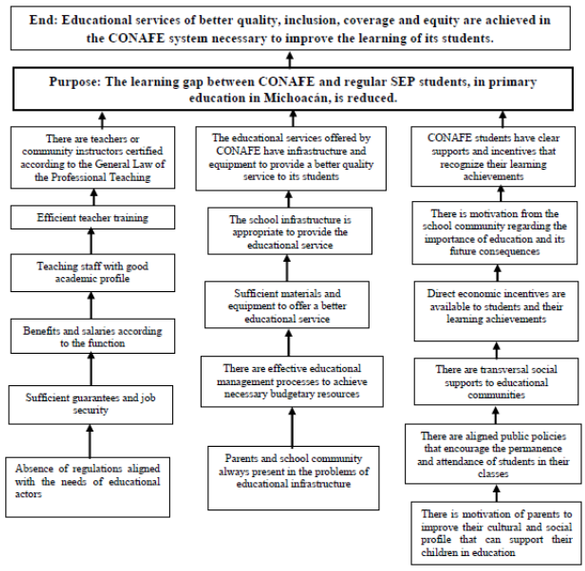


Figure 2 Objective Tree
Source: Own elaboration based on the MML (ILPES, 2004; CONAFE, 2016a, 2016b)

The objective tree presented in Figure 2 is the positive conversion of the negative situations detected in the problem tree.

Alternative solutions

In this phase it consists of analyzing in a strategic way the options that allow to reach the objectives. It is carried out, preferably, by levels, from below, (of the activities or level 4), to the components (level 3); and with it, achieve the ends and objectives (level 2 and 1). Looking for creative strategies of government actions, feasible and achievable, to solve, comprehensively, each problem encountered at each level of the process. It involves selecting the best options, tasks to be performed, within the sector or cross-sectional of other sectors. Among the solution alternatives, 4 stand out, taken into account to solve the identified problem. Components and their activities for the achievement of the proposed services:

A. Certify CONAFE teachers with a bachelor's level.
1. Free teacher update program.
2. Teacher hiring program based on the Law (LGSPD).

B. Equip with multipurpose classrooms for each group / for each LEC.
1. Donation of the land by the community.
2. Classroom construction.
3. Classroom equipment.

C. Grant scholarships for academic achievement to each student of CONAFE.
1. Guidelines and call for scholarships.
2. Participants or beneficiaries.
3. Delivery of scholarships to beneficiaries.

D. Modify contract regulations for LEC, according to the LGSPD.
1. Delivery of proposal to the executive instances.
2. Approval.
3. Implementation, control and monitoring.
4. Evaluation.

Justification, coverage, target population

The justification of the proposals is based on the public policies in force in our country and the alignment that, since 2011, concurs in relation to international human rights agreements, mandatory for Mexico. Considering in this, to the article Third constitutional, international agreements on educational matters, the National Development Plan 2013-2018, in relation to educational quality; and the National CONAFE Program, in its objective 1, to promote access to educational services in basic education.

In relation to coverage and target population, basic education is involved in the primary sub-level, for students enrolled in community education provided by CONAFE, at school age, existing, for 4,879 students and those incorporated into the dates prior to the implementation of the program, as well as the 485 community instructors (LECs) and their new incorporations.

The program considers the educational services provided by CONAFE in Michoacán, as the initial objective of the proposed educational public policy program, which will seek to reverse the results and close the learning gap detected in this research.

For this, the design considers a long-term evaluation period of (6 years), medium term (3 years), and short term (one year or school year). The goals and activities, as well as their follow-up, are set out in the design (paragraph 6.4).

ISSN 2524-2016

Intervention Design

The program will consist of addressing the 3 central aspects identified:

1. Teacher training and hiring of certified teaching staff.
2. Infrastructure and equipment of prototype multi-purpose classrooms in the communities where the community education service is offered.
3. Improvement of socioeconomic conditions of the school community, granting scholarships for academic and social achievements of students.

According to the variables: the learning gap, the socioeconomic profile and the school potential, and the educational public policy as a pivotal factor for the achievement of the objectives, it is reached, considering the intervention flow Figure (Figure 3).

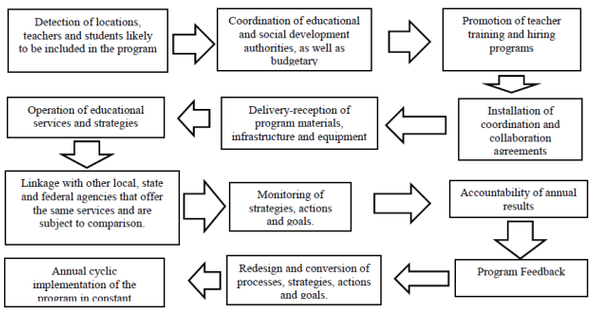


Figure 3 Intervention flow
Source: own elaboration based on the MML (ILPES, 2004: CONAFE, 2016)

Logical Framework Matrix

In the Logical Framework Matrix (table 2), the concentrated values of the variables for the SEP will be the indicators to be achieved by CONAFE. Therefore, it will seek to improve the aspects that influence the study variables for this organism, and are prioritized in the sense of the objective and goals proposed for a given time (long term = 6 years; medium = 3 years, already short term = 1 year or school year). It is important to consider that the projected program implementation times do not necessarily coincide with the results evaluation times, and may be more extensive and / or subsequent to its implementation.

	Narrative summary	Indicators	Means of verification	Assumptions
Objective or purpose	Close the language learning gap of CONAFE students regarding the regular SEP in primary education in Michoacán	Percentage of CONAFE students who have managed to close the learning gap regarding the level of the regular SEP.	Results of the applied research survey. And data from INEGI, SEP, INEE and PISA.	The actors improve their perception of community education and are interested in developing their learning.
Impact purpose	The language learning gap between CONAFE and the regular primary SEP in Michoacán has closed.	Percentage of improvement of the learning gap. Percentage of improvement of educational public policy. Percentage of improvement of the socioeconomic profile. Percentage improvement of school potential.	Results of the applied research survey. Focused survey application. Statistical data and standards of the SEP and CONAFE.	The population makes use of the program and its services. Teachers meet and commit to the proposed objectives.
Components or services	A. LEC with higher education certificate in CONAFE, guaranteed. B. Multipurpose room equipped for each LEC, working. C. Scholarship for academic-social achievement, working. D. Regulatory modification for teacher contracts by the LGSPD.	Percentage of LEC instructors trained at the end of the program. Percentage of multi-purpose classrooms in operation per school year. Number of scholarships awarded per school year. Number of teachers hired for CONAFE under the LGSPD.	Registration of the objective training program. Registration of classrooms built and functioning. Registration of the scholarship program to target population. Budget verification in PPEF and PEF´s.	What is learned applies. Teachers remain and attend their teaching activities in defined places. There is no union conflict with the services provided.
Activities to achieve services	A.1. Free teacher update. A.2. Teacher hiring based on LGSPD. B.1. Donation of land. B.2. Classroom construction B.3. Classroom equipment. C.1. Guidelines and call. C.2. Participants. C.3. Scholarship delivery. D.1. Proposal delivery. D.2. Approval. D.3 Implementation. D.4 Evaluation.	Annual cost of LEC training Annual cost of hiring via LGSPD. Construction cost per classroom. Equipment cost Annual cost of the scholarship program. Cost of design, planning, management and approval. Cost of implementation Evaluation cost	Accounting records of the program. Federation Expenditure Budget Project (PPEF). PEF. Reports of the results of the organizations involved regarding the program implemented.	Political will of the actors and decision makers. Financially encourage the students. Communities donate the land. Sufficient budgetary resources are allocated to fulfill the program.

Table 1 Logical Framework Matrix
Source: own elaboration based on the MML (ILPES, 2004)

Matrix of results indicators (MIR)

The matrix of results or monitoring indicators is aligned with the indicators established in the logical framework matrix (MML), developing the second column, so that it defines the indicators of each level, its method and calculation formula. The MIR matrix must be a single Table, but it is presented in 4 parts, for better visualization. Part 1, corresponds to the objective or purpose (upper level or level 1); then part 2, corresponds to purpose or impact (level 2); Subsequently, part 3 corresponds to the components (level 3); and part 4, corresponding to the activities (level 4). Each Table establishes the indicator, its objective, its definition, its method of calculation and its temporality of reference, as well as its unit of measurement. The rate is not considered because it is a newly created program. Part 1, corresponding to the objective or purpose of the matrix.

	Indicators	Objective	Definition	Calculation method	Reference
Objective or purpose	Percentage of CONAFE students who have managed to close the learning gap regarding the level of the regular SEP.	Contribute to closing the learning gap of all CONAFE elementary school students, regarding students of the regular SEP, in language and communication.	It measures the proportion of students who enter the program in the approval cycle and obtain sufficient or greater results in national or international tests in the subsequent school year.	(Students of the program that obtain sufficient or greater results in national or international assessments in the t-cycle among the total number of students enrolled in the program in year t-1) multiplied by 100.	Period: Sexennial Frequency: Annual Unit of measurement: Percentage

Table 2 Matrix of Results Indicators or MIR (part 1. Objective)
Source: own elaboration based on the MML (ILPES, 2004, CONEVAL, 2018)

Part 2, corresponding to the level of purpose or impact of the matrix. It is presented below in Table 4.

	Indicators	objective	Definition	Calculation method	Reference
Purpose or impact	Percentage of improvement of the learning gap.	Students who participate present improvements in their indicators regarding the learning gap.	It measures the proportion of students within the program who present an improvement in the indicators of the learning gap in the final annual evaluation of the school year (applied survey).	(Students of the program that go from an initial result "r" to a better one "r + i", divided by the total number of participants in cycle t) multiplied by 100.	Period:
	Percentage of improvement of educational public policy.	The students who participate present improvements in their indicators regarding the Public Education Policy.	It measures the proportion of students within the program who present an improvement in the indicators of educational public policy in the final annual evaluation of the school year (applied survey).	(Students of the program that go from an initial result "r" to a better one "r + i", divided by the total number of participants in cycle t) multiplied by 100.	Sexennial
	Percentage of improvement of the socio-economic profile.	Participating students show improvements in their indicators regarding the socio-economic profile.	It measures the proportion of students within the program who present an improvement in the indicators of the socioeconomic profile in the final annual evaluation of the school year (applied survey).	(Students of the program that go from an initial result "r" to a better one "r + i", divided by the total number of participants in cycle t) multiplied by 100.	
	Percentage improvement of school potential.	Students who participate present improvements in their indicators regarding school potential	It measures the proportion of students within the program who present an improvement in the indicators of school potential in the final annual evaluation of the school year (applied survey).	(Students of the program that go from an initial result "r" to a better one "r + i", divided by the total number of participants in cycle t) multiplied by 100.	Frequency:

Table 3 Matrix of Results Indicators or MIR (part 2. Purpose).
Source: own elaboration based on the MML (ILPES, 2004, CONEVAL, 2018)

Part 3, corresponding to the matrix components is presented in Table 5.

	Indicators	Objective	Definition	Calculation method	Reference
Componentes o servicios	Percentage of LEC instructors trained at the end of the program.	Training of instructors to measure the efficiency of the program.	Measure the percentage of instructors enrolled in the program who pass the school year following their preparation.	(LEC teachers of the program that approve their cycle or grade level in their training at time t, divided by the total number of teachers in the program in year t-1) multiplied by 100.	Period: Sexennial Frequency: Annual or semi-annual Unit of measurement: Percentage
	Percentage of multi-purpose classrooms in operation per school year.	Build sufficient school infrastructure for program implementation	Measure the percentage of multi-purpose classrooms in operation per school year with respect to the total programmed	(Multipurpose classrooms in operation in the school year t, divided by the total number of classrooms projected at the end of the program at time t-1) multiplied by 100.	Period: Biennial Frequency: Annual Unit of measurement: Percentage
	Percentage of scholarships awarded per school year.	Contribute to improving the learning gap according to the socio-economic profile of the participants	It measures the percentage of school scholarships of the program delivered and received at time t, with respect to the total programmed.	Scholarships for the program awarded to students at time t, divided by the total projected at time t-1) multiplied by 100.	Period: Sexennial Frequency: Annual or semi-annual Unit of measurement: Percentage
	Percentage of teachers hired for CONAFE under the LGSPD.	Contribute to the program compliance with the law (LGSPD) to achieve the suitability of the CONAFE teaching profile	It measures the percentage of CONAFE teachers who comply with the hiring rules framed in the LGSPD in force at the start of the program.	(Teachers hired through the law in force at time t, divided by the total number of teachers existing at time t) multiplied by 100.	Period: Sexennial Frequency: Annual or semi-annual Unit of measurement: Percentage

Table 4 Matrix of Results Indicators or MIR (part 3. Components)
Source: own elaboration based on the MML (ILPES, 2004, CONEVAL, 2018)

Part 4, corresponding to the activities for the achievement of the matrix (Table 6).

