

**WORKS FOR TAXES:  
FINANCING INFRASTRUCTURE IN PERU**

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by  
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## ABSTRACT

Since the mid 1990's, the Government of Peru implemented private public partnership systems to deliver quality public infrastructure at a faster pace. One of those systems, adopted in 2008 to accelerate the implementation of priority public infrastructure projects across the country is called "Works for Taxes" ("*Obras por Impuestos*"). This system allows any private company or consortium to finance and implement public infrastructure projects prioritized by any level of Government in Peru, and later recover the total amount of its investment as a credit when filing Corporate Income Tax.

Since its adoption in 2008, companies based in Peru have increasingly worked under this scheme. As of December 2017, 307 projects had been implemented using the system, for more than US\$ 3.6 Billion, and involving 102 companies across different public infrastructure areas. The reasoning behind the system is that using it, the Government is able to forward financial resources required to complete prioritized projects from private companies paying corporate income tax in Peru, and to deliver these works faster than traditionally.

Under this system the private partner may choose –among government prioritized projects- to finance one or more works (e.g., a road needed near towns surrounding one of its locations, which will greatly benefit its workers' families in the area but also their communities). In this thesis, I address the question of whether the Peruvian Works for Taxes system created in 2008 helped solve the infrastructure under provision problem or not. For this purpose, I carried out an observational longitudinal study over panel data containing information on all projects developed in Peru under this system, from its starting point in 2008 to December 2017. Through this analysis I found that only after critical and successive legal adjustments, the system became able to serve its intended policy objective with increasing geographical reach and covering a widening variety of social services, though still with a limited number of participant companies.

The correlation between system performance and critical legal adjustments identified over the period under study, suggests that trade in tax credits granted to participating companies, and the ease of issuance of such credit certification –which I analyze in their characteristics and find to be, functionally, a security- are key elements for further performance improvement.

Thus, I conclude that, notwithstanding the system's performance improvement observed after five years of its creation, two elements of its current institutional design, namely i) the trading of tax credits certificates issued under it and ii) the predictability of timelines for the issuance of such credits, should undergo further institutional and practice adjustments for the system to better perform in Peru, and elsewhere, if it is considered and replicated to address similar infrastructure under provision concerns. I therefore propose that adjustments are made to have a freely tradable tax credit certificates –including those issued to contractors when they have the initiative or win the bid for some work under the program- and to incorporate a higher yielding tax credit certificate that, like a price system, could incentivize initiatives even in areas still not reached by the system or private investment.

## BIOGRAPHICAL SKETCH

Alvaro Diaz Bedregal is in his 2<sup>nd</sup> year of study in the Master of Public Administration Program at the Cornell University Institute of International and Public Affairs, and concentrates in Science, Technology and Infrastructure. He also pursues a Certificate in Infrastructure from Cornell University.

Mr. Diaz Bedregal was born in Lima, Peru in 1975. He earned his B.A. in Law in 2000 from the Pontifical Catholic University of Peru where he was an assistant Professor of Corporate Law, before going into full service as an advisor to the Vice Minister of Trade of Peru in 2002, where he analyzed policy related to free trade agreement negotiations and other reforms in Peruvian institutions. He was a member of the Peruvian trade negotiation team for the trade agreements Peru has now in force the U.S., Canada, EFTA-AELE (composed Switzerland, Liechtenstein, Iceland and Norway ), Japan, South Korea, China and the European Union.

In 2006 he started working as adviser to the Minister of Trade and Tourism of Peru and was appointed as Peruvian Manager for the United States – Peru Free Trade Agreement (FTA) the Peru FTA with EFTA-AELE (Switzerland, Liechtenstein, Iceland and Norway) and the Canada – Peru FTA. In that position, he was spokesman and leader for the implementation by all Peruvian agencies of the US- Peru FTA commitments, including reforms on Intellectual Property, Investment Protection, Environment, Forest Sector Governance, Sanitary Measures, Public Procurement and Labor.

He has also been a Member of the Peruvian National Commission on Biodiversity, the task force in charge of agricultural biotechnology regulation analysis; the interagency task force that elaborated the new Peruvian Forestry Law -incorporating consultations under

ILO Convention 169 on Native Communities- and the Peru negotiation team for the Transpacific Partnership Agreement (now CPTPP), originally including New Zealand, Australia, U.S., Brunei Darussalam, Japan, Viet Nam, Malaysia, Singapore, Chile, Mexico and Canada.

In 2012, he became the Economic Research and Consulting Manager for the Peruvian Society of Foreign Trade (ComexPeru), where he led a team of professionals in trade and economic oriented analysis and consulting services for over 20 major Peruvian based companies in industries including retail, mining, port operations and other trade related fields. In that position, Mr. Diaz Bedregal was a member of the Peruvian Export and Tourism Promotion Agency (Promperu) Board of Directors.

Since 2000, Mr. Diaz Bedregal has published several articles on law and trade and has translated to Spanish a book and several articles by Richard A. Epstein, James Parker Hall Professor of Law at the University of Chicago, as well as other works in disciplines of his interest, such as agricultural biotechnology. Outside of academics, Mr. Diaz Bedregal enjoys outside activities and sports and studies music performance, focusing on modern harmony and arrangement for piano and guitar.

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Finally, my gratitude to all my former colleagues still working with the Government of Peru for their help with the invaluable information that allowed the analysis made in this work and future pieces it may help bring.

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## **Part I**

### **The Works for Taxes System: context and structure**

#### **1. Introduction**

After its dramatic economic stagnation during the 1970's and 1980's, one of the fundamental reforms for economic recovery carried out by Peru since the 1990s was the promotion of investment in basic infrastructure upgrading and delivery. Basic social infrastructure investment was understood as a means to increase integration, productivity and competitiveness in far regions of Peru, where services relatively well provided in cities were absent (Webb, 2013). During the 1990 and 2000 decades, the increasing provision of public services such as rural electricity –the operation of which was transferred to private providers– was critical to generate well recorded benefits for communities, greater productivity increases (Fernandez Baldor et. al, 2014), with most of them remaining in the rural sector (Morley, 2017).

Since the mid 1990's, the Government of Peru designed and put in place several private public partnership systems to deliver better infrastructure at a faster pace. One of these systems, adopted in 2008 to accelerate the implementation of priority public infrastructure projects across the country is called "Works for Taxes" ("*Obras por Impuestos*"). It allows any private company or consortium to finance and implement public infrastructure projects prioritized by any level of Government in Peru, and later recover the total amount of its investment as a credit when filing Corporate Income Tax.

Since its adoption in 2008, companies based in Peru have increasingly worked under this scheme. As of December 2017, 307 projects had already been implemented using the system, for more than US\$3.6 Billion, and involving 102 companies across different public

infrastructure areas. The reasoning behind the system is that using it, the Government is able to forward financial resources required to complete prioritized projects from private companies paying corporate income tax in Peru, and to deliver these works faster than traditionally.

Under this system the private partner may choose –among government prioritized projects- to finance one or more works of infrastructure identified as with potential to benefit communities in areas usually adjacent or near the place where the company operates some of its facilities. The company is therefore able to align its own interests with the public interest and delivering critical infrastructure and basic services to populations usually living outside the main Peruvian cities, where infrastructure under provision is a more tangible problem and still prevents sustained growth.

The objective of this thesis is to assess the effectiveness of the Peruvian Works for Taxes System in terms of regional coverage and identify potential hurdles for its performance. Therefore I will address the question of whether this system -created in 2008- has helped solve the Peruvian infrastructure under provision problem or not. For this purpose, I carry out an observational longitudinal study over panel data containing information on all projects developed in Peru under this system, from its starting point in 2008 to December 2017. I will also use a parallel chronological analysis of the legal instruments and practices issued to operate the system and of its performance. My central hypothesis is that the Works for Taxes system has delivered benefits in terms of helping close the Peruvian infrastructure gap and that further legal adjustments -regarding the issuance and trading of the tax credit certificates it offers- that were made to its design had a positive effect on its performance. I evaluate this performance in terms of geographical reach, investment and public and private participants. It must be noted as well that the cost effectiveness of each of the works prioritized under this system is pre evaluated by the Peruvian Ministry of Economy and Finance under a social profitability and lifecycle methodology<sup>1</sup>.

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<sup>1</sup> A definition of the Peruvian Ministry of Economy methods followed to evaluate public investment is accessible at <https://www.mef.gob.pe/es/inversion-publica-sp-21787/184-instrumentos-metodologicos/4514-metodologias>.