	Indicators	objective	Definition	Calculation method	Reference
Activities to achieve services	Annual cost of LEC training.	Establish the annual amount allocated to the training of the LECs	It measures the annual cost of teacher training aimed at improving the academic profile of the LEC at time t, until they achieve their professionalization (degree).	Sum of costs allocated to teacher training of LECs in year t.	Periodo: Sexenal Frecuencia: Anual Unidad de medida: Pesos
	Annual cost of hiring teachers via LGSPD.	Determine the annual amount of teacher hiring via the LGSPD lay	It measures the annual cost of hiring teachers of the program through the LGSPD lay in year t	Sum of costs of hiring teachers with suitable profile according to the LGSPD in year t.	Periodo: Sexenal Frecuencia: Anual Unidad de medida: Pesos
	Average cost of construction per classroom.	Establish the average unit cost of construction of the multipurpose classrooms of the program	Measure the average construction cost of each multi-purpose classroom at time t at current prices.	Sum of construction costs of all multi-purpose classrooms at time t, divided by the number of classrooms.	Period: Sexennial Frequency: Annual Unit of measurement: Pesos
	Average cost of equipment.	Establish the average unit cost of equipment for the multipurpose classrooms of the program	Measure the average equipment cost of each multi-purpose classroom at time t at current prices.	Sum of equipment costs of all multipurpose classrooms at time t, divided by the number of classrooms.	Period: Sexennial Frequency: Annual Unit of measurement: Pesos
	Annual cost of the scholarship program.	Establish the annual amount of the cost of school scholarships	It measures the annual amount of the cost of scholarships for students participating in the program.	Sum of costs of all scholarships for students of the program in year t.	Period: Sexennial Frequency: Annual Unit of measurement: Pesos
	Cost of design, planning, management and approval.	Establish the annual amount of the cost of design, planning, management and approval of the program.	It measures the annual amount of the cost of design, planning, resource management and program approval.	Sum of design, planning, management and approval costs of the program at time t.	Period: Sexennial Frequency: Annual Unit of measurement: Pesos
	Cost of implementation	Establish the annual amount of program implementation, monitoring and control	It measures the annual cost for implementation, monitoring and control of the program. It includes material, human and financial resources.	Sum of costs of implementation, monitoring and control of the program in time t.	Period: Sexennial Frequency: Annual Unit of measurement: Pesos
	Evaluation costs	Establish the annual amount of the internal and external evaluation of the program, as well as its accountability.	It measures the annual cost for the evaluation and accountability of the program. It includes internal and external evaluation.	Sum of evaluation and accountability costs of the program at time t.	Period: Sexennial Frequency: Annual Unit of measurement: Pesos

Table 5 Matrix of Results Indicators or MIR (part 4. Activities)
Source: own elaboration based on the MML (ILPES, 2004, CONEVAL, 2018)

In the activity phase it is possible to calculate progress percentages in relation to costs. However, because it is a new program, it is more feasible to calculate the amounts by activity and in the matrix of indicators of the second year to be able to calculate percentages or rates, and also to be able to establish compliance means.

Estimation of operating costs

The cost estimates, as well as the budget and impact, which are developed below are based on the 2016 Federation Expenditure Budget, and the unit costs are obtained from the means established for the costs of each service of the same year. The amounts are approximate but can be considered for the initial calculation of the final budget runs according to the applicable budget law (DOF, 2015).

Service	Description	Annual unit cost approx.	Total annual cost approx.
Recruitment of certified teachers	It requires the hiring of 485 teachers with teaching certificate (degree).	$84,000.00	$40,740,000.00
LEC Instructor Training	Training of at least 61% of the 485 LECs with a baccalaureate certificate, to achieve their higher education certification (396 individuals).	$15,000.00	$5,940,000.00
Prototype classrooms	485 prototype classrooms per community / educational service teacher.	$1,000,000.00	$485,000,000.00
Prototype classroom equipment	Classroom equipment with furniture and equipment.	$100,000.00	$48,500,000.00
Student Scholarships / School Achievement	Consider 4,879 students, at an average incentive: $ 220 bimonthly.	$1,100.00	$5,366,900.00
Process management, planning, design and monitoring.	Consider a process management team of 6 people.	$150,000.00	$900,000.00
Total		**$1,350,100.00**	**$585,446,900.00**

Table 6 Estimación de costos del proyecto o programa de intervención
Source: Own elaboration based on the MML (ILPES, 2004: CONAFE, 2016)

It is possible to dispense or reduce some costs depending on suppliers and priority activities that can be determined when designing the tentative budget. It is proposed to consider 6% of the total amount for operating expenses, not included in the costs of processes, planning, design and monitoring of Table 1.

Budget and budgetary impact

Budget

The budget considered for the operation of the program is additional to that allocated by the Chamber of Deputies and the PEF 2016, for the agency (CONAFE). For what is required of the management in the legislature and in the design of the budget by the SHCP (DOF, 2015). The efforts and managers are expected to carry out the proceedings in the units involved and their extension is achieved, which is currently around 5 billion pesos annually in the chapters of direct and indirect current expenditure.

Budget impact

The budgetary impact represents an approximate of 11 to 12% additional to the budget approved in the 2016 PEF of 4.9 billion pesos per year (considering that the 2017 public account has not yet been approved or completed at the date of publication of the text).

Responsible

The implementation, monitoring, control, evaluation and accountability will be in charge of the executive authorities of the CONAFE services agency. The external evaluation will be carried out by the authorities destined for this purpose, CONEVAL, the INEE or some agency contracted for it. It is possible to include international organizations such as the OECD and UNESCO. The publication of results will be in charge of the agency, in compliance with the applicable regulatory and regulatory provisions.

Educational public policy proposal

With the intention that the proposal be clearly identified from its nomenclature, a title is proposed according to the problem that is intended to be solved, so it is assigned:

“NO LEARNING GAP”

ISSN 2524-2016

The program "Without learning gap" is a strategy of inclusion, equity and social justice in educational matters, of a state nature, which in its first stage will have as its objective focused the school communities of CONAFE of primary education in Michoacán. It seeks to guarantee access to quality education in terms of the third constitutional article, allowing to improve the results and achieve educational goals, leveling learning in relation to regular SEP students in the short, medium and long term, generating a standard Starting from student learning that allows joint progress towards the objectives and goals proposed by national and international organizations in the field of evaluation.

For the achievement of its objectives, it considers the coordination between the dependencies of the public administration and federal, state and local agencies that directly affect CONAFE and the SEP, federal and decentralized in the state of Michoacán, as well as organisms, dependencies and transversal programs of possible contribution in the solution of the multifactor problem implicit in the task. Similarly, establish coordination with the entities and bodies for evaluation, transparency and accountability.

The institution responsible for the program will be a decentralized body of the SEP, coordinated with the institutions and agencies of the public administration through the Education Sector Program and the National Development Plan.

Linked institutions

- Intersectoral commission of plans and programs derived from the PND. Instance of collaboration and strengthening of the lines of action between the sectors and programs Educational, Social Development and Health, and levels of government.
- The Secretary of Public Education, SEP. In its federal and state decentralized scope in Michoacán.
- The National Council for Educational Development, CONAFE, in its federal and delegation in the state of Michoacán.
- The National Institute of Educational Evaluation, in its national scope of contribution for the establishment of educational indicators and guidelines.
- The General Coordination of the Professional Teaching Service, CGSPD, in its national field of contribution to the professional development of teachers.
- The Secretary of Social Development, SEDESOL, in its transversal scope and contribution to educational goals.
- The Ministry of Social and Human Development in the State of Michoacán, SEDESOH, in its cross-cutting area and contributing to educational goals.
- The Secretary of Health, SSA, in its federal and state cross-sectional area and contributing to the goals of improving the HDI index.
- The Congress of the Union, in its scope of the Chamber of Deputies, approval and budgetary regulation of the Superior Audit of the Federation.
- The Ministry of Finance and Public Credit, SHCP, in its federal and state scope, for design, programming and budget.
- National Council for the Evaluation of Social Development Policy, CONEVAL, in its national autonomous field of contribution in the design, planning and evaluation of social programs.

General objectives

Close the learning gap between CONAFE students and regular SEP students, in basic education in the state of Michoacán, based on the integral feeding of students, income and socioeconomic educational destiny of families in inequality, as well as the attention to the professional professional preparation, motor of development of the knowledge and knowledge of its students.

Specific objectives

1. Reduce the learning gap between CONAFE students and regular SEP students in the state of Michoacán, in the language and communication training field, in primary education in the state of Michoacán.
2. Guarantee teachers or Leaders for Community Education (LECs), professionalized, with a minimum level of higher education, undergraduate.
3. Certify the teacher training and professionalization of the current LECs that do not have an adequate or lower profile at the higher level, undergraduate.

4. Have adequate and functional infrastructure for the educational attention of CONAFE students, with multipurpose classrooms and complete equipment.
5. Provide scholarships for academic and social achievement to CONAFE students that allow to enhance their skills, abilities, abilities and skills, as well as their full dedication to knowledge and knowledge.

Strategic axes

– **Income:** Hiring, professionalization and teacher training policies are promoted, which directly index the school potential, and guarantee better incomes, a better professional profile and competitiveness that allows to guarantee a better standard of living of the educational actors involved. Social support economic policies are developed for students that guarantee their school permanence and a better socio-educational profile of CONAFE students.

– **Learning:** With the objective of achieving better results and levels of learning of the implicit educational communities, the plans and programs of primary education are aligned to the national and international goals through the guarantee of incorporation of professionalized teaching staff in educational matters and with suitable profile. Participation in terms of equity of students to achieve better performance and learning will be a constant engine of the program and its actors in the implemented public policy.

– **Food and health:** With the intention of strengthening the adequate feeding of the students, we will seek to contribute to the integration of school canteens, provided by the transverse programs of SEDESOL and SEDESOH, as well as the monitoring of health outcomes in the educational communities by the SSA.

– **Social Development:** Considering that at a higher level of education in the communities there are better conditions of innovation, entrepreneurship, knowledge, knowledge and skills as an engine of economic and social development of the regions and productive sectors, the school-community relationship with cross-cutting programs of SEDESOL and SEDESOH that allow the development of culture, sports and employment for the integral achievement of coexistence and social peace.

Target population

The actions will seek to attend the educational communities of CONAFE of primary education in Michoacán, an approximate universe of 72 thousand inhabitants that are developed in the communities, 485 LEC teachers, and 18 thousand students (CONAFE, 2016c; INEGI, 2017).

Regulatory framework

PND in its goal III. Mexico with quality education, Planning Law, PSE, PSS, PSDS, Art. 3rd, and 73, 26 and 134 Constitutional, General Education Law, Fiscal Coordination Law, General Law of the Professional Teaching Service, General Guidelines for the Evaluation of Federal Federal Public Administration Programs, Budget and Public Finance Law (CEFP, 2016; CESOP, 2015; CONAFE, 2015, 2016, 2016a, 2016b, 2016c; CONEVAL, 2018; DOF, 2013, 2015; PND, 2007, 2013; PSE, 2013).