In Part I of this thesis I address the Works for Taxes system characteristics and operation. I start with a description of the seriously challenging topography of Peru and the substantial infrastructure gap that this natural feature, jointly with shortcomings in public management and economic constraints, is still causing. I later address the reaction of the Peruvian Government to this growing infrastructure gap, through the promotion of different public private partnerships, and then focus on the 2018 Works for Taxes program. On addressing this program, I present the profuse and successive amendments and detailed regulations it has had, indicating the rationale behind those. For a better understating of the figures on performance of the program, I explain the areas of infrastructure covered by the system, the procedure to be followed by investors participating in it and the benefits officially stated as its contributions to Peru, and key institutional elements in which the success of the system relies.

In Part II of this work, I use an observational longitudinal approach to analyze a data set containing detailed information on all projects carried out in Peru under the Works for Taxes system since its creation in 2008 until December 2017. I analyze this data in order to identify the geographical reach of the system, areas of public service covered, number and type of companies participating, growth of investment and beneficiaries, all at a department level and during the period under study. This allows me to evaluate the performance of the system in the task of helping Peru close the infrastructure gap it faces.

I also find that the relation between data trends on performance and the subsequent legal adjustments to the system structure reveals two elements of concern, namely i) the ease of trade of the tax credit certificates issued under the system, and ii) the predictability of the legal timeframes set for its issuance and use by the companies entitled to them. Regarding

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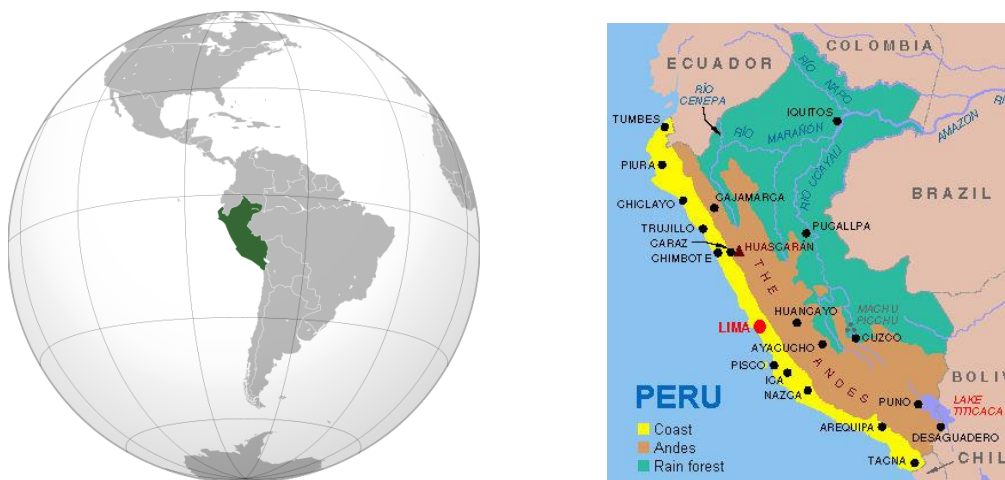
Even though they could also satisfy other metrics, for purposes of this work, and following the Works for Taxes legal requirements for pre viability declaration, we shall assume that all works carried out are socially profitable under this methodology.

these two elements, I offer two proposals for the improvement of the program in Peru or elsewhere, if any other country considered adjusting it to its reality. Namely, an open market of tax credit certificates and a pricing system to reach more costly, far infrastructure works.

## 2. A Portray of Peru

The purpose of this section is to describe the difficulties of the Peruvian topography leading to high construction costs and under provision of basic infrastructure and services. Peru is a country located in the central western coast of South America facing the Pacific Ocean on its western coast and sharing with Ecuador, Colombia, Chile, and Bolivia the lines of the Andes Mountains and with Brazil, an important portion of the immense rainforest Amazon jungle region. When the territory of Peru is analyzed transversally in terms of altitude, humidity among other constant conditions, three different regions emerge as its essential divisions, following the pattern described in the following chart.

**Chart 1.**  
**Peru: Location and Basic Map**



Peru's coastal region, which is mostly a desert, is however naturally irrigated by dozens of river basins –separated by different distances- flowing

down from the Andes into the Pacific Ocean. Peruvian river basins also flow across steep Andes Mountains valleys into the Pacific Rim and also contributing to the basins going east, crossing Peru's rainforest region and contributing to lakes and some neighboring countries naturally endowed water sources.

During the twentieth century, further analysis on this division was made, identifying 8 clearly distinguishable life zones along the three basic regions (Pulgar Vidal, 1938). Contemporary studies build on the complexity and difficulty for integration of the Peruvian geography this biological division suggests.

**Chart 2. Peru Life Zones**



Source: Instituto Geofísico del Perú

A logical consequence of these physical characteristics a higher cost of building infrastructure in regions where geographical difficulty is more pronounced, namely, those in the Andes Mountains and those in the rainforest region. Since the independence of Peru in 1821, integration through

infrastructure, first with railroads then with roads, was a priority of subsequent administrations and works were made, but as of 2017 it remained a central national challenge.

This concurs with an economic situation which makes Peru more able than before to address public investment urgencies. According to the International Monetary Fund, in 2015 Peru was already a middle income country with a GDP of \$192.1 billion (ranking 48<sup>th</sup> of 192 countries), a population of 31.9 Million people (ranking 42<sup>nd</sup> of 217 countries) and a GDP per capita of \$6,021.1 (ranking 111<sup>th</sup> of 217 countries), with a 0.34% share of World GDP (PPP) (World Economic Forum, 2016).

### **3. Infrastructure in Peru**

In this section I address the standing of Peru on infrastructure performance according to the widely used indicators, the infrastructure gap the country is still experiencing and the magnitude of the challenge that its closure entails. Also, the specific efforts that the recent Peruvian administrations made since the 1990s to these days to design and implement policies aimed at contributing more resources to this objective.

According to the World Economic Forum (WEF), Peru has recently shown growing economic features, but the infrastructure gap between its urban and rural areas, and its overall shortage or lack of infrastructure including roads (paved or even rustic), trains, airports and ports, as well as the gap on social infrastructure for



services such as education, justice and security and health, need to be closed soon in order to sustain the current and further development of the country (WEF, 2016).

According to the WEF Global Competitive Report 2016-2017, Peru ranked 89<sup>th</sup> among 138 countries in infrastructure performance. Regarding the quality of it, quality of overall infrastructure (115<sup>th</sup>), quality of roads (110<sup>th</sup>), quality of railroads (91<sup>th</sup>), Peru is still poorly ranked and -despite its growth during the last 22 years- it still shows the urgent need for greater investment improvement and performance improvement in this field. After 2013, Peru was still behind the Latin America and Caribbean (LAC) region median performance in terms of available roads (density) and pavement of those, sanitation, water and access and price of electricity. Similarly, it remained behind neighbor countries like Colombia and Ecuador in terms of basic services like available roads (density), sanitation, water and access to electricity.

Table 1. Access to infrastructure in Peru and countries in Latin America

Indicators	Peru	Colombia	Ecuador	LAC Region
Road Density (Km/100Km2)	6	10	15	17
% of paved roads	18	14	15	23
Quality of port infrastructure (index)	3.3	3.5	2.9	3.2
Quality of airport infrastructure (index)	4.5	4.1	4.4	4.2
Access to improved sanitation (% of population)	63	86	89	77
Access to improved water (% of population)	83	93	94	90
Access to electricity (% of population)	73	81	80	78
Price of electricity for residential users (US\$/Kw)	11.37	7.7	13.03	8.77

Source: Peru Revamps its Public Investment System (2013). Jonas et al.

Document and data are retrievable at: <https://openknowledge.worldbank.org/handle/10986/21051>

The Peruvian government has actively adopted Private Public Partnership (PPP) schemes to develop needed infrastructure since the mid 1990s and the number of projects carried out under some PPP in Peru is continuously increasing. In the country's official development framework for its 200th anniversary (Plan Bicentenario: Ceplan, 2011), regional development and infrastructure is considered one of the 6 main issues towards 2021. Subsequently, and across different administrations –though with different level of ambition- public decisions were made to allocate massive resources before that year.

### **3.1. The Peruvian Infrastructure Funding Gap**

According to the Peruvian Private Association for the Promotion of Infrastructure, AFIN<sup>2</sup>, the total long run Peruvian infrastructure funding gap (projected for 2016-2025) amounts to US\$ 159,549,000<sup>3</sup>, which is projected to be 8.27% of the Peruvian GDP for 2025<sup>4</sup>.

This projection breaks down in total gaps in infrastructure for i) water systems of \$12,252 Million, ii) telecommunications of \$27,036 Million, iii) transportation (including roads, railroads and trains, ports and airports) of \$57,499 Million, iv) energy of \$30,775 Million, v) health, of \$18,944 Million, vi) education, of \$4,568 Million and vii) hydraulics (industry oriented) of \$8,477 Million, following data contained in table 2.

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<sup>2</sup> Data is retrievable at <http://afin.org.pe/publicaciones/estudios> (Website in Spanish)

<sup>3</sup> In 2015 US dollars.

<sup>4</sup> This estimate, also by AFIN (see footnote 2).

Table 2  
Medium and Long Term Infrastructure Gap (In 2015 Millions of \$ US Dollars)

Sector	Medium Term Gap (2016-2021)	Gap (2021-2025)	Long Term Gap (2016-2025)
Water and Sewage	6970	5282	57499
<b>Transportation</b>	<b>21253</b>	<b>36246</b>	<b>30775</b>
Telecommunications	12603	14432	27036
Hydraulics	4537	3940	18944
Health	9472	9472	12252
Energy	11388	19387	8477
Education	2592	1976	4568
Total	68815	90735	159551

Source: Peruvian Association for the Promotion of Infrastructure (AFIN) Studies.

The cost of closing of this gap in the long run, approximately 8.27% of the projected Peruvian GDP for 2025 is certainly one that, given the usual financial position and obligations of the Peruvian Government, could not possibly be assumed by the Peruvian treasury alone. This hurdle becomes even more significant when recalling that the Peruvian government tax revenue has been decreasing in the last three years (2015 to 2016)<sup>5</sup> according to SUNAT, the Peruvian Tax Collection Superintendence, and Government spending remains stable.

Therefore an urgency exists for attracting private investment to align it with public objectives in this field. That is not only a struggle of Peruvian public officers but of many of their peers in most developing countries of the world.

### 3.2 Peruvian PPP and Private Participation in Public Works: A timeline

<sup>5</sup> Official historic data on Peru national tax revenue is available at:  
[http://www.sunat.gob.pe/estadisticasestudios/busqueda\\_ingresos.html](http://www.sunat.gob.pe/estadisticasestudios/busqueda_ingresos.html)

Back in 1991, the Peruvian government announced a comprehensive privatization plan for government assets and public owned companies, in order to optimize government expenditure and to attract private investment. The majority of those public assets had been expropriated by military dictatorships during the decade of 1970, leading to massive and longstanding operating losses borne by the taxpayer.

During that same decade, the Peruvian government changed its approach to new infrastructure projects using Build-Operate-Transfer (BOT) and other forms of concession contracts rather than sticking to the conventional privatization (a full privatization contract, used in the case of energy distribution, telecommunications, oil and mining companies and many of their units).

In 1996, Laws allowing for those concessions were enacted and contracts in public infrastructure under those were allowed. Peru underwent a massive privatization and concession process during the decade which tangibly increased connectivity and the access of its citizens to basic services like electricity and telecommunication services with an ever increasing portion of the territory covered, which in turn increased labor productivity (Webb, 2013).

In 2006 the Peruvian government introduced a new policy to minimize risks on PPP projects. The government was now able to issue a certification of payment for the initial investment made in infrastructure works (*Certificados de Reconocimiento de Derechos del Pago Anual por Obras, CRPAO*) to private partners, following the

infrastructure building progress. Private companies could issue project bonds using that certificate as a collateral for their financial process.

This certification system was once again modified by a new system named RPICAO (*Remuneración por Inversiones según Certificado de Avance de Obra*), following IMF advice suggesting those certificates needed to be registered as national debt. Also, a minimum revenue guarantee after completion of construction (*Pagos Anuales por Mantenimiento y Operacion*, PAMO) was adopted in Design Bid Finance Operate and Maintain (DBFOM) contracts.

Peru also adopted the “Co-Finance Private Initiative” to broaden the scope of private participation in this area. In this contract type, a Special Purpose Vehicle (SPV)<sup>6</sup> is created to have a public entity and private contractors share risk on one or more components of infrastructure delivery.

In 2008 **Law 29230 was enacted in 2008 to promote private sector participation in public infrastructure projects through income tax and royalty deduction, or Works for Taxes.** Given the significance of the adjustments for purposes of the analysis I will carry out on part II of this work, a detail on the legal evolution of this new scheme is shown in the following table and section.

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<sup>6</sup> A Special Purpose Vehicle is a legal entity, exclusively incorporated to carry out the tasks set under a contract, and typically intended to manage the operation of the public assets held under some public private partnership form, complying with the duties that such entity must comply pursuant to applicable law and the contract governing it.

Table 3. Legal Evolution of the Peruvian Works for Taxes System

Year	Instrument
2008	<b>Law 29230, Works for Taxes Law.</b> Promotes Regional and Local Public Investment with Private Participation in Health, Education, Tourism, Agriculture, Irrigation, etc. <b>Certificates for Tax credits (CIPRL) are non-tradable.</b>
2009	Urgency Decree (Executive Order) 081-2009, defines General Comptroller participation in audits of requesting governments and supervision of contracts.
2012	Supreme Decree 133-2012-EF: Approves implementing regulation for Law 29230 including reimbursement of feasibility studies for works and procedures' details. <b>Certificates for Tax credits (CIPRL) are non-tradable.</b>
2013	Law 30138: Amends Law 29230 on Works for Taxes (public budget provisions)
2013	Law 30056: Amends Law 29230 on Works for Taxes <b>Certificates for Tax credits (CIPRL) can now be traded.</b> Maintenance of Works and Facilities is included in the System.
2014	Supreme Decree 005-2014-EF: Approves new implementing regulation for Law 29230, as amended. <b>Certificates for Tax credits (CIPRL) are negotiable except when the company paying for the work is also the constructor. Certificates are emitted electronically. No interest is paid on them.</b>
2014	Law 30264, <b>Includes National Government</b> Entities as participants in the System.
2015	Supreme Decree 006-2014-EF, details National Government entities' participation.
2015	Supreme Decree 409-2015-EF: New implementing regulation for Law 29230 as amended. It broadens its scope with sectors such as Culture (historical heritage, sports and sanitation) and facilitates contracts proposed by potential investors.
2016	Legislative Decree 1250 Allows joint approval of Government entity and supervisor. <b>Creates Electronic Platform for Certificate record, control and trade.</b>
2017	Supreme Decree 036-2017-EF More specific, all government level applicable rules.

Source: <http://www.proinversion.gob.pe/modulos/JER/PlantillaStandard.aspx?ARE=0&PFL=1&JER=8191> and *El Peruano* Official Gazette's section on statutes and regulations.

#### 4. The Works for Taxes System

In this section, I will address the operation of the system and its procedural steps for governments and private companies to use them and deliver prioritized infrastructure projects in urban and rural areas of Peru. I will indicate the steps that these actors need to follow to deliver works under the system, the benefits that the Government of Peru states the system features and, following the structure and procedures required in the system, I identify elements of institutional design on which the success of the system rests.

Law No. 29230, called "Works for Taxes Law" (*"Ley de Obras por Impuestos"*) (Hereinafter "the Law"), as amended (see Table 3), is a regulation issued by the Peruvian government in 2008, which seeks to accelerate the implementation of priority public infrastructure projects across the country.

The Law allows a private company, individually or working in a consortium, to finance and implement public projects prioritized by all levels of Government<sup>7</sup> in Peru, and later recover the total amount of its investment in the form of a tax credit to be used to pay against due Corporate Income Tax (classified as "3<sup>rd</sup> category" income tax by SUNAT, the Peru tax administration agency). This credit is acknowledged through a Certificate of Recognition of the Work (Hereinafter, "CIPRL"), that can be discounted in financial institutions and the value of which is adjusted for inflation should the infrastructure project take longer than a year to complete.

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<sup>7</sup> The Peruvian public administration is organized in Central (Presidential and Cabinet Authority), Regional (25 major areas authorities subject to central legislation, but exercising delegated authorities in limited areas) and Local Governments (called Municipalities, in charge of district level neighborhood and rural services).

Since 2008, when the Law was enacted, a series of works for taxes projects were prioritized by different levels of Government in Peru, and implemented to build basic public infrastructure such as water and sewage networks, roads, small healthcare centers, among others.

The system was designed in Peru as a new model of public private partnership where both parties benefit and in which there are additional advantages for companies based in Peru, and operating in certain regions of this country where infrastructure is underprovided, which deserve our attention on their dynamics. Under the system, all levels of government and public universities in Peru could prioritize, within their investment budget, projects deemed important for their community and requiring delivery. On their end, private companies based in Peru can directly finance one or more of those projects (from which their workers or adjacent communities could benefit), receiving a certificate for the value of the works paid, to use as tax credit against the following year income tax return.