Conclusions

An intervention proposal was designed based on an analysis and logical framework methodology (MML) outlining a relevant educational public policy to reduce the learning gap of CONAFE students with respect to regular SEP students in Michoacán. It constitutes a basis for the design of a program that translates said public policy into government actions considering all the phases of a governmental institutional program, from the making of public policy, implementation, control and evaluation, until reaching transparency and accountability.

ISSN 2524-2016

The proposal generated implies the use of public resources. Therefore, the process must weigh the ethical and moral exercise of public policy, as well as its transparency and accountability based on the guidelines and standards applicable to each case.

The decision to focus on primary education was based on the average permanence of school years that our country reaches the first year of secondary education. It is necessary to address the reasons for such limited achievements in the educational levels in our country and in Michoacán. The visible disarticulation that exists between organizations that provide basic education, and between educational sub-levels of the same organizations is also important to attend, be they preschool, primary, secondary, upper middle, and higher.

The proposal of educational public policy, which is outlined in the research through the Logical Framework focuses on the solution of the problem identified to close the learning gap in four aspects:

1. Attend the training and hiring of qualified and certified teachers in primary education as a means to strengthen the deficiencies in the teaching-learning process. Which obviously has a considerable economic cost; but its benefit would be equally significant to counteract the current negative effects.

2. Consider the importance of addressing a transcendental problem in our country: illiteracy and school lag, which will not be possible to eliminate, if we forget that in the most remote communities and where the absence of the educational service is practically null, it is one of the factors of This social delay. The non-attention of the subject has been a criticism by external and internal, national and international organizations, and that in Michoacán it does not allow to raise white flags, only discursively. The reality is different.

3. Another aspect that meets the proposal is: infrastructure and equipment, as well as lack of furniture and materials to work and develop the teaching-learning processes. The provision of additional budgetary resources to improve the current infrastructure, involves carrying or establishing 485 classrooms, one per community served, which in a comparative macro of infrastructure investment in the country does not really represent a significant budgetary impact, as is the motivational consequence of the educational communities involved to enable and achieve better standards of living and development in their communities and in their social and cultural environment.

4. Finally, the social and economic aspect that considers addressing the proposal by proposing direct scholarships to students based on their immediate educational and socio-cultural achievements, represents a very profitable investment. It should be recognized that the cross-cutting social support or programs that other sectors of the government allocate to educational strengthening have not had the desired impact and results.

The information obtained from the field investigation makes it possible to determine that the incentives destined to the parents or guardians of the students end up being redirected to other needs and leave aside the fundamental reason for these supports for the strengthening of their children's learning. Therefore, the immediate recognition of the achievements that students have can represent a substantive incentive and a change of behavior in the perspective and results of education in the implicit educational communities.

For all the above, the proposal presented can be considered pertinent to solve the problem detected and establish an objective route of continuous improvement in primary education in Michoacán.

ISSN 2524-2016

References

CEFP (2016). *Presupuesto de Egresos de la Federación 2016: Recursos Identificados para el Estado de Michoacán*. Cámara de Diputados. LXIII Legislatura. México.

CESOP (2015). *Evaluación del gasto educativo en México*. Centro de Estudios Sociales y de Opinión Pública. Cámara de Diputados. LXIII legislatura. México.

CONAFE (2015). *Programa Institucional del Consejo Nacional de Fomento Educativo: Logros 2014.* CONAFE. México.

CONAFE (2016). *Diagnóstico General Consejo Nacional de Fomento Educativo, 2016 Dirección de Planeación*. SEP. México.

CONAFE (2016a). *CONAFE en cifras. Educación comunitaria*. Sistema Integral de Información e Infraestructura para el Fomento Educativo. Siiinafe. SEP. México.

CONAFE (2016b). *Histórico*. SEP. México.

CONAFE (2016c). *Monitoreo CONAFE*. Dirección de Comunicación y Cultura. SEP. México.

CONEVAL (2018). Sistema de Monitoreo de Programas Sociales. Lo que se mide se puede mejorar. Secretaria de Educación Pública 2017. México. Consultado en el 23 de enero de 2018. Enlace electrónico: http://sistemas.coneval.org.mx/SIMEPS/Programas

DOF (2013). *Ley General del Servicio Profesional Docente*. Cámara de Diputados. México.

DOF (2014a). *Acuerdo No. 717 por el que se emiten los lineamientos para formular los Programas de Gestión Escolar*. Del fortalecimiento de la autonomía de gestión escolar de las escuelas de educación básica. Capítulo II. SEP. México.

DOF (2014b). *Programa institucional del Consejo Nacional de Fomento Educativo 2014-2018*. Segunda Sección. Gobierno. México.

DOF (2015). *Presupuesto de egresos de la federación para el ejercicio fiscal 2016*. SEGOB. México.

Gobierno del Estado de Michoacán (2016). *Programa anual de evaluación al Fondo de Aportaciones para la Nómina Educativa y el Gasto Educativo (FONE) 2016*. SEE. Michoacán. México.

ILPES (2004). *Metodología del Marco Lógico*. CENEVAL. Santiago de Chile.

INEGI (2017). *Censo de Escuelas, Maestros y Alumnos de Educación Básica y Especial (CEMABE)*. México. INEGI. www.uv.mx

OCDE (2016). *Programa Internacional de Evaluación de los Alumnos (PISA)*. México. Enlace electrónico del portal: www.oecd.org

OCDE (2016a). *Programa para la Evaluación Internacional de Alumnos PISA 2015*. Resultados. Base de datos PISA 2015. México. Portal: www.oecd.org

PLANEA (2016). *Plan Nacional para la Evaluación de los Aprendizajes*. Portal PLANEA. SEP. México. www.planea.sep.gob.mx

PND (2007). *Decreto por el que se aprueba el Plan Nacional de Desarrollo 2007-2012*. SHCP. Cuarta Sección. P. 70. México.

PND (2013). *Plan Nacional de Desarrollo 2013-2018*. Segob. DOF. México.

PSE (2013). *Programa Sectorial de Educación 2013-2018*. Segob. DOF. México.

ISSN 2524-2016

Article **Journal-Public Economy**
December, 2019 Vol.3 No.5 27-37

A Comparative Analisys of Poverty Theories

Un Análisis Comparativo sobre las Teorías de la Pobreza

DE LA CRUZ-CONTRERAS, Brandon Alan* & MENDOZA-ALVARADO, Juan José

Universidad Autónoma de Nayarit, Academic Unit of Economics

ID 1st Author: *Brandon Alan, De La Cruz-Contreras* / **ORC ID**: 0000-0003-4345-1509, **CVU CONACYT ID**: 929814

ID 1st Coauthor: *Juan José, Mendoza-Alvarado* / **ORC ID**: 0000-0002-1129-6981, **CVU CONACYT ID**: 72532

DOI: 10.35429/JPE.2019.5.3.27.37 Received September 11, 2019; Accepted November 12, 2019

Abstract

Several scholars of the issue of poverty point out that the different ways in which poverty is conceptualized and quantified are of the utmost importance because various poverty measures tend to capture different people as poor. In that sense, this research work seeks to conduct a theoretical and empirical research on theories of poverty, poverty measures and results. Also, we discuss the conceptual framework of the different poverty measures.

Poverty, Absolute poverty, Relative poverty, Subjetive poverty, Capabilities approach, Income method, basic needs

Resumen

Diversos estudiosos del tema de la pobreza señalan que las diferentes formas en que la pobreza se conceptualiza y cuantifica son de suma importancia debido a que diversas medidas de pobreza tienden a capturar a diferentes personas como pobres. En ese sentido, este trabajo de investigación busca realizar una investigación teórica y empírica sobre teorías de la pobreza, medidas de pobreza y resultados. También, discutimos el marco conceptual de las diferentes medidas de pobreza.

Pobreza, Pobreza absoluta, Pobreza relativa, Pobreza subjetiva, Enfoque de capacidades, Método de ingresos, Necesidades básicas

Citation: DE LA CRUZ-CONTRERAS, Brandon Alan & MENDOZA-ALVARADO, Juan José. A Comparative Analisys of Poverty Theories. Journal-Public Economy. 2019- 3-5: 27-37

† Researcher contributing as first author

Introduction

A notable feature of underdeveloped countries is poverty. The great difficulties of developing economies are related to persistent poverty, the lack of sustainability of growth and development bring with it horrors of poverty: illiteracy, malnutrition, poor health and absolutely ominous perspectives. Poverty is the clearest manifestation of the deprivation of the human being of enjoying the conditions of a dignified life and not only strikes one's existence but also deprives the right to enjoy good health, to have access to education, to have sufficient nutrients. To have a healthy life, you also extinguish your aspirations, hopes and enjoyment and enjoyment of the future.

As such, poverty is not reduced to a monetary problem of income or expenses. Being poor, according to Sen (2001), does not mean living below an imaginary poverty line, for example, an income of $ 2 per day or less, therefore, poverty is multidimensional and does not reduce to the instrumental treatment that manifests in the positive type measures.

The term poverty has different meanings and ways of conceptualizing. Some can be cited. The Royal Academy of Language defines "poor" as needy, who does not have what it takes to live; We note that this definition is reduced to the term "need." Rowntree (1971) defines poverty as the amount of socially acceptable money to meet the minimum needs for the simple maintenance of physical efficiency. For the United Nations Development Program (1997), poverty is the inability of people to live a tolerable life. Authors such as Spicker (1999), identify eleven possible ways of interpreting poverty (need, standard of living, insufficient resources, lack of basic security, lack of ownership, multiple deprivation, exclusion, inequality, class, dependence and unacceptable suffering. fundamental in the

Poverty analysis is the poverty threshold concept, Debraj Ray (1998) defines the poverty threshold as the minimum level of income, consumption or access to goods and services below which individuals are considered to be poor. On the other hand, Atkinson (1981) considers that poverty is substantially related to nutrition.

In that sense, we observe in the literature on poverty the terms of satisfaction of certain needs, the consumption of goods and disposable income, where the definitions are made using absolute, relative and subjective concepts.

This document makes a review of the main theories and approaches on the nature of poverty; describe and compare each theory mentioned in order to discuss the fundamental elements of poverty.

Theory review

Next, an outline is made of the main ways of conceptualizing and measuring poverty, looking for a differentiating factor in each of the methods that will be mentioned.

Many of the measures presented in this article are frequently used in developing countries, and have been implementing new techniques over time to be able to make closer approximations about who can be considered poor and what are their features. In this part, some of the official poverty measurement measures such as the World Bank, the Economic Commission for Latin America and the National Council for the Evaluation of Social Development Policy in Mexico will also be presented.

The "capabilities" approach

One of the great contributions to the study of poverty is that proposed by the Nobel Prize in Economics Amartya Sen (1984), the approach of "capabilities" that criticizes the standard of living characterized by the utility experienced by individuals in the face of the consumption of goods, this idea of "capabilities" is based on the fact that the standard of living of an individual is determined by his "capabilities" and not by the assets he possesses, nor by the utility he experiences. Sen exemplifies this idea like this: a bicycle is a good that has different characteristics, including being a means of transport; that characteristic gives the person the ability to transport themselves, and that in turn can provide usefulness to the individual, so that there would be a sequence that begins in the good, passes through the characteristics of the latter, then through the capabilities and, finally , for the utility.

ISSN 2524-2016

In addition to this idea, the author points out that the standard of living is also not given by a comparison of people's levels of utility. Understanding utility as a subjective mental reaction to the execution of a capacity and, therefore, the standard of living cannot be objectively assessed, for example, "a complaining rich man may be less happy than a happy farmer, but he has a level of life taller than him. " In short, it would be the power to perform actions that determines the standard of living, and not the objects, their characteristics or their usefulness.

In an analysis by Ravallion (1998), he describes the theory of "capabilities" and its relation to the formulations of "real income" using a theoretical model that links these concepts: It is assumed that household capacities are denoted by the vector c, they are a vector function of the quantities of goods consumed by the household (q), and their characteristics (x), therefore the capacity function is c = c (q, x), in that sense, utility can be considered as a unique value function of the various capacities and u = w (c) is denoted. The author concludes that by substituting the capacity function with the utility function, the capacities to return to the utility function u (q, x) and the corresponding expense function e (p, x, u) can be "resolved." In that sense, the "capacities" are an implicit behavior of demand and the corresponding monetary representations of the utility.