Through the Works for Taxes system, and within the thresholds (Constraints) set in the regulation of the system, all of Peru's Government levels are able to secure and **forward financial resources** required for different infrastructure projects they have already prioritized (or even received proposals for, as unsolicited projects), from private companies of any origin, based and paying income tax in Peru, which will bid for the work selected and pay for it should they win the bid. The work of the contractors hired by the winning company needs to be supervised by an independent

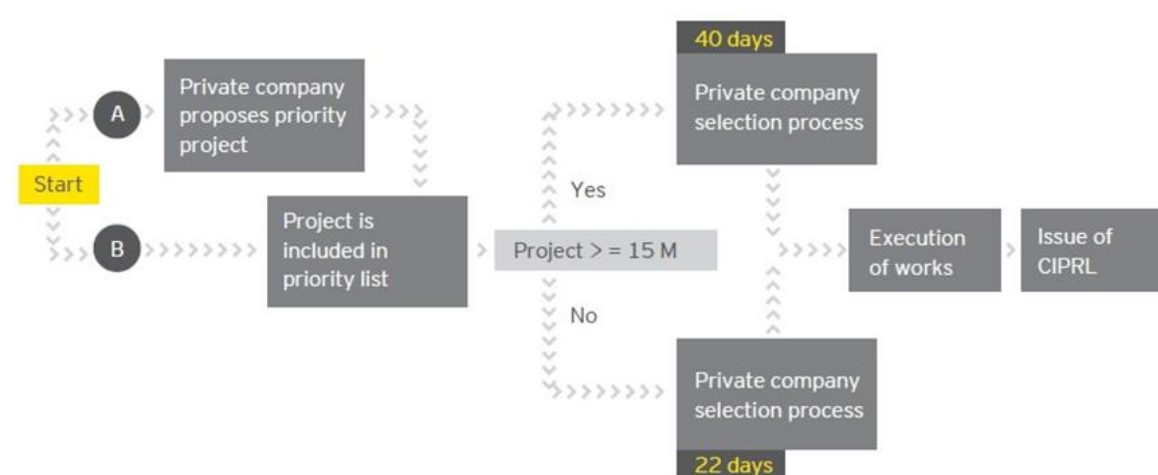


contractor, who is in charge of issuing a technical approval of the work once it is concluded satisfactorily.

On the other side of this scheme, private partners' benefits may include – among others- nationally spread **brand value to the company**, as these works make people in the place associate the company's image to longstanding projects with a deep and meaningful positive social impact.

Companies can have a tangible return on their investment and the Peruvian society benefits as well, given that the prioritized or proposed project could have substantial spillovers over the public services rendered to their workers and their communities, and as projects are implemented and operating in less time than they would if they were carried out as fully public investment projects or PIP (*“Proyecto de Inversión Pública”*), the traditional delivery system of infrastructure in Peru.

The procedure followed under the Works for Taxes mechanism is the following:



Constraints on the Issuing of CIPRLs	Regional Governments	S/.5,995,650,588.00	US\$2,141,303,781
	Local Governments	S/.21,661,710,678.00	US\$7,736,325,242

Source: Public AC

## 4.1 Public Services Covered

Pursuant to the Law, all kinds of public infrastructure projects are viable under the system. The Peruvian Central Government -and Regional and Local governments as well-, however, usually prioritize projects with strong local or regional impact, mostly in the following categories:

**Health:** Construction and/or improvement of the response capacity of hospitals, health centers, health facilities, municipal or regional clinics and/or maternal and child units. Per the project size, building one or more stages may be considered.

**Education:** Educational infrastructure projects such as schools, classrooms, libraries and laboratories. These projects may include the operation equipment of the facility (e.g., computers in an IT learning space, training equipment in a gym, etc.).

**Water and sanitation:** Building, rehabilitation, improvement and expansion of drinking water and sewage systems and wastewater treatment plants. These may have any dimension and should be designed according to served population's sizes and growth estimates.

**Local Road Infrastructure:** Road infrastructure works involving the construction, rehabilitation or paving of roads and sidewalks, road interchanges, pedestrian bridges, among others.

**Regional transport infrastructure:** This refers to paved roads, bridges, roads and/or dirt roads and feeder roads (e.g. new unpaved roads allowing people from a

distant community connect on vehicles with a paved road and reduce travel and goods transportation times). These projects could connect two or more districts or two or more regions of the country. Usually their prioritization is overseen by the National Government, through the Peruvian Ministry of Transports and Communications (MTC).

**Irrigation:** Small irrigation projects such as regulating ponds, irrigation canals, and intakes, among other water system stages. Projects may include modern irrigation equipment and their maintenance.

**Public sanitation:** Small and medium solid waste management integrated projects, including recycling and treatment plants and/or landfills.

**Energy and Telecommunications:** Building, rehabilitation and equipping of small power systems and rural electrification projects. Also, telecommunication systems (fixed, mobile and internet) in small or rural towns.

**Tourism:** Services infrastructure adding value to a selected tourism resource, enabling the transformation of that tourist resource not yet taken advantage of, into an active and more valuable tourist attraction. These works may include providing access services, interpretation, guidance, information to visitors, among others.

**Recreation and others:** Civic centers, theme parks, recreational and sports courts and centers, Institutional buildings, small bus terminals, theaters, food markets and wholesale markets (regularly managed by municipalities at the provincial or district level in Peru).

## **4.2 Steps of the System**

### **4.2.1. Procedure to be followed by the Private Partner**

As the first step, and within the allocated budget for the system, the central, regional or local government or a public university should determine, in an executive, regional or municipal council meeting or university council meeting (as applicable), a list of priority projects to be executed through the Works for Taxes mechanism. These projects need to fit within the definition of Public Investment Project under the Peruvian Ministry of Economy and Finance regulations. The decision will be sent to PROINVERSION (The Peru National Investment Promotion Agency) and published by it and the soliciting agency or entity.

A private company will finance the project it is interested in (Funding originates in the very tax debt of companies as they pay regular income tax in Peru every March). The project i) may be selected from the priority list issued by the central or some regional or local government or a public university, or ii) could be created by the company and submitted to the Government entity or public university in the area, to be considered and included in its priority list. The latter is a way in which the company creates a private initiative (unsolicited) that must be in line with a priority identified by the central, local, regional or university authorities. Naturally, if the company promotes it, we shall understand it aligns and serves both the company and the public interest.

Since July 2013, Peruvian Law allows regional and local governments and public universities to solicit the maintenance of infrastructure, and not only the construction or rehabilitation of infrastructure, under this mechanism.

Therefore, under the Law, in a regular project flow under the Peru Works for Taxes mechanism:

- i) A private company chooses a project from the priority list established by a regional, municipal or university council or proposes a specific project of interest to these authorities, which conducts a selection process to find the private company that will finance and/or execute the works.
- ii) At the end of this process, a contract for the project investment stage will be signed. Once the regional or local government, or the public university, receives the work, it will request the Peru Ministry of Economy and Finance (MEF) -in charge of treasury and taxes as well as economy-, to issue a Regional and Local Public Investment Certificate (CIPRL).
- iii) A CIPRL is the formal document issued by MEF to the private company that financed a project with its income tax. It is used to the order of the private company in the following tax year, and is valid for the next ten years, to deduct an amount equal to the funds provided for the works from its income tax to be paid to SUNAT, or such amount adjusted for inflation, should the project take more than a year to be completed.

- iv) After the completion of works and within the following twenty working days, the private partner will receive the certificate of compliance with quality standards and the acknowledgement of satisfactory reception of the infrastructure project by the requesting entity (either a government or a public university).
- v) Within a period of no more than three working days, the regional or local government or the public university will apply with the General Office of Debt and Treasury (DGETP) of MEF for a CIPRL, incorporating in such application the legal name and taxpayer number (RUC) of the company, the value of the works in Peruvian Currency (*Nuevos Soles*) and a copy of the document supporting the registration of the budgetary and financial allocation in the Information System for the Public Sector Financial Administration (SIAF-SP).
- vi) Should the regional or local government or public university not apply for a CIPRL of works already completed, the private company may request DGETP to issue a CIPRL that demonstrates its compliance of all the project requirements. Simultaneously, the company should inform the regional or local government or public university accordingly, requesting them to register the budgetary and financial allocation in the SIAF-SP.
- vii) A CIPRL may also be issued every quarter, if the project has an execution term of more than six months. If applicable, the soliciting public entity should inform the private partner at the beginning of the process that it may apply

for the issue of CIPRLs every quarter. For this purpose, the Committee deciding on the work will include in the terms for the selection process, that this schedule will be the reference for the issuance of one or more quarterly CIPRL.

- viii) Either way, the procedure to obtain a quarterly CIPRL begins with the request from a private company to the public partner's works management office (or similar entity), accompanied by the certificate and valuation of the progress of the works issued by the company supervising the work (To incentivize quality and accountability, under law, each Works for Taxes project should include an independent contractor hired by the Government entity, which supervises the work of the contractor directly carrying out each project<sup>8</sup>, assess the quality of the work and giving a final technical conformity at the time or completion if it finds it satisfactory, or technically object the work if it does not). The public entity works management office will approve the amount for this progress or work in a formal decision (a "resolution"), and will arrange with DGETP the issuance of a CIPRL for the private partner within no more than three working days.

Any Peruvian or foreign legal person, including those that have entered stability contracts<sup>9</sup> with Peru, may participate in a Works for Taxes selection process, provided

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<sup>8</sup> Article 9 of Peruvian Law 29230 on Works for Taxes establishes that an independent private company shall be hired by the requiring Government entity to supervise the work carried out by the contractor on site. The Supervisor is in charge of giving the works the final technical approval.

<sup>9</sup> Pursuant to Peruvian Law, Stability Agreements are investment promotion contracts signed by the Peruvian Government and foreign or national investors, to set guarantees for the investor or company receiving an investment. They typically include rights to non-discriminatory treatment, 10 year stable income tax (except for concessions, in which stability may last as long as the concession itself), free exchange and transfer of currency, profits, and royalties. Local companies receiving investment may

that they comply with the legal, technical and financial requirements established in the terms of the selection process, and that it pays taxes in Peru.

Typically, a company will, aside from other smaller charges, pay Sales Tax and Corporate Income Tax when operating in Peru, aside from other smaller, labor, property use and municipal permit related contributions.

Two or more companies may participate in the Works for Taxes system jointly, as a consortium, without the need for creating a new legal entity (The consortium would be the special purpose vehicle they agree upon to work on the project). In this case, the existence of a formal contract creating a consortium (Vehicle) must be demonstrated (regularly with a private contract between the consortium members).

Any company presenting legal impediments to become a bidder and/or a contractor under Peruvian Public Procurement Law will not be allowed to participate in the selection process.

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stabilize income tax regime and labor contract forms used at the moment of signature. Minimum investment to apply is \$10 Million US dollars for mining and energy and \$5 Million dollars for other sectors. Full official detail on contracts, formats and legal reference is available at:  
<https://www.investinperu.pe/modulos/JER/PlantillaStandard.aspx?are=1&prf=0&jer=5933&sec=17>



## 4.2.2 Benefits of the System

According to the Agency promoting the System and leading these processes, the Works for Taxes System benefits Peruvian regional and local governments, public universities (labeled altogether as “public entities”), private companies and society, essentially as indicated in Table 4.

Table 4.  
Financial and Social Benefits of the Works for Taxes System

For Public Entities	For Companies	For the Society
Increased local economic dynamism or performance.	Direct and Efficient use of Income Tax	Wider Public Service coverage and higher service quality
Faster implementation of high social impact works	Full Recovery of Investment	Creation of direct and indirect jobs in the community, either through construction or during subsequent operation and maintenance works.
Simplification of Procedures and freeing up of technical resources	Association of the Image with social impact works.	Promotion of the Undertaking of quality public works, guaranteed by the financing company.
Provision of Financial advances, deducted the year following completion of works.	Improved relations with their stakeholders.	Contribution to the development of a taxpayer culture and the implementation of corporate social responsibility plans
Increased current investment budget	Faster delivery of works that could enhance both local and the company's competitiveness.	

Source: Peru Agency for the Promotion of Investment (Proinversion)

## **5. Notes on elements in which the systems rests**

After laying out the announced benefits of the system I shall now point out to some elements of the system on which its success -understood as it becoming a relevant source of financial resources to help close the Peruvian infrastructure gap- actually depends. It is a common understanding that no public policy system would be successful without proper management or oversight of specialized officers in charge, bearing in their work all required elements to make it productive and attain the outcome expected in a sound, predictable and transparent fashion.

### **5.1 The participants: Technical capacity and political will**

Three essential public actors intervene in the process, namely i) the Government or public University requesting the project (hereinafter regarded as The “Government Entity”), ii) Proinversion –the Peruvian Private Investment Promotion Agency- and iii) the Ministry of Economy and Finance of Peru –in charge of issuing the tax credit certificates-. On the other hand, three essential private actors also participate, iv) the Private Company, v) the Contractor hired by the private company to carry out the chosen work and vi) the Private Supervisor, hired by the Government entity, to ensure the quality of the work delivered.

Given the relative legal and financial complexity required from the projects that the Government entity should file before Proinversion to be included in the yearly official list of projects responding to actual or projected demand<sup>10</sup> and

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<sup>10</sup> Projects for which there is current demand but for which a reasonable estimate of demand can be made, may be considered viable and carried out under the system. For example, a new, shorter road uniting several communities with a city, which will replace a two times longer decaying dirt road currently in use.

declared as financially viable within the budget allocated for the system by the Ministry of Economy and Finance of Peru, their success rests on two general factors.

**The first and quite evident factor** is the compliance of all legal and procedural requirements for carrying out projects under the system. This, because noncompliance would entail legal consequences including, in some cases, the termination of contracts and the complete suspension of the project.

**The second factor**, largely more complex, lies in the i) the technical capacities and ii) the willingness to work on these projects (transparently and sharing objectives) of authorities and professionals in Government entities, the Peruvian Ministry of Economy (authorizing budgets and operations and issuing tax credit certificates) Proinversion (the Peruvian investment promotion agency conducting or assisting the process requested by a Government entity) and the corresponding government sectors (those to which the proposed infrastructure piece is planned to contribute to).

It must be noted that though the technical capacity and willingness of the private companies participating in the system, and those of the financial system entities discounting the tax credits certificates are likely high, given that they specialize in business and financial work, neither of them drives the procedures. They are just the ones soliciting them and discounting the tax credit certificates only issued after works are completed and approved both by the Government entity and the private supervisor or the works.

Successful projects will likely require a conjunction of those two essential elements. Given the subjective nature of the second element –a strong political will to carry out the procedure and works in a lawful-, a greater level of uncertainty and must be attributed to it. The conditions influencing this factor are beyond the scope of this work, but are certainly a topic for further qualitative analysis and research regarding this infrastructure delivery system, as well other forms of regional and local private public partnership.

### **5.1.1 Downsides: Technical capacities and Interagency Coordination**

Since technical capacities in local and public administrations and a strong political will to engage in procedures under this system –which may be new to many officers and elected officials- are sine qua non condition for the successful operation of the Works for Taxes system, we shall think of the scenario in which they do not concur or are not allowed to align with the central government general initiative for private public works in urgent social infrastructure.

Starting from the capacities of officers at a district level, we will find that the challenge that a national investment promotion agency –like the Peruvian Proinversion- faces is immense and should entail a powerful stakeholder engagement side if it is to be successful. Not only should private companies be aware of this mechanism but the very beneficiaries that the Ministry of Economy (or whoever does the role of authorizing public expenditure in a work prioritized under this scheme) but more importantly the people. It is certainly outside the scope of my work to analyze how much the Peruvian people know about this system, but given that it is constituencies that should exercise citizenship to promote and sometimes

demand work on urgent services and pieces of infrastructure, the tool should be available to them. It is not an irrational idea to set digital mechanisms to collect the people's opinion on urgent infrastructure in far regions of the country and around their communities. Citizen's communication of needs regarding basic social services

A failure of one or two of these essential conditions, technical capacities and willing to work on a rather new system, will lead to infrastructure paralysis and discouraging of potential private partners in one or more regions. Systems like these therefore need to secure the elements on which their operations' progress and success depend on.

After reviewing all the legal framework of the Peruvian Work for Taxes system, unfortunately I have not found institutional means for either Proinversion or the Ministry of Economy to go on the ground, there where seems to be a deficit on one or more of these essential elements. A key feature in this system –as it is announced- is the transference of knowledge from financial experts and highly trained government officials to less trained local and regional government officials that will progressively participate in these projects. The only way to secure this transfer is a process of joint work between officials that this system does not appear to provide for in its enabling regulations. Whether this is done at a statutory or regulatory level, it is needed to secure key elements of the system and, more importantly, a democratization of the real drive for transparent prioritization of works. And that is citizens informed about their resources, tools at hand, and conscious of their urgent needs in terms of basic social services infrastructure.

## 5.2. Legal Burdens and improvement

As shown in Table 3 (Legal Evolution of the Peruvian Works for Taxes System), several legal adjustments were made to the system during its first decade of operation. Generally, the scope of works that could be covered through the system was constantly expanded, up to the point where it is now possible for participating companies to pay for the provision of public infrastructure maintenance or equipment through the system.

Through these adjustments to the system, timeframes in required procedures were generally shortened and repetitive steps eliminated to incentivize its use by more companies. A critical adjustment, however, was the making of the certificate for tax credit (CIPRL or CIPGN depending on the level of Government requesting works) a negotiable instrument in 2013, essentially allowing the companies participating in the system to discount it in banks to obtain liquidity if needed before the moment of paying income tax (in Peru, regularly every March).