Finally, Sen considers income as an important variable in the study of poverty and states that a person with higher incomes will be able to achieve greater human well-being. This depends on different aspects such as age, gender, social role, location, health, education, justice, etc. He argues that income is related to deprivation, however, it is capacities that determine income.

Absolute and relative poverty

The difference between "absolute" and "relative" is not found in the definition of poverty, but rather they are ways of interpreting the way they socially shape needs (Spicker, 1999). In that sense, when talking about absolute poverty we refer to a class of measurements that argues that being poor is having less than a definite absolute minimum defined, while relative poverty refers to poverty as having less than others in society, that is.

The needs arise from the comparison with others, and the situation of poverty depends on the general level of poverty.

That said, an outline is made of the absolute and relative approach to poverty.

Absolute Definitions of Poverty

In this class of measurements we can cite the works of Rowntree (1971) and Orshansky (1965), where they define the absolute minimum in "terms of basic needs", the objective of this method is to specify a set of basic needs (clothing, housing, food, etc.) and in measuring how many people satisfy them. According to Callan and Nollan (1991), people can be poor by clothing, but not poor by food and require direct observation of the consumption patterns of individuals, thus calling it a "direct" approach.

An approach to the "direct" method is the one proposed by Sen (1983) in the income method, which takes as a reference a defined set of basic needs and the minimum level of expenditure necessary to satisfy them. The difference between the direct method and the income method must be emphasized to have an approximation of basic needs. The first directly observes the living conditions of the population, how far from the social standards these living conditions are found will determine the classification of "poor" or "not poor." The second uses income or consumption as an approximation of people's standard of living.

The income level approximation is commonly used in developed countries, for example, in England, where they implement the "primary poverty" measure, in which they specify a diet required to meet the minimum nutritional needs, housing and clothing elements , also an allowance for other expenses. In this method a person is in secondary poverty who live in obvious need but not below the minimum level of expenditure that was obtained when valuing the target basket.

Another approach to the definition and measurement of absolute poverty is that proposed by Watts (1967), Love and Oja (1977), based on Engel's law that argues that the ratio between food and income expenditures decreases when income increases , that is, an absolute minimum is expressed in terms of that reason, below which the person is considered poor.

As an example, a ratio of ⅓ would indicate that all households that spend more than one third of their income on food are considered poor. On the other hand, there is the reason total expenditure and income, in which it mentions that a person is in a situation of poverty if their current income is not enough to cover their current expenditure, for example, if they have to resort to loans or spend their savings . According to this category the ratio between total expenditure and total income must be greater than one.

As we have observed, the measurement of poverty is usually carried out through income or consumption and which, in turn, can be expressed in terms of households or individuals, that is, total income and per capita income respectively. According to the first, two households with the same total income have the same level of well-being, although one of them is made up of five people and the other by three. However, it follows that the household needs increase as the number of its members increases, so that an indicator that considers the size of the household will be preferable to the total income; while the per capita income accounts for the size of the household, but dividing its total income by the number of members. In that sense, the object of study becomes the individuals themselves, rather than the homes in which they live.

However, individual needs are not adequately covered by the size of the household because these needs also depend on certain characteristics, such as age, gender, etc. Hence, another dimension to study arises, which is income or consumption adjusted for an "equivalence scale" which shows the relative cost that a household must incur to enjoy the same well-being as a reference household, given its Size and composition

The concept of equivalence scales considers two important elements, the first about the different needs of household members according to their age, gender or other demographic or type of activity characteristics; the second takes into account the existence of "economies of scale", that is, characterized by decreasing marginal costs to achieve the same level of well-being in the presence of a new household member.

On the other hand, the quality of life or the well-being of families can be approximated through the caloric consumption of its members. We observe in the dimensions of extreme poverty, for example, that malnutrition is a fundamental part of the phenomenon, but this is only one aspect of the "standard of living", and not a synonym for poverty. Hence, another method for the identification of poverty, the "anthropometric method" arises. Height according to their age and weight according to height can serve as approximations to nutritional indicators, or as an indicator of health. The main characteristic of this anthropological method is its usefulness in studies on the effects of poverty at the population level.

Definitions of relative and subjective poverty

As mentioned in the previous section, relative poverty refers to having less than others in society and that is where the concept of relative deprivation is born. We can cite some studies such as Abel-Smith and Townsend (1965), Rainwater (1969), Miller and Roby (1974) who define it with respect to income, and in other Townsend (1979), Desai and Shah (1988) with regarding some goods or events.

According to Sen (1984), the relative method originated in response to the failed poverty studies of the mid-twentieth century, in which the poverty line used was absolute in terms of goods, and did not reflect the new needs of the people over time. Townsend studies this approach, defines the poor as those who lack adequate resources to acquire a certain type of food diet to participate in certain activities and to enjoy a certain level of life and security, focusing on the distribution of the goods of the generated product . In that sense, poverty becomes a relative study in which a person in poverty is considered when he lacks a certain level of income derived from an average income of societies.

Another approach in the definition of poverty is the subjective method, which highlights Hagenaars and Van Praag (1985); Critics of the absolute and relative approach because they mention that in both methods value judgments are required, for example, the fraction of the average or median income where the poverty line is located or in the basket of goods that satisfies caloric consumption.

The authors point out that the definition of poverty is given by the population and not by who conducts the study. In sum, this method starts from the income levels where respondents are argued about their necessary income levels that they estimate not to be poor, a range is also requested, where sufficient, good and very good income is established to help to well-being.

By way of conclusion we can affirm that the dominant conception of poverty is the traditional methodology of poverty measurement or income insufficiency, however, we have observed that different scholars have proposed different conceptualizations and measurement methodologies, as well as explanatory frameworks on its economic and social nature in order to establish a holistic or multidimensional approach in the way of defining the poor.

The Direct and Unsatisfied Basic Needs Method (NBI)

In previous sections we gave an approximation about the direct method, we mentioned that it uses income or consumption as an approximation to the standard of living of people. This method relates well-being to actual consumption, while the income method relates it to the possibility of making consumption. In this regard Sen (1981) illustrates these arguments: "The ascetic who fasts in his expensive bed of nails will be registered as poor under the direct method; on the other hand, the indirect or income method will classify it differently when considering their level of income, with which a typical person of that community would not have difficulty in satisfying their basic nutritional requirements".

On the method of Unsatisfied Basic Needs. In Latin America, the Unsatisfied Basic Needs method has been characterized as an important contribution in the identification of poverty and certain critical deficiencies of the population, introduced by the Economic Commission for Latin America and the Caribbean (ECLAC) at the beginning of the eighties through censuses, demographics and housing; choosing a series of census indicators that allow to verify whether or not households meet some of their main needs; Once the satisfaction or dissatisfaction of these needs is established, a "poverty map" is constructed, which geographically locates the deficiencies noted.

The basic needs that this approach considers are those that must be satisfied for a household so that their standard of living is considered worthy, according to the standards of the society to which it belongs. It is possible to distinguish between absolute and relative needs. The first are those whose satisfaction is essential for human existence, regardless of the social environment in which the individual develops. The latter have to do with the relative deprivation that members of a given society may experience; An example of this is consumer goods that, on the one hand, are not necessary for survival, but are essential for people to integrate into their social environment.

The needs considered in this method are limited to the following four categories:

1. Access to a home that ensures a minimum standard of home skill
2. Access to basic services that ensure an adequate sanitary level
3. Access to basic education
4. Economic capacity to reach minimum consumption levels

As already mentioned, this method is associated with the elaboration of "poverty maps" at highly disaggregated levels, however, this approach depends on population and housing censuses, where information such as overcrowding, type of housing, lack of health services, absence to primary schools for minors and an indicator of consumption that associates the educational level of the head of the household with the rate of economic dependence.

The integrated poverty measurement method

Boltvinik (1992) constructed this poverty measurement methodology based on the poverty line (LP) and unsatisfied basic needs (NBI) methods, remember that the LP method consists of comparing income or consumption per capita with the poverty line that is expressed in terms of income; To define the poverty line, the variant of the food normative basket (ANC) was introduced, that to obtain the poverty line it is enough to calculate the cost of the ANC and multiply it by the reciprocal of the Engel coefficient (percentage of expenditure dedicated to food) from some group of households. This procedure is called the CNA variant of the LP method.

On the other hand, the NBI method consists in comparing the situation of each household in relation to a group of specific needs with a series of norms that express, for each of them, the minimum level below which the need is considered unsatisfied. However, this method has been restricted in Latin American practice due to the limited information available on households in censuses and surveys.

Boltvinik found limitations in both methods, on the one hand the method of LP that consists in satisfying basic needs only depending on income or current private consumption of households, and the NBI method applied in Latin America, choose satisfaction indicators of property needs of consumer assets (housing) or of access rights to government services (water, excreta disposal and primary education), so it does not consider other sources of welfare. Boltvinik points out that both methods turn out to be complementary to each other, insofar as the sources of well-being considered by both methods are different..

In turn, Boltvinik (2010), states in his method that the standard of living of households depends on six sources of welfare, of which two act through the market, current income and non-basic assets; while the sources of access to free public goods and services, time, knowledge and skills are isolated outside the market.

The author states that during the MMIP the deficiencies associated with the limitations of current income, rights of access to services or government goods of a free nature, property or rights of use, of assets that provide basic consumption services, can be identified. educational levels, skills and abilities, understood as the ability to understand and do, the time available for education, recreation, rest and household chores, the ownership of non-basic assets and the ability to borrow from home (Boltvinik, 2003, pp. 523).

This method of measuring poverty has been adopted by the capital of Mexico, in addition to the purpose of avoiding duplication of information captured by the income method and that of the NBI, adding the variable time to obtain integrated poverty.

Axioms for poverty measures

To analyze poverty indices there is an "axiomatic" approach, incorporated by Sen (1976) and subsequently extended or modified by other authors. This approach states that poverty measures must meet a number of conditions, some of which are mentioned below.

The focal axiom points out that, once the poverty line is established, a measure of poverty should not be sensitive to changes in the income of the non-poor. This arises from the idea that changes in the income of people who are above the poverty line do not affect the well-being of poor people. This information can, however, be used to develop other indicators, such as an "indicator of poverty alleviation facility" (Anand, 1977).

The monotonicity axiom states that a measure of poverty must be increased when the income of a poor person decreases. This means that there must be a correspondence between the measure of poverty and the distance of the poor from the line.

According to the transfer axiom, a transfer of money from a poor individual to a less poor individual should increase the measure of poverty. Therefore, this axiom requires that the poverty measure be sensitive to the distribution of income below the poverty line, and in particular, that it assigns a greater weight to the most dispossessed. The weak version of this axiom restricts the analysis to transfers that do not cause an individual to exceed the poverty line.

An extension to this axiom, originally incorporated by Kakwani (1980), is sensitivity to transfers. The aforementioned axiom requires that a transfer of income from a poor person to a less poor person increases the measure of poverty to a greater degree the poorer the person who delivers their resources.

Finally, Foster et al. (1984) have additionally proposed an axiom of monotonicity in subgroups: if poverty increases for a group of people, then total poverty must also increase. This ensures that a change in the income of some individuals affects, in the same direction, the poverty of any group in which these individuals are.

ISSN 2524-2016

Count index

The count is the simplest and best known measure of poverty. Identify the proportion of a population whose income is below the poverty line. It is, not surprisingly, the most commonly calculated measure of poverty. The measure literally counts heads, allowing policy makers and researchers to track the most immediate dimension of the human poverty scale. The count is calculated by comparing the income yi of each household with the poverty line z. (The index i = 1 ... M, where M is the total number of households in the sample.) Specifically, an indicator variable is constructed for each household, taking the value 1 when income falls below the poverty line or 0 if the income is higher:

I (y, z) = 1 if $y_i \leq z$
I (y, z) = 0 if $y_i > z$

The counting index is simply the sample average of the variable I (y, z), weighted by the number of people in each household or. The measure is calculated by first counting the number of poor people, G:

$$G = \sum_{i=1}^{M} I(y,z)ni$$

The total population of the sample can be calculated in a similar way to

$N = \sum_{i=1}^{M} I(y,z)ni,$ and the total count is then the reason for the two numbers:

$$H = G/N$$

Counting is an important descriptive tool. However, as the only guide for allocating resources.