The possibility of trading the certificate is however still banned to the company participating if it is itself the contractor carrying out the specific work. The rationale behind this prohibition is that, under the existing legal framework, the contractor may not commit with the Government entity to contract someone to carry out some work, and at the same time be itself the company hired for that specific work. This prohibition is made in the understanding that a company (if it is one dedicated to construction, civil engineering, etc.) may not hire and oversee itself. But it is notable in the system as it is now, that even when the soliciting private company is the one

directly carrying out the work, it will necessarily be supervised by a third party, hired by the Government entity, and which is an independent contractor solely dedicated to guaranteeing the quality of the infrastructure delivery. I will address the effects of the tradability of these certificates and the potential effects of this specific formal prohibition for civil contractors in Part II of this work.

### **5.3 Further amendments: an ongoing process**

In an evolving process of policy improvement, and though not changing the essence of the system, the Peruvian administration has consistently considered adjustments to the rules governing it. This, with a view to simplifying, and by doing so, expanding its use. Amendments detailed in Table 3 were made to introduce **changes at the procedural level of the mechanism, seek simplicity, facilitate administrative decisions, and widen the scope of the system**, which is now open even to unsolicited projects for infrastructure pieces in new fields of social infrastructure, not explicitly referred in regulations (e.g. an cultural center with a small business incubator facility, prioritized by a community that produces fine art crafts and intends to generate an export cluster).

As it is stated in the motivation for each of these statutes and executive regulations, the aim of the Peruvian government has always been expanding the use and therefore the availability of financial resources through this type of private investment in public services infrastructure, with a particular focus on districts that are distant from major Peruvian cities.

Additionally, the Peruvian Investment Promotion Agency (Proinversion) creation Act was amended to improve its role and attain efficiencies in the

procedures it conducts, including improving the quality and timeliness of process under its responsibility, such as those of Works for Taxes, where it is allowed to either assist the Government entity requesting the work or carry out the whole process for works by itself, if required by such Government entity. Changes include some referred to a) making it less personally burdensome for public officers in charge of PPP and works for taxes procedures to decide on them, b) alleviating unnecessary oversight controls and duties, c) allowing the agency to contract specialized services for improving management quality, and d) securing legal and insurance coverage for its officials and assets, anticipating any complaint or grievance process arising from contested bidding processes<sup>11</sup>.

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<sup>11</sup> Under the rules governing the Works for Taxes system, there is a dispute settlement mechanism intended to solve any complaint or dispute arising from the bidding process for each work. Adjustment to these rules have provided for the legal defense of officers in charge of bidding processes if they are subject to any judicial procedure related to these disputes. This is intended to cover them from frivolous or not sustained suits or legal charges.



## Part II

### 1. Performance of the Works for Taxes System: The First Decade

In Part II of this work my objective is to address the question of whether the Works for Taxes system has helped close the Peruvian infrastructure gap. For this purpose, I analyzed a data set containing the whole detail on all projects carried out in Peru under the Works for Taxes system since its creation in 2008 until December 2017.

Using an observational longitudinal approach, I analyzed this data set identifying the **geographical reach** of the system works, the **areas of public service covered** by those, the **number and type of companies participating** in it, and the **growth of investment and beneficiaries** in the system, all at a department level, during the period under study (2008-2017). This allowed me to evaluate the performance of the system in the task of helping Peru close the infrastructure gap it still faces.

Since the data set contains detail on all processes under the system during the period under study, it is representative of the population analyzed as well as reliable, as it originates in a formal centralized registry of these operations within the Peruvian Government. Therefore it allows for accurate observation of the effects of the system and direct interpretation of such observations.

On December 2017, I traveled to Peru<sup>12</sup> and had meetings with two high level officers of the Ministry of Economy and Finance of Peru (Hereinafter, “MEF”), Mr.

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<sup>12</sup> This on site work was made possible through financial support from the Cornell University Off-Campus Opportunity Fund (OCOF) and the Cornell University Institute of Public and International Affairs (CIPA), which I deeply thank.

Camilo Carrillo, Peru General Director for Private Investment Promotion Policy, and Mr. Juan Pablo Miranda Leo, MEF main officer in charge of the promotion and follow up on the use of the system by Peruvian Government entities and their private counterparts. After thorough conversations on the details included in the successive legal adjustments made to original version of the system (enacted by Peruvian in Law 29230, of May 2008), and the stakeholder engagement process that those adjustments required, I obtained a very detailed time series data set showing the full performance of the system –every work done in Peru- since its enactment date until December 5<sup>th</sup>, 2017.

The data set on which I base my analysis indicates, among others, the department, province and district of Peru where works were done, the percentage of completion of each work if still ongoing and the corresponding percentage of CIPRL (or CIPGN) certificates issued in each process. Also, the level of Government and entity requiring the work, the year the work was done, the legal status of each contract, the Government Sector with competence over each work (depending on the type of infrastructure built), the private company paying for the work, the number of direct beneficiaries estimated in the project files, the total amount paid for works under each contract, the dates the works started and ended and a brief description of each project (its specific purpose).

Although all its contents originate in data that Proinversion –the Peruvian private investment promotion agency- makes available through its official website and access to information channels, I have uploaded this data set on my personal site<sup>13</sup> (in its original Spanish version) to allow for any further analysis of the

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<sup>13</sup> Download of this data set is available at: <https://alvarodiazbedregal.wordpress.com/2018/04/24/works-for-taxes-peru-data-as-of-12-5-17/>

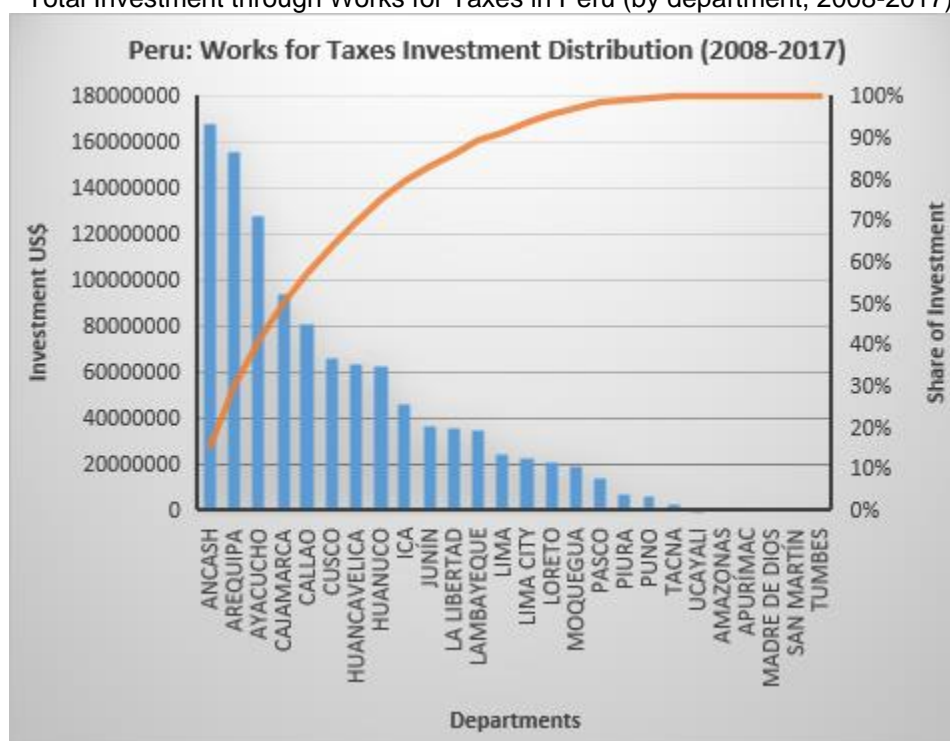
information it contains and of the analysis in this piece. My analysis in this part is based on this data set, and on public statistics on general economic performance of Peru and its 24 departments<sup>14</sup> I will refer.

## 2. Findings on the application of the system

### 2.1 Total Investment and distribution

Looking at data on accumulated investment made through the system in the period under study, and first indicating that not all 25 departments of Peru carried out projects under Works for Taxes in this period, I found the following total investment, distribution and percentages among the 25 departments of Peru, including –as a separate unit- Lima City and the Port of Callao<sup>15</sup>:

Table 5  
Total Investment through Works for Taxes in Peru (by department, 2008-2017)



<sup>14</sup> Under its Political Constitution, Peru is a unitary democracy, with a National Government, 25 regional governments (governors), 24 department authorities (mayors), 196 provincial authorities (mayor/council) within departments, and 1874 district authorities (mayor/council) within provinces. Therefore, only at subnational levels of government, 2119 different authorities and budgets could use available resources for infrastructure projects carried out under the system.