Poverty gap

A moderately popular measure of poverty is the poverty gap index, which adds the extent to which individuals on average fall below the poverty line, and expresses it as a percentage of the poverty line. More specifically, define the poverty gap (Gi) as the poverty line (z) minus real income (yi) for poor individuals; The gap is considered zero for everyone else. Using the index function, we have

$$Gi = (z - yi)I(yi < z)$$

then the poverty gap index (P1) can be written as

$$P1 = \frac{1}{N}\sum_{i=1}^{N}\frac{Gi}{z}$$

This measure is the average proportional poverty gap in the population (where the non-poor have zero poverty gap). Some people find it helpful to think of this measure as the cost of eliminating poverty (in relation to the poverty line), as it shows how much they would have to transfer to the poor to bring their income or expenses to the poverty line (such as a proportion of the poverty line). The minimum cost of eliminating poverty using specific transfers is simply the sum of all the poverty gaps in a population; Each gap is filled to the poverty line. However, this interpretation is only reasonable if transfers can be made perfectly efficiently, for example, with lump sum transfers, which is not plausible. Clearly, this assumes that the legislator has a lot of information; It should not surprise us to discover that a government very "in favor of the poor" would need to spend much more than this on behalf of poverty reduction.

Sen Index

Another relevant contribution of this author is the so-called “Sen Index” (1976), this poverty measurement methodology contemplates three aspects of poverty, the first considers the percentage of poor for a chosen poverty line or H index, the magnitude of poverty or index I and income distribution among the poor or Gp index. This index allows quantifying the poor population and detecting when there are income transfers that favor the poorest. This composite index arises from the need to establish the weighted sum of the deficit of poor people and is denoted as follows:

$$P_s = H[I + (1 - I)Gp]$$

where H is the proportion of poor (q) over the total population (n) or incidence of poverty, H = q / n. I is the intensity of poverty or gap between the minimum income or poverty line (z) and the income of the poor (yi), I = (z-yi) / z. Gp is the Gini coefficient of income distribution among the poor. This index is an aggregate indicator of inequality and can vary between zero (perfect equality) and one (perfect inequality).

Then, the Sen index varies, between 0 and 1. In sum, the Ps Index is a function of H (number of poor), I (aggregate poverty gap) and Gp (income distribution inequality, less than poverty line).

Foster, Greer and Thorbecke Index (FGT)

The FGT index proposed by James Foster, Joel Greer and Erik Thorbecke (1984), is an index of deprivation in private consumption that takes as a reference a certain line of individual poverty, generally obtained this line of poverty from a salary daily minimum of the total population and the economically active population.

The authors point out that certain studies on poverty have demonstrated the usefulness of analyzing a population in subgroups in components and develop a measure of poverty that is additively divisible, in the sense that total poverty is a weighted average of the poverty levels of subgroups This measure is calculated as follows:

$$FGT = \propto_{(y;z)} = \frac{I}{n}\sum_{i=1}^{q}\left(\frac{z-y_i}{z}\right)^{\propto}$$

where z represents the poverty line, and i is the income of the individual, n is the size of the population and q is the number of poor households (for which yi ≤ z). In this index, α is a measure of poverty aversion; that is, at a higher α the FGTα index gives greater weight to individuals who are poorer among the poor. The FGT index is commonly reported as a measure of poverty for α = 0, 1 and 2. When α = 1, FGT1 calculates the normalized poverty gap, which reflects how far the income of the poor average from the poverty line is. . Thus, FGT1 is sensitive to changes in the income of the poor. Finally, when α = 2, FGT2 is a measure of the severity of poverty, because individuals whose income is furthest from the poverty line have a higher weighting in the index.

Finally, an advantage of this model is that it can decompose; that is, the contribution to poverty of the population groups classified according to the pre-established characteristics (sex, age, region, occupation, etc.) can be calculated. This property is useful for selecting the groups that have priority in the effort to reduce poverty, as well as for the application of political determinants and strategies.

The way to quantify the poor according to the World Bank

The institutions are key in the analysis of poverty, proof of this is the World Bank, the International Monetary Fund, the United Nations Development Program (UNDP), the Inter-American Development Bank; They share the same definition and rely on the absolute line of poverty to quantify who are poor and who are not. The World Bank has established the rules of the game and states that the poor are those who are unable to reach a minimum standard of living and another more formal definition of poverty is one that is closely related to hunger, lack of low ceiling which shelter, the situation of illness and not being able to be treated by a doctor, lack of work, poverty is to be afraid of the future and live day by day. Poverty is losing a child due to diseases related to impure water; It is impotence, lack of representation and freedom. (World Bank, 2000).

For the international organization, poverty is variable and different from one country to another and has evolved historically. For this, it has established a general poverty threshold to be able to compare the poverty situation, for example, it has applied figures of $ 1.90 per day at constant 2011 prices. Likewise, the World Bank establishes that the way to measure the poor is through income or consumption levels. An individual is considered poor if their level of income or consumption is below a minimum level that allows them to meet their basic needs. Calling this minimum level "poverty line", which is necessary to meet the basic needs that vary over time and according to the behavior of societies. Therefore, poverty lines change according to time and place, where each nation uses lines that are appropriate in relation to their level of development, norms and social values.

Information on consumption and income is obtained through sampling surveys in which family units are asked about their spending habits and sources of income; complementing these surveys with participatory techniques where they are asked what their basic needs are and how they define the term poverty.

When estimating poverty worldwide, the reference poverty line of $ 1.90 per day in 2011 dollars is used in terms of the Purchasing Power Parity (PPP), where the PPP measures the purchasing power relative to currencies through countries. The World Bank (2018) has estimated that, in 2015, the number of people living in extreme poverty remained at 736 million people, that is, one person in every 100 in the world.

In conclusion; The World Bank's contributions regarding the definition of poverty consider a very broad spectrum, however for its measurement it is observed that there is a separation between what you want to define and what you want to measure, since it does not incorporate the variables that in your definition proposes to quantify the phenomenon and is only limited to income; from there that a dollar or two is taken as a framework to define the poor or extreme poor.

Discussion and Conclusions

Each of the different ways of defining and quantifying the poor have different assumptions regarding the definition and measurement of poverty. Some empirical evidence indicates that the poverty measures presented here do not identify the same people as poor.

Comparatively, absolute poverty fundamentally considers the value of the resources necessary to maintain a minimum well-being, which implies the acquisition of a food and non-food basket that allows reaching the minimum levels of satisfaction. Hence, it is necessary to consider a minimum income for a given consumption and, therefore, a certain level of well-being and that when considering a series of basic needs it can be arbitrary since you can never reach an agreement on what are the basic needs . Contrary to the capabilities approach of Sen (1984) who considers income as an important variable in the study of poverty and establishes that a person with higher incomes will be able to achieve greater human well-being. This depends on different aspects such as age, gender, social role, location, health, education, justice, etc. However, it is capacities that determine income.

In the analysis of the food / income ratio, we found a problem in this definition because it does not take into account the "economies of scale of different categories of expenditure.

While in the total expenditure / total income many rich people spend more than they perceive as current income, and taking this indicator as a reference, they would be classified as poor.

On the other hand, in the analysis of the equivalence scales we find that the way to build these scales is the estimation of demand functions based on the information contained in the expenditure surveys. However, there is a problem that is that the demand observed does not provide sufficient information to identify levels of well-being or perform

Comparisons between these. Also, the demand depends not only on the needs of each household member, but also on the way in which resources are allocated intrafamiliarly. In that sense, in contrast to nutritional indicators, we affirm that it is not always possible to identify appropriate nutritional requirements.

On the other hand, the quality of life or the well-being of families can be approximated through the caloric consumption of its members. Hence, another method for the identification of poverty, the "anthropometric method" arises. The deficiency of this indicator is that it can omit important deprivations in well-being, although health is correlated with well-being they are not the same thing.

In contrast to the relative approach that people tend to perceive their own well-being in terms of the well-being of others and when considering the condition of poverty based on what others have, this method does not need periodic readjustments at the level of the poverty line, since they automatically occur with a country's income variation. However, the deficiency of this method is that it is directly related to inequality and poverty, although both phenomena are not the same thing; The arbitrariness with which the fraction of income is chosen to obtain the poverty line is also criticized, which is not related to any need or deprivation criteria.

In relation to the subjective poverty that considers the assumption that each individual by himself is the best judge of his own situation, he is not exempt from arbitrariness since, the exact interpretation of the income that people make is unknown, since it can include or not include benefits and other issues.

There are also problems with the behavior of respondents as they can modify their responses if the poverty line determines the social assistance they receive.

In the axiom stage for poverty measures, the counting index and the poverty gap show a marginal view of the problem, so the implementation of more complete indices is necessary.

The FGT index is favorable in the analysis of poverty profiles and decompositions. However, none of the methods is complete enough to account for the holistic nature of the problem and that many times the indices may overlook important information.

Many authors and even institutions raise the need to integrate different methods to better capture aspects of poverty. For example, the Integrated Poverty Measurement Method, as well as other proposals, in which absolute and relative methods are combined.

Finally, we observe that the dominant conception of poverty is characterized by income or called absolute poverty. In a sense, poverty is not due only to aspects of income or consumption, nor in the possession of goods. To measure poverty, holistic-multidimensional aspects that account for the seriousness of the problem must be considered. For example, time for leisure, access to credit, political and human rights, the freedom to participate in debates and public scrutiny, social and economic institutions such as education and medical care services and among them freedom.

References

Anand, S. (1977). ASPECTS OF POVERTY IN MALAYSIA. *Review of Income and Wealth*, *23*(1), 1–16. https://doi.org/10.1111/j.1475-4991.1977.tb00001.x

Atkinson, A. (1981). On Intergenerational Income Mobility in Britain. *Journal of Post Keynesian Economics*, *3*(2), 194–218.

Boltvinik, J. (1992). El método de medición integrada de la pobreza. Una propuesta para su desarrollo. *Comercio Exterior*, *42*, 354–365.

Boltvinik, J. (2003). Conceptos y medición de la pobreza: La necesidad de ampliar la mirada. *Papeles de población*, *9*(38), 9–25.

Boltvinik, J. (2010). Principios de Medición Multidimensional de la Pobreza. *La Sociología en sus Escenarios*, *0*(21). Recuperado de http://aprendeenlinea.udea.edu.co/revistas/index.php/ceo/article/view/7046

Callan, T., & Nolan, B. (1991). Concepts of Poverty and the Poverty Line. *Journal of Economic Surveys*, *5*(3), 243–261.

Desai, M., & Shah, A. (1988). An Econometric Approach to the Measurement of Poverty. *Oxford*

Economic Papers, *40*(3), 505–522. Recuperado de JSTOR.

Feres, J. C., & Mancero, X. (s/f). *ENFOQUES PARA LA MEDICIÓN DE LA POBREZA. BREVE REVISIÓN DE LA LITERATURA*. 36.

Foster, J., Greer, J., & Thorbecke, E. (1984). A Class of Decomposable Poverty Measures. *Econometrica*, *52*(3), 761–766.

Hagenaars, A. J. M., & Praag, B. M. S. van. (1985). A Synthesis of Poverty Line Definitions*. *Review of Income and Wealth*, *31*(2), 139–154. https://doi.org/10.1111/j.1475-4991.1985.tb00504.x

Kakwani, N. (1980). On a Class of Poverty Measures. *Econometrica*, *48*(2), 437. https://doi.org/10.2307/1911106

Kanbur, R., Calvo, C. M., Das Gupta, M., Grootaert, C., Kwakwa, V., & Lustig, N. (2000). *Informe sobre el desarrollo mundial 2000/2001: Lucha contra la pobreza* (Núm. 22684; pp. 1–338). Recuperado de The World Bank website: http://documentos.bancomundial.org/curated/es/509031468137396214/Informe-sobre-el-desarrollo-mundial-2000-2001-lucha-contra-la-pobreza

Love, R., & Oja, G. (1977). LOW INCOME IN CANADA. *Review of Income and Wealth*, *23*(1), 39–61. https://doi.org/10.1111/j.1475-4991.1977.tb00003.x

Miller, S. M. (1976). The Political Economy of Social Problems: From the Sixties to the Seventies. *Social Problems*, *24*(1), 131–141. https://doi.org/10.2307/800330

Miller, S. M., Rein, M., Roby, P., & Gross, B. M. (1967). Poverty, Inequality, and Conflict. *The ANNALS of the American Academy of Political and Social Science*, *373*(1), 16–52. https://doi.org/10.1177/000271626737300102

Orshansky, M. (1965). *Counting the Poor: Another Look at the Poverty Profile*. 27.

Programa de las Naciones Unidas para el Desarrollo. (1997). *Informe sobre desarrollo humano* (Ediciones Mundi-Prensa).

Rainwater, L. (1969). The Problem of Lower Class Culture. *Journal of Social Issues*.

Ravallion, M. (1998). *Poverty lines in theory and practice*. Washington, DC: World Bank.

Ray, D. (2002). *Economía del desarrollo*. Antoni Bosch editor.

Rowntree, B. S. (Benjamin S. (1971). *Poverty; a study of town life*. Recuperado de http://archive.org/details/povertyastudyto00rowngoog

Sen, A. (1976). Poverty: An Ordinal Approach to Measurement. *Econometrica*, *44*(2), 219. https://doi.org/10.2307/1912718

Sen, A. (1981). PUBLIC ACTION AND THE QUALITY OF LIFE IN DEVELOPING COUNTRIES*: PUBLIC ACTION AND THE QUALITY OF LIFE. *Oxford Bulletin of Economics and Statistics*, *43*(4), 287–319. https://doi.org/10.1111/j.1468-0084.1981.mp43004001.x

Sen, A. (1983). Poor, Relatively Speaking. *Oxford Economic Papers*, *35*(2), 153–169.

Sen, A. (1984). *Resources, Values and Development*. Oxford: Basil Blackwell.

Sen, A. (2001, julio 1). Amartya Sen y las mil caras de la pobreza | IADB. Recuperado el 1 de octubre de 2019, de https://www.iadb.org/es/noticias/amartya-sen-y-las-mil-caras-de-la-pobreza

Sen, A. (2003). *El Nivel de vida*. Editorial Complutense.

Spicker, P. (1999). *Definitions of poverty: Twelve clusters of meaning*. 15.

Townsend, L. A. (1965). A Corporate President's View of the Internal Communication Function. *Journal of Communication*, *15*(4), 208–215. https://doi.org/10.1111/j.1460-2466.1965.tb01342.x

Vogel, L. H. (1982). Poverty in the United Kingdom: A Survey of Household Resources and Standards of Living. Peter Townsend. *American Journal of Sociology*, *88*(2), 452–454. https://doi.org/10.1086/227691

Watts, H. W. (1967). *THE ISO-PROP INDEX--AN APPROACH TO THE DETERMINATION OF DIFFERENTIAL POVERTY INCOME THRESHOLDS*. Recuperado de https://eric.ed.gov/?id=ED018461

World Bank. (2018). *Poverty and shared prosperety. Piecing together the poverty puzzle* (World Bank Group). Recuperado de https://openknowledge.worldbank.org/bitstream/handle/10986/30418/9781464813306.pdf?sequence=34&isAllowed=y

Article **Journal-Public Economy**
December, 2019 Vol.3 No.5 38-44

Determination of the causes of the non-linking of SMEs with public entities

Determinación de las causas de la no vinculación de las PyMES con las entidades públicas

SALAZAR-PAVÓN, Eliazar, ESPARZA-TOVAR, Citlalli, GUILLEN-RAMÍREZ, Mirna Liliana and BECERRA-BUSTAMANTE, Diana Michel

Universadad Tecnológica Paso del Norte

ID 1st Author: *Eliazar, Salazar-Pavón* / **ORC ID**: 0000 0003 3127 7080

ID 1st Coauthor: *Citlalli, Esparza-Tovar* / **ORC ID**: 0000 0002 7836 4213

ID 2nd Coauthor: *Mirna Liliana, Guillen-Ramírez* / **ORC ID**: 0000 0003 1854 0921

ID 3rd Coauthor: *Diana Michel, Becerra-Bustamante* / **ORC ID**: 0000 0001 8272 7534

DOI: 10.35429/JPE.2019.5.3.38.44 Received September 20, 2019; Accepted November 13, 2019

Abstract

SMEs, are a core point in our country, and are the innovative and creative part that few companies can achieve this result, in Ciudad Juarez specifically and according to the present research we find small and medium companies such as designers of robots, designers of dresses, bakeries, designers of pipelines, distributors of snacks, food, furniture designers, designs of parts of machinery, companies with great added value of which its existence is unknown. According to statistics from the Business Directory of the National Institute of Geography and Information Technology (INEGI), more than 85.7% of SMEs do not have the knowledge of the support offered by the government, and 14.3% of companies have knowledge of promotion programs and state government support the highest percentage knows the Entrepreneur Support Network, reaching 61.1%, followed by the Let's Grow Together program with 42.6%, as well as other INADEM programs with 39.4 percent. This creates a problem since these types of companies require the support of the public sector and in the same way the public sector needs to prove the destiny of these designated supports. Then we ask ourselves the research question: if there are innovative SMEs and there are resources in the public sector, then what are the causes of non-linking? This theme is the central point of the present investigation.

SMEs, INEGI, Manufacturing industry, Companies, Public sector, Entrepreneurs

Resumen

Las PYMES, son un punto medular en nuestro país, y son la parte innovadora y de creación de ideas que pocas empresas pueden conseguir este resultado, en ciudad Juárez en específico y de acuerdo con la presente investigación encontramos pequeñas y medianas empresas como, diseñadoras de robots, diseñadores de vestidos, panaderías, diseñadores de ductos, distribuidoras de botanas, alimentos, diseñadoras de muebles, diseños de partes de maquinaria, empresas con gran valor agregado de las cuales se desconoce su existencia. De acuerdo con estadísticas del Directorio Empresarial del Instituto Nacional de Geografía e Informática (INEGI) más del 85.7% de las PYMES no tiene el conocimiento de los apoyos que ofrece el gobierno, y el 14.3% de las empresas tienen conocimiento de los programas de promoción y apoyo del gobierno del estado el mayor porcentaje conoce la Red de Apoyo al Emprendedor, alcanzando el 61.1%, seguido por el programa Crezcamos juntos con el 42.6%, así como otros programas del INADEM con el 39.4 por ciento. Esto genera una problemática ya que este tipo de empresas requieren del apoyo del sector público y de igual manera el sector publico necesita acreditar el destino de estos apoyos designados. Entones aquí nos hacemos la pregunta de investigación ¿si existen PYMES innovadoras y hay recursos en el sector público, entonces cuales son las causas de la no vinculación? Esta temática es el punto central de la presente investigación.

PYMES, INEGI, Industria manufacturera, Empresas, Sector público, Emprendedores

Citation: SALAZAR-PAVÓN, Eliazar, ESPARZA-TOVAR, Citlalli, GUILLEN-RAMÍREZ, Mirna Liliana and BECERRA-BUSTAMANTE, Diana Michel. Determination of the causes of the non-linking of SMEs with public entities. Journal-Public Economy. 2019. 3-5: 38-44

† Researcher contributing as first author

Introduction

According to the north digital magazine (2019) and the undersecretary of economy of the state government Javier Sánchez Carlos, and according to the Business Directory of the National Institute of Geography and Informatics (INEGI), in Ciudad Juárez there are currently 38 thousand 911 medium , small and micro businesses. The undersecretary of economy of the state government Javier Sánchez Carlos gave details of the programs that support the sector at the border, he announced that the federal program that supported companies with an approximate 15.9 million pesos to join the new entrepreneurs sector.

The support that emerged since last year helping a little more than 38 thousand micro, small and medium enterprises, The Productive Social Development Support Program (FADES), provides support of up to 40 thousand pesos for investment in working capital in newly created projects in commerce, services and industry. The Program for the Promotion of Productive Activities (FAP) grants support of up to 400 thousand pesos to companies with a year of operation in commerce, services and industry, also for investment in working capital. And the Program of Support for Innovation and Technological Improvement for Micro and Small Industry (PROACTEC) grants financing of up to 500 thousand pesos for the acquisition of machinery to companies with at least one year of operation.

According to statistics from the Business Directory of the National Institute of Geography and Information Technology (INEGI) more than 85.7% of SMEs do not have the knowledge of the support offered by the government, and 14.3% of companies if they have knowledge of the programs of promotion and support of the state government the highest percentage knows the Entrepreneur Support Network, reaching 61.1%, followed by the Let's Grow Together program with 42.6%, as well as other INADEM programs with 39.4 percent. MSMEs account for about two thirds of global employment, but the contribution to GDP is lower, in developing countries it is 35%, while in developed countries it is 50%.

Methodology

In defining the problem, the reason why there is no link between the authorities and secretaries that aim to support medium and small businesses, since there are a large number of economic units in the city of Ciudad Juarez, is say why the supports, as well as programs, advice and projects that the federal government implements through the different entities such as the Ministry of Economy do not manage to have an impact and dissemination of information with these economic units, from another perspective because these SMEs They have not had the interest of approach or if they have done so, because they have not succeeded in seeking support, this is the question that arises in the investigation.

The method applied in the study is descriptive according to (Tamayo, 2011) is the type of study that only seeks to describe situations or events. This method involves several stages such as the observation, measurement and collection of data and design of instruments, for this reason the objective of the research, the field study, the application of surveys, and design of strategies for SMEs was clearly defined In the same way the explanatory method is applied, according to the edition of (Sampieri, of 2010), one of the phases is the observation, exploration, and decomposition of the phenomenon to give an explanation of the care.

For these reasons, the objective of the study is to determine the causes of the lack of rapprochement and linkage between SMEs with government institutions that offer support to these companies and the design of strategies, as well as recommendations to create an approach between them. organisms, results that will be explained in the final part of this document.

SMES in Ciudad Juarez

Different phases were designed for the implementation of this project. In the first phase the SMEs of Ciudad Juárez were located, first, a search for companies was determined in the database of the business directory of the National Institute of Geography and Information Technology (INEGI).

ISSN 2524-2016

In this way the segmentation of the different companies by sectors, number of employees, facilities, address, the line of business was performed, as shown in the first image of the mapping, this is how we identified footwear manufacturing companies, lathes companies, soaps , medical equipment, furniture, metal-metallic, once these companies were determined, the field investigation was carried out, which consisted of the visit of these companies in the colonies of El Granjero, Las Aztecas, zapata, centro zone, Galeana etc. In the collection of information, there was an instrument (survey) designed specifically to understand and summarize the collection of data that was required. At the time of direct visits, various situations were found, such as the acceptance of entrepreneurs and their employees, as well as the refusal and reluctance of other entrepreneurs, will be explained and applied in the corresponding topic.

Figureure 1 mapping of companies in Ciudad Juárez: map showing the location of manufacturing companies in Ciudad Juárez INEGI.

This includes the assignment of tasks, the segmentation, the classification of the companies and the assignment of work groups. The field visits were formed by four work teams, which were composed of two members, each team was assigned One sector, the way of working of each group was through previous appointments that were made to the selected companies, visits scheduled for the application of the surveys, followed by the application of the same, these were entered into the platform of the national institute of geography and informatics (INEGI), which shows the result of each company in one day, after obtaining the results, the previous appointments are scheduled for the delivery of the instrument, after conducting a financial, market, product study, The results and current status of your company are given to the owner, and one of the ritual points was the need for capital injection.