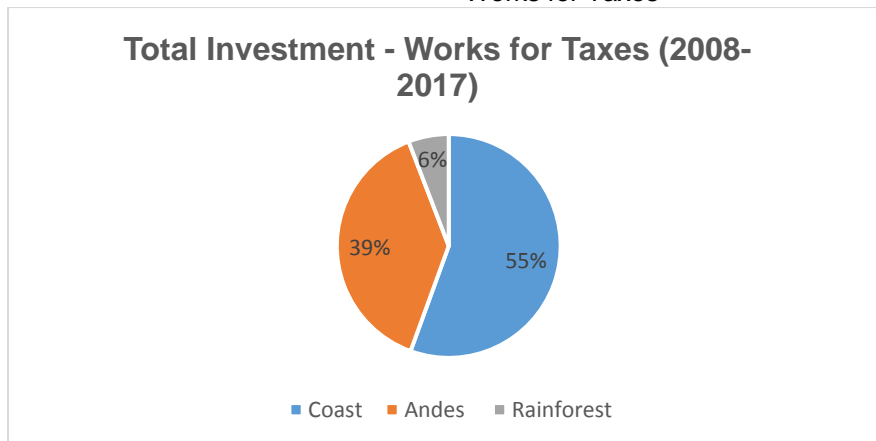
<sup>15</sup> For purposes of this distribution and analysis, I consider Lima City and the Port of Callao (Peru's main port and constitutional province) as departments, given their high demographic relevance.

Region	Total Investment (S/.)	Total Investment (US\$ )	Percentage of Total
Ancash	413,677,589	127,875,607.26	11.8
Arequipa	503,747,607	155,717,961.95	14.3
Ayacucho	882,128	272,682.47	0.0
Cajamarca	72,156,931	22,305,079.05	2.1
Callao	44,563,569	13,775,446.50	1.3
Cusco	303,376,487	93,779,439.69	8.6
Huancavelica	19,127,189	5,912,577.60	0.5
Huanuco	67,177,161	20,765,737.43	1.9
Ica	214,627,673	66,345,494.05	6.1
Junín	77,809,797	24,052,487.51	2.2
La Libertad	201,466,166	62,277,022.01	5.7
Lambayeque	61,502,943	19,011,728.90	1.7
Lima	112,947,003	34,914,065.84	3.2
Lima Metropolitana	8,380,862	2,590,683.86	0.2
Loreto	114,735,749	35,467,001.18	3.3
Moquegua	204,689,561	63,273,434.57	5.8
Pasco	149,845,802	46,320,186.09	4.3
Piura	542,365,465	167,655,476.11	15.4
Puno	117,951,902	36,461,175.19	3.4
Tacna	262,056,321	81,006,590.73	7.5
Ucayali	23,347,194	7,217,061.40	0.7
<b>TOTAL</b>	<b>3,516,435,099</b>	<b>1,086,996,939.40</b>	<b>100.0</b>

One first finding from accumulated investment data is that, during the period under analysis, the departments in which the system was more intensively used were Piura, Arequipa, Ancash, Cusco, Tacna, Ica, Moquegua and La Libertad. The system was less used in Ayacucho, Huancavelica, Ucayali, Lima City (*Lima Metropolitana*), Callao (the Lima City adjacent port province) and Cajamarca. As of the date where data was recorded, the system had not been used in the Amazonas, Apurímac, Madre de Dios, San Martín and Tumbes departments.

In terms of percentage of total investment made through the system during this period, and taking the Three Region Division referred in Part I (Coast, Andes and Rainforest), where departments are considered located in the region where their corresponding capital city is, the following is the distribution between regions.

Table 6  
Regional Distribution of Peru investment through  
Works for Taxes



In a country with challenging geography, including a high mountain region (the Andes), going almost along all its vertical axis, and with a still poorly connected Amazon rainforest region, it is apparent that the first factor contributing to the difference in amounts invested between the coast and the rainforest regions, is the cost of works itself, determined mostly by distance from the main cities where supplies are sourced, height and ease of access.

Yet if we reflect about the 45% of investments made either on locations within the mountains or rainforest region, mostly far from the main cities of Peru, it is clear that **the system has indeed delivered works outside the main production sites of the country**, and far from Peru's biggest cities (Lima, Arequipa and Trujillo – capital of La Libertad department-) where the highest income brackets people live. Studies have shown that expenditure and growth among regions of Peru is affected mostly by an uneven provision of public infrastructure rather than by geography itself (Escobal et. al., 2005). A tangible evidence of this is that the second most important city of Peru in terms of growth, Arequipa, is located within the southern Andes Mountains of Peru, at 7,661 feet above sea level and holds near 1 million residents.

It is, however, well connected to the other cities and the coast through paved roads and well served by basic infrastructure.

Moreover, confronting official population estimates for 2015 (right after the peak of works for taxes investment), and the overall use of the system by department in the period under study, we find no significant pattern. Departments with high and low population and departments located in any of the three main physical regions of Peru, have indeed requested works under the system consistently over the first ten years of the tool.

	<b>Total Population 2015</b>	<b>% of Population</b>	<b>Region</b>	<b>Use of System</b>
LIMA & CALLAO	10,848,566	34.8	coast	medium
LA LIBERTAD	1,859,640	6.0	coast	high
PIURA	1,844,129	5.9	coast	high
CAJAMARCA	1,529,755	4.9	mountains	medium
PUNO	1,415,608	4.5	mountains	medium
JUNÍN	1,350,783	4.3	mountains	medium
CUSCO	1,316,729	4.2	mountains	high
AREQUIPA	1,287,205	4.1	mountains	high
LAMBAYEQUE	1,260,650	4.0	coast	medium
ÁNCASH	1,148,634	3.7	coast	high
LORETO	1,039,372	3.3	rainforest	medium
HUÁNUCO	860,537	2.8	rainforest	medium
SAN MARTÍN	840,790	2.7	rainforest	none
ICA	787,170	2.5	coast	high
AYACUCHO	688,657	2.2	mountains	medium
UCAYALI	495,522	1.6	rainforest	medium
HUANCAVELICA	494,963	1.6	mountains	medium
APURÍMAC	458,830	1.5	mountains	none
AMAZONAS	422,629	1.4	rainforest	none
TACNA	341,838	1.1	coast	high
PASCO	304,158	1.0	mountains	medium
TUMBES	237,685	0.8	coast	none
MOQUEGUA	180,477	0.6	coast	high
MADRE DE DIOS	137,316	0.4	rainforest	none
TOTAL	31,151,643	100.0		

## 2.2 Geographical reach

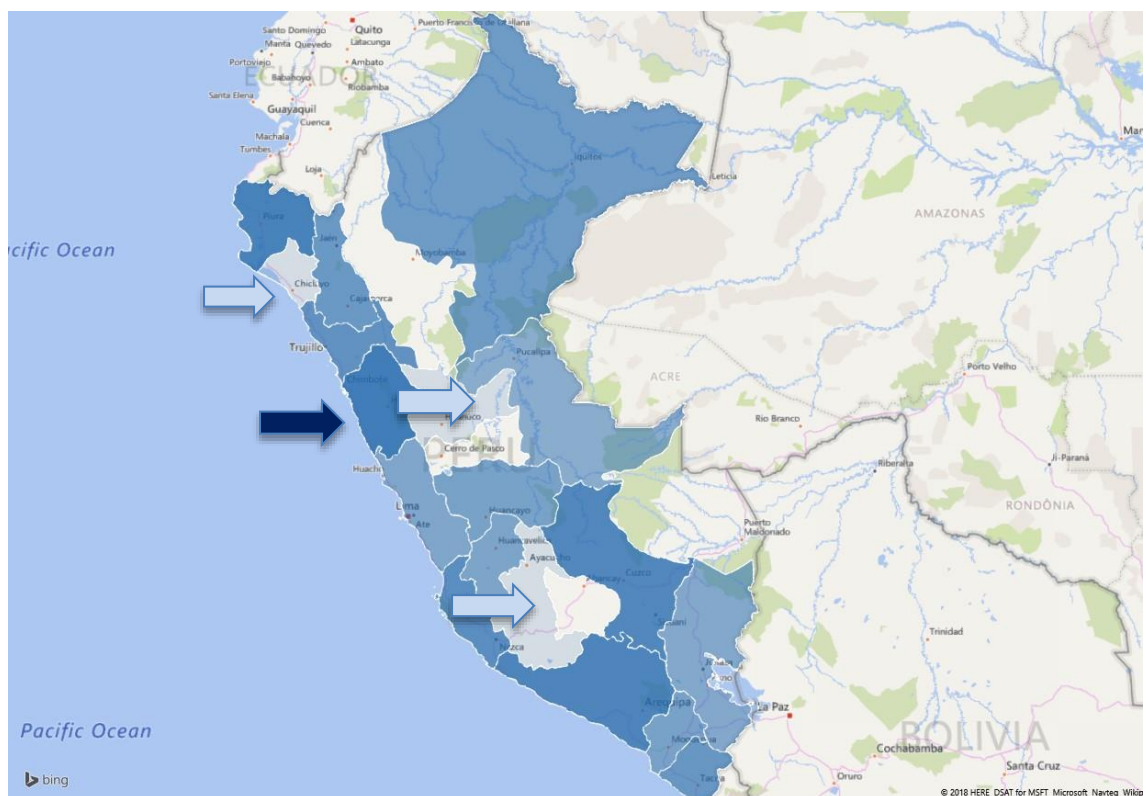
The following physical map of Peru (Table 7) –showing distances and heights to overcome to deliver infrastructure in all three regions of Peru- evidences the topographic complexities and offers a graphic explanation of the high building and developing costs across these three regions of Peru. It is against these physical challenges that the Peruvian administration and the private companies participating in the system have worked in the past 10 years, with surprising results.