Public resources for SMES

Once the search for small and medium-sized companies was carried out, the second phase of the investigation was carried out, which is the collection of information, of existing government support for this type of companies, at the time of conducting these investigations in the relevant institutions, it was identified that, if there are supports for these companies, and although the information, was not accessible but still in the secretary of economy the following was found:

FIDEJUAREZ (financing for the development of Ciudad Juárez), this MiPymes financing program in the commercial, service or industry sector, provides support from $ 100,001 to $ 1,000,000, with loans of up to 9%. How do you apply for this loan? A pre-analysis is carried out which consists of registering with the SAT not to be in the credit bureau, a statement of results is delivered, the application must be previously filled through the website (www.fideapech.com .mx), through this site the application is downloaded, and the description of your business, and the applicant receives the pre-analysis in 48 hours maximum after the complete documentation is delivered on the same website, the documents and the case They appear before the committee and the technical programming committee may request additional information.

FIDEAPECH (trust for the promotion of activities in the state of Chihuahua, offers various credit options for businesses, through financing plans that are adapted according to needs, with lower market rates. The FADES program is a government support that by means of requirements discharged from the secretary of finance and the two types of support that he grants for avio or refactional credit, these two types of first qualification or avio project credit (according to quotation) and a normal interest rate of 12% and 10% and up to 18 months of tax-free credit term, the support amounts range from 5,000 to 100,000 thousand pesos, the percentage of support in FADES women is 80%, rural and urban FADES 75%. Maximum amount of support also of 5,000 - 100,000 thousand pesos with a 12% and 10% rate and up to 36 months of credit term and 6 months plus tax-free, including the maximum amount not included It can exceed 100,000 thousand pesos.

ISSN 2524-2016

The restrictions of this support cover the black line (example: purchase - sale of alcohol), to pay debts or payroll payments and purchase of goods or real estate is only support for the company.

SME FUND Program, is also basically oriented to micro businesses and small businesses, it is also an instrument that seeks to support and is particularly focused on smaller or smaller ones, whether they have very little time in the industrial field , and with more support to the entrepreneur in order to see the development of these institutions.

They are integrated by federal resources provided for in the budget of expenditures of the federation of the corresponding fiscal army and are delivered to the population through intermediate agencies with adherence to provisions of federal law and tax liability. The budget allocated to the SME FUND is at least 95.39% for the population and 4.61% for expenses associated with the efficient promotion, operation, monitoring required for execution.

It has a national coverage and its target population are entrepreneurs, micro-enterprises, small and medium-sized companies, and it asks that companies be legally established in accordance with Mexican legislation. We conclude that, if they exist at least in 2019, government support.

Causes of lack of supports for smes

As results and analysis of the present research and part of this project we detect and determine the following causes for which the SMEs do not have that approach towards public agencies. Support information has been disclosed in news, government reports, and universities have always provided information. But even so, the support does not reach the SMEs either due to corruption or lack of funds, but in the following analysis we can determine that this is not the case since the following causes were detected in Ciudad Juárez after having carried out the survey and strategic location of the SMEs.

Lack of diffusion

The lack of promotion and dissemination of federal programs for which SMEs companies can access, causes only a minimum number of companies to have these benefits, in contrast to companies that are large that have access to federal resources is larger than Micro companies, the reasons that companies give is the lack of information.

The problem is that entrepreneurs are dedicated to operating their business and not directing them, that is, they work their business by dedicating all the necessary time and leaving aside the part of resources and growth, which implies that they do not even know funding and training support programs.

It can be said that the government does not have an important space to expand information on the economic support programs it offers to companies, and thus allow more competitive access to them. The information is disseminated exclusively in government offices and in public events for this reason this cause has its reason for not getting to where the entrepreneur is.

Bureaucratic process

On the other hand, the companies that have the knowledge of the state support, have to do a process to be able to access the benefits of the requested program, a process that is delayed, so many of the companies lose motivation when performing the process , in view of the fact that you have to review the requested documents and validate what is related to the company, this causes the entrepreneur or owner to return on several occasions to know the process situation and it is at this point where it bothers him and delays.

Lack of motivation

Another cause found in companies is the lack of motivation of the same, for several reasons:

1. You don't have the knowledge of the government’s programs,
2. the process to process support is long and late
3. Companies are not registered with the Ministry of Finance and Public Credit

ISSN 2524-2016

4. they are afraid that the programs have an interest rate that is too high for them

With the above, you can see that companies do not have the right training to clarify doubts and give them advice on how they can grow the company. This point is very simple since it is caused by the thought of social fatigue.

Lack of SMEs planning

Planning can be described as a systematic process in which the organization establishes a path (methodology) to achieve its objectives.
The problem that small and medium-sized companies have had to overcome is globalization, this situation forced many of these companies to close due to the large number of business transactions that arrived in our country, With the passage of time many of the small and medium enterprises have been affected by these changes that have occurred in our environment. Many of these companies do not have professional advice to adapt to the market.

Lack of entrepreneurship culture

Entrepreneurship in Mexico is progressing slowly. The number of people who start a business is increasing, but their efforts are diminished by the lack of financing, fiscal policy, excessive procedures and lack of planning. Some of the reasons why companies do not have the culture of entrepreneurship:

– Lack of business vision
– There are no suitable equipment
– Renewal of ideas.
– Little financing
– Missing network of mentors.

Results and strategies

Once the surveys and the field study were carried out, as well as the visits to small and medium enterprises located in Ciudad Juárez, the following was determined:

Causes of the non-linking of the smes with the public sector	No
Lack of entrepreneurship culture	5
They had no information on government programs	40
If they had information but they are not interested	15
Bureaucratic process	30
It has no motivation	10
Companies surveyed	**80**

Table 1 shows the percentage of SMES companies that were surveyed (unpublished thesis) 2019

As we can see from the most common causes that were found, it is the lack of information and indeed as different studies support it, that government program does not have enough diffusion or projection and this is due to the little maneuver and budget of the companies. In the background we have some who already had the information even though they started the process of requesting some support, this process has been bureaucratic, tedious, delayed and full of requirements that the SMEs have not yet been able to meet as they are, (RFC, proof of credit bureau, faithful, among others). These are the number of SMEs that have faced this situation.

Strategies for decreasing the problem

Ahora bien, una vez que se ha conocido esta situación, el siguiente paso es determinar las estrategias para el apoyo a estas empresas y como se explicó en el capítulo anterior de las causas de la falta de apoyo económico en las SMEs, se determinó que fueron variados los motivos que ocasionan que los apoyos económicos no lleguen a su destino y por tan motivo y como resultado de la presente investigación se tomaron las siguientes estrategias para beneficiar las SMEs.

Linking with public agencies:

As previously discussed, one of the main causes is the lack of information, and for this problem the following measure was taken; link directly to the SMEs that is, send the information to the SMEs of the economic funds and supports offered by the state and federal government, as part of this project was given the task of inquiring about the resources and supports that exist in dependencies like.

ISSN 2524-2016

PROMEXICO, INADEM, SIDE, SE, among others, information that was collected through packages and brochures and by email, this information was also delivered to the SMEs personally and by email as well as the delivery of brochures , plans, credits, requirements, links, telephones, among others. The reaction of the entrepreneurs was very satisfactory, and of surprise since they commented that the funds and credits were very good, and that they could obviously help them to grow as a company or to have other projects and expressed their total approval and probable process for the future. they were mentioned that these supports varied every year but still they never informed about the funds.

Informative talks and advice:

For this strategy, an audiovisual space was enabled at the Technological University Paso del Norte to receive these companies which were informed by email that was sent to each of the companies with an attachment where the time was indicated and the date of the program as informative talks and free advice,

This advisory plan was given so that companies could give a little more feedback on the subject. As a second phase they were shared with the consultant, clarifying doubts that the applicants had, such as filling out the documents, formats, and other information. Likewise, companies were informed a little more of the benefits that these dependencies grant to SMEs, clarifying the doubts they might have when listening more through an expert, which is something simple than it seemed.

As the third and final phase of the process of informative talks and advice, the companies that were left with doubts were channeled one by one by the advisor, they were clarifying doubts and questions they had, they were also distributed brochures and other information, they were asked approaching the public agencies of government support that the secretary of economy has online since if they had not obtained enough information from the platforms they could find everything that had been reported in the talk. Similarly, they are advised on the weaknesses of your company, finance, advertising and market.

Development of diagnoses:

In this part of the project, the work team was given the task of preparing surveys and applying them to SMEs, which contained basic questions for companies and were of great value to know the capabilities they had and some tools that we might consider necessary to the development of this diagnosis different means of how to know more about some deficiencies or strengths of companies, example: how many employees do you have and questions such as strategists and market share and business development.

In the surveys, the entire structure of the company is mentioned in a certain way in the plan to also make known the type of product they handle and how the different strategies of who can be the possible comparators of the elaborated product are created. (finance, mission, vision, market research, expansion, No of employees, facilities, people, machinery among other aspects).

The following are the following tables and graphs that represent the percentages of the 80 companies which were surveyed and analyzed.

Smes Supported	No
Linking with public agencies	20
Informative talks and advice	30
Diagnostic Development	30
Linked businesses	80

Table 2 shows the percentage of SMEs in which the project strategies were implemented (unpublished thesis) 2019

The little information available and the asymmetry between state government agents, the resistance of state governments to provide information, despite the fact that there is a transparency law and that the study refers exclusively to Mexico. (Góngora Biachi & Madrid Guijarro, April, 2010). They conclude in their report the support for innovation of SMEs in Mexico, and point out that the main limitations of the study are: That the study is focused on a single type of sector support, despite the convergence of programs to give it more strength to the Fund and that there are additional supports such as export or those related to the field, with conditions that could make them accessible to the SMEs.

ISSN 2524-2016

And as a final part it was determined that the main cause for which entrepreneurs do not resort to information on aid or support is the process and bureaucracy, adding to this the little information that exists of these supports and in the information channels of the dependencies of government where it was detected that they are not effective, but as a non-measurable factor and that was detected in the investigation but where the main source of the non-linking of SMEs with the public sector is the distrust that in these years has generated by the federal and state government as municipal, by not respecting the processes and not designing an accessible and effective instrument for SMEs, for this reason institutions such as universities, colleges, associations and all those bodies that can support this link are a important part for the SMEs and their growth as of our country to detonate the economic growth of the town.

References

INEGI. (2014). Micro, pequeña, mediana y gran empresa Estratificación de los establecimientos. http://internet.contenidos.inegi.org.mx/contenidos/productos/prod_serv/contenidos/espanol/bvinegi/productos/nueva_estruc/702825077952.pdf

Jacques, F.L; Cisneros, L.F.; Mejía-Morelos, J. H. (2011). Administración de SMES. Emprender, dirigir y desarrollar empresas. Primera edición. Ed. Pearson educación, México.

Mendoza, L. (2014). *Diseño de una metodología para la consultoría de empresas.* (Tesis inédita de maestría). Instituto politécnico nacional. México, D.F.

Sampieri, R. (2006). Metodología de la investigación. México: Mc Graw Hill.

[Title in Times New Roman and Bold No. 14 in English and Spanish]

Surname (IN UPPERCASE), Name 1st Author†*, Surname (IN UPPERCASE), Name 1st Coauthor, Surname (IN UPPERCASE), Name 2nd Coauthor and Surname (IN UPPERCASE), Name 3rd Coauthor

Institutional Affiliation of Author including Dependency (No.10 Times New Roman and Italic)

International Identification of Science - Technology and Innovation

ID 1st Author: (ORC ID - Researcher ID Thomson, arXiv Author ID - PubMed Author ID - Open ID) and CVU 1st author: (Scholar-PNPC or SNI-CONACYT) (No.10 Times New Roman)

ID 1st Coauthor: (ORC ID - Researcher ID Thomson, arXiv Author ID - PubMed Author ID - Open ID) and CVU 1st coauthor: (Scholar or SNI) (No.10 Times New Roman)

ID 2nd Coauthor: (ORC ID - Researcher ID Thomson, arXiv Author ID - PubMed Author ID - Open ID) and CVU 2nd coauthor: (Scholar or SNI) (No.10 Times New Roman)

ID 3rd Coauthor: (ORC ID - Researcher ID Thomson, arXiv Author ID - PubMed Author ID - Open ID) and CVU 3rd coauthor: (Scholar or SNI) (No.10 Times New Roman)

(Report Submission Date: Month, Day, and Year); Accepted (Insert date of Acceptance: Use Only RINOE)

Abstract (In English, 150-200 words)

Objectives
Methodology
Contribution

Abstract (In Spanish, 150-200 words)

Objectives
Methodology
Contribution

Keywords (In English)

Indicate 3 keywords in Times New Roman and Bold No. 10

Keywords (In Spanish)

Indicate 3 keywords in Times New Roman and Bold No. 10

Citation: Surname (IN UPPERCASE), Name 1st Author, Surname (IN UPPERCASE), Name 1st Coauthor, Surname (IN UPPERCASE), Name 2nd Coauthor and Surname (IN UPPERCASE), Name 3rd Coauthor. Paper Title. Journal-Public Economy. Year 1-1: 1-11 [Times New Roman No.10]

* Correspondence to Author (example@example.org)
† Researcher contributing as first author.

Introduction

Text in Times New Roman No.12, single space.

General explanation of the subject and explain why it is important.

What is your added value with respect to other techniques?

Clearly focus each of its features

Clearly explain the problem to be solved and the central hypothesis.

Explanation of sections Article.

Development of headings and subheadings of the article with subsequent numbers

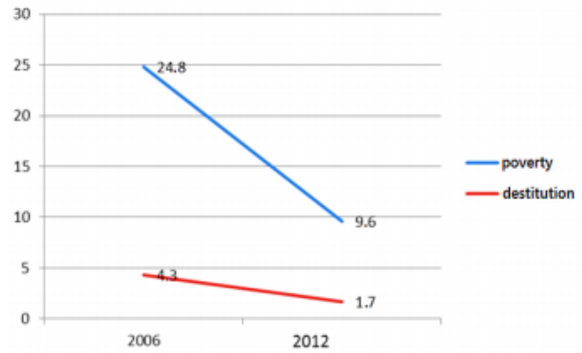
[Title No.12 in Times New Roman, single spaced and Bold]

Products in development No.12 Times New Roman, single spaced.

Including graphs, figures and tables-Editable

In the article content any graphic, table and figure should be editable formats that can change size, type and number of letter, for the purposes of edition, these must be high quality, not pixelated and should be noticeable even reducing image scale.

[Indicating the title at the bottom with No.10 and Times New Roman Bold]



Graphic 1 Title and Source (in italics).

Should not be images-everything must be editable.

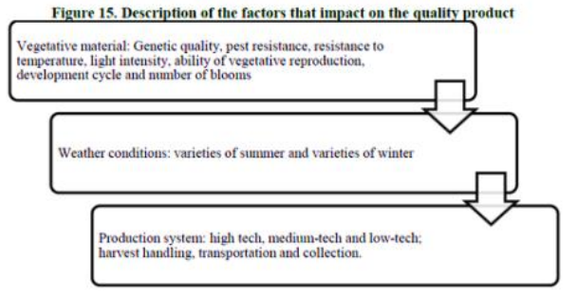


Figure 1 Title and Source (in italics).

Should not be images-everything must be editable.

	Cluster		Error		F	Sig.
	Mean square	df	Mean square	df		
SOLVENCY	77.287	4	.426	532	181.247	.000
LIQUIDITY	77.182	4	.427	532	180.669	.000
SIZE	62.602	4	.537	532	116.616	.000
PROFITABILITY	68.655	4	.491	532	139.738	.000

Table 1 Title and Source (in italics**).**

Should not be images-everything must be editable.

Each article shall present separately in **3 folders**: a) Figures, b) Charts and c) Tables in .JPG format, indicating the number and sequential Bold Title.

For the use of equations, noted as follows:

$$Y_{ij} = \alpha + \sum_{h=1}^{r} \beta_h X_{hij} + u_j + e_{ij} \quad (1)$$

They must be editable and number aligned on the right side.

Methodology

Develop give the meaning of the variables in linear writing and important is the comparison of the used criteria.

Results

The results shall be by section of the article.

Annexes

Tables and adequate sources

Thanks

Indicate if they were financed by any institution, University or company.

ISSN 2524-2016

Conclusions

Explain clearly the results and possibilities of improvement.

References

Use APA system. Should not be numbered, nor with bullets, however if necessary numbering will be because reference or mention is made somewhere in the Article.

Use Roman Alphabet, all references you have used must be in the Roman Alphabet, even if you have quoted an Article, book in any of the official languages of the United Nations (English, French, German, Chinese, Russian, Portuguese, Italian, Spanish, Arabic), you must write the reference in Roman script and not in any of the official languages.

Technical Specifications

Each Article must submit your dates into a Word document (.docx):

Journal Name
Article title
Abstract
Keywords
Article sections, for example:

1. Introduction
2. Description of the method
3. Analysis from the regression demand curve
4. Results
5. Thanks
6. Conclusions
7. References

Author Name (s)
Email Correspondence to Author
References

Intellectual Property Requirements for editing:

-Authentic Signature in Color of Originality Format Author and Coauthors

-Authentic Signature in Color of the Acceptance Format of Author and Coauthors

ISSN 2524-2016

Reservation to Editorial Policy

RINOE Journal-Public Economy reserves the right to make editorial changes required to adapt the Articles to the Editorial Policy of the Journal. Once the Article is accepted in its final version, the Journal will send the author the proofs for review. RINOE® will only accept the correction of errata and errors or omissions arising from the editing process of the Journal, reserving in full the copyrights and content dissemination. No deletions, substitutions or additions that alter the formation of the Article will be accepted.

Code of Ethics - Good Practices and Declaration of Solution to Editorial Conflicts

Declaration of Originality and unpublished character of the Article, of Authors, on the obtaining of data and interpretation of results, Acknowledgments, Conflict of interests, Assignment of rights and Distribution.

The RINOE® Management claims to Authors of Articles that its content must be original, unpublished and of Scientific, Technological and Innovation content to be submitted for evaluation.

The Authors signing the Article must be the same that have contributed to its conception, realization and development, as well as obtaining the data, interpreting the results, drafting and reviewing it. The Corresponding Author of the proposed Article will request the form that follows.

Article title:

– The sending of an Article to RINOE Journal-Public Economy emanates the commitment of the author not to submit it simultaneously to the consideration of other series publications for it must complement the Format of Originality for its Article, unless it is rejected by the Arbitration Committee, it may be withdrawn.

– None of the data presented in this article has been plagiarized or invented. The original data are clearly distinguished from those already published. And it is known of the test in PLAGSCAN if a level of plagiarism is detected Positive will not proceed to arbitrate.

– References are cited on which the information contained in the Article is based, as well as theories and data from other previously published Articles.

– The authors sign the Format of Authorization for their Article to be disseminated by means that RINOE® in its Holding Taiwan considers pertinent for disclosure and diffusion of its Article its Rights of Work.

– Consent has been obtained from those who have contributed unpublished data obtained through verbal or written communication, and such communication and Authorship are adequately identified.

– The Author and Co-Authors who sign this work have participated in its planning, design and execution, as well as in the interpretation of the results. They also critically reviewed the paper, approved its final version and agreed with its publication.

– No signature responsible for the work has been omitted and the criteria of Scientific Authorization are satisfied.

– The results of this Article have been interpreted objectively. Any results contrary to the point of view of those who sign are exposed and discussed in the Article.

Copyright and Access

The publication of this Article supposes the transfer of the copyright to RINOE® in its Holding Taiwan for its RINOE Journal-Public Economy, which reserves the right to distribute on the Web the published version of the Article and the making available of the Article in This format supposes for its Authors the fulfilment of what is established in the Law of Science and Technology of the United Mexican States, regarding the obligation to allow access to the results of Scientific Research.

Article Title:

Name and Surnames of the Contact Author and the Coauthors	Signature
1.	
2.	
3.	
4.	

Principles of Ethics and Declaration of Solution to Editorial Conflicts

Editor Responsibilities

The Publisher undertakes to guarantee the confidentiality of the evaluation process, it may not disclose to the Arbitrators the identity of the Authors, nor may it reveal the identity of the Arbitrators at any time.

The Editor assumes the responsibility to properly inform the Author of the stage of the editorial process in which the text is sent, as well as the resolutions of Double-Blind Review.

The Editor should evaluate manuscripts and their intellectual content without distinction of race, gender, sexual orientation, religious beliefs, ethnicity, nationality, or the political philosophy of the Authors.

The Editor and his editing team of RINOE® Holdings will not disclose any information about Articles submitted to anyone other than the corresponding Author.

The Editor should make fair and impartial decisions and ensure a fair Double-Blind Review.

Responsibilities of the Editorial Board

The description of the peer review processes is made known by the Editorial Board in order that the Authors know what the evaluation criteria are and will always be willing to justify any controversy in the evaluation process. In case of Plagiarism Detection to the Article the Committee notifies the Authors for Violation to the Right of Scientific, Technological and Innovation Authorization.

Responsibilities of the Arbitration Committee

The Arbitrators undertake to notify about any unethical conduct by the Authors and to indicate all the information that may be reason to reject the publication of the Articles. In addition, they must undertake to keep confidential information related to the Articles they evaluate.

Any manuscript received for your arbitration must be treated as confidential, should not be displayed or discussed with other experts, except with the permission of the Editor.

The Arbitrators must be conducted objectively, any personal criticism of the Author is inappropriate.

The Arbitrators must express their points of view with clarity and with valid arguments that contribute to the Scientific, Technological and Innovation of the Author.

The Arbitrators should not evaluate manuscripts in which they have conflicts of interest and have been notified to the Editor before submitting the Article for Double-Blind Review.

Responsibilities of the Authors

Authors must guarantee that their articles are the product of their original work and that the data has been obtained ethically.

Authors must ensure that they have not been previously published or that they are not considered in another serial publication.

Authors must strictly follow the rules for the publication of Defined Articles by the Editorial Board.

The authors have requested that the text in all its forms be an unethical editorial behavior and is unacceptable, consequently, any manuscript that incurs in plagiarism is eliminated and not considered for publication.

Authors should cite publications that have been influential in the nature of the Article submitted to arbitration.

Information services

Indexation - Bases and Repositories

Research Gate (Germany)
Google Scholar (Citation indices-Google)
Mendeley ((Bibliographic References Manager)

Publishing Services

Citation and Index Identification H.
Management of Originality Format and Authorization.
Testing Article with PLAGSCAN.
Article Evaluation.
Certificate of Double-Blind Review.
Article Edition.
Web layout.
Indexing and Repository
ArticleTranslation.
Article Publication.
Certificate of Article.
Service Billing.

Editorial Policy and Management

Distrito YongHe, Zhongxin, calle 69. Taipei - Taiwan. Phones: +52 1 55 1260 0355, +52 1 55 6159 2296, +52 1 55 6034 9181; E-mail: contact@rinoe.org www.rinoe.org

RINOE® Journal-Public Economy

Site Licences

03-2010-032610094200-01-For printed material, 03-2010-031613323600-01-For Electronic material,03-2010-032610105200-01-For Photographic material,03-2010-032610115700-14-For the facts Compilation,04-2010-031613323600-01-For its Web page,19502-For the Iberoamerican and Caribbean Indexation,20-281 HB9-For its indexation in Latin-American in Social Sciences and Humanities,671-For its indexing in Electronic Scientific Journals Spanish and Latin-America,7045008-For its divulgation and edition in the Ministry of Education and Culture-Spain,25409-For its repository in the Biblioteca Universitaria-Madrid,16258-For its indexing in the Dialnet,20589-For its indexing in the edited Journals in the countries of Iberian-America and the Caribbean, 15048-For the international registration of Congress and Colloquiums. financingprograms@rinoe.org

Management Offices

Distrito YongHe, Zhongxin, calle 69. Taipei - Taiwan.

Journal-Public Economy

2524 2016
ISSN 2524-2016
www.rinoe.org