Table 7  
A physical map and topography of Peru



### 2.3 Coverage of the system

One additional feature flowing from the dataset is that not all departments of Peru have been covered by the system as of 2017. But already 20 of the 25 departments of Peru have benefitted from works through it. Given the high costs of building in the Andes and Rainforest region, it is an impressive figure that the area of intervention reached by the system as of December 2017, in terms of departments covered, amounts to 98.47% of the total area of Peru (1,284,803,621.06 of 1,285,000,000.00 square kilometers). In terms of the number of districts (subdivisions) covered per department, the Coastal departments of Ancash, La Libertad, Lima and Piura, and the mountain departments of Arequipa, Cusco, Pasco feature the highest figures.





Map of coverage shows departments where more Works for Taxes projects have been or are being developed and leaves blank the departments of Amazonas, Apurímac, Madre de Dios, San Martín and Tumbes where not projects were developed in the period under study. Tones range from blue to transparent, representing the highest number (Ancash, with 40 projects) to pale blue (Huánuco, Ayacucho and Lambayeque, with 1 project each).

The highest altitude reached by the works done through the system was the at the mining district of Tinyahuarco, located in the department of Pasco, at impressive 4,275 meters above sea level, more than 63% of the maximum altitude in Peru, the peak of Mount Huascaran, at 6,768 meters above sea level. The projects in Tinyahuarco developed through Works for Taxes included the building of sidewalks, city roads and parks in the town, now enjoyed for families mostly dedicated to mining related activities.

The distribution shown in data and these figures suggest that, aside from any endowed physical hardship in some routes and regions of Peru, posing a natural hardship on infrastructure reach and higher costs, there are institutional elements hindering the advance of the system. As I mentioned in part 4.1 of this work, the success of these system lies essentially on two institutional elements (namely legal compliance of standards, and technical capacity and political will among participating institutions). In the case of 5 departments of Peru, we shall consider the possibility that either a misalignment of interests and capacities was present during all the period under study or, in the worst case scenario, there was a political will not to use the system even though all departments and districts can and have available resources to do it.

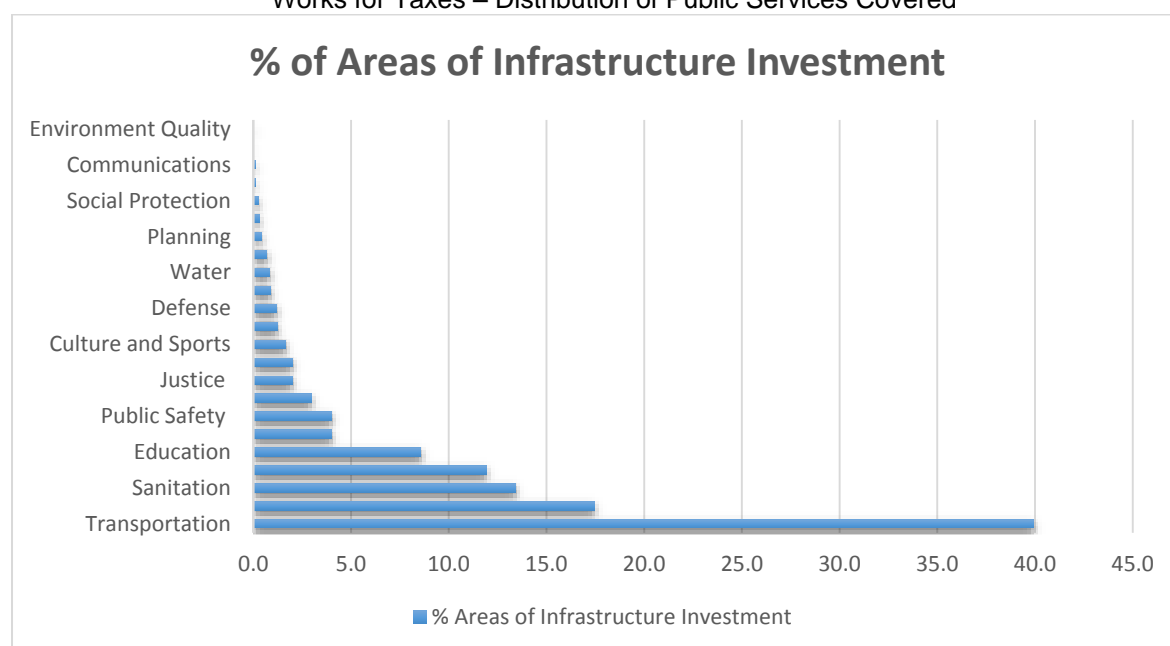
A clear signal of this likely public administration failure, is the fact that the highly accessible department of Lambayeque (see Map of Coverage), which i) is connected by roads and ports with all major cities of Peru, ii) is host to major taxpayers already participating in the system on other departments and iii) holds a

population of more than 1.26 Million people that undoubtedly requires public services infrastructures, showed only 1 project in 10 years of operation of this system.

## 2.4 Areas of Public Service Covered

The following is the distribution of areas of public services covered by the Works for taxes projects and the investment made on each area through these during the period under study.

Table 8  
Works for Taxes – Distribution of Public Services Covered



In line with the Peruvian Government long term policies and social urgencies reflected in Part I when referring to the Peruvian infrastructure medium and long term infrastructure gap, the areas where major investment was requested by Government entities requiring Works for Taxes projects were Elementary Education (16.2%), Education (8%) Transportation (37.2%), Health (11.1%) and Sanitation (12.5%).

This is consistent with the basic needs of populations in Andean valleys and Amazon rainforest towns where there is little or no delivery of basic public services, infrastructure being the first step to deliver those.

Table 9  
Peru: Works for Taxes – Investment by Areas of Public Services

	\$ US Dollars	Percentage
Transportation	402,022,454.14	37.2
Elementary Education	175,585,104.80	16.2
Sanitation	135,065,970.18	12.5
Health	120,031,908.20	11.1
Education	86,387,932.78	8
Internal Security	40,221,389.19	3.7
Justice	20,086,008.91	1.9
Culture and Sports	16,601,162.19	1.5
Industry	12,458,771.80	1.2
Defense	12,047,554.59	1.1
Agriculture	10,162,109.48	0.9
Trade	9,741,047.82	0.9
Internal Order	8,688,863.94	0.8
Water	8,442,602.92	0.8
Environmental Projects	7,004,692.37	0.6
Urban Development	4,148,061.86	0.4
Planning	4,108,384.53	0.4
Housing	3,192,132.19	0.3
Social Protection	2,422,939.39	0.2
Equipment	1,167,474.99	0.1
Communications	1,114,776.12	0.1
Electricity	197,986.66	0
Environment Quality	82,871.66	0
Total	1,080,982,200.73	100

## 2.5 Participant Companies

The data set under study contains a detailed list of participating companies<sup>16</sup> which has experienced significant growth since the start of the system and its further legal adjustments. The sectors to which these companies belong are certainly important to note, as well as one characteristic of their tax status.

Participant companies of the system are mainly mining companies, banks, manufacturing industries, telecommunication, transportation, food and fishery companies. The particular characteristic of all these companies is that they are extractive, utilities or massive sales companies, working at a national scale in Peru, and all of them are considered as Main Taxpayers (*Principales Contribuyentes*), a category designed by the Peruvian Tax Collection Authority, SUNAT, to group, and better oversee taxpayers contributing most of the national revenue in income and sales tax.

These taxpayers are of course in a financial position that allows them to forward the resources needed to develop these projects around their facilities or in the towns and districts of Peru where they have a particular interest in generating better conditions for communities and building trust and brand value. And though not every taxpayer has a financial position allowing for this type of direct investment and the assumption of a still costly procedure for bidding and hiring a contractor, the question remains whether it would be possible, under some kind of arrangement and system facilitated by the tax collection agency, for smaller taxpayers to participate and also be empowered to directly choose the destiny of some of their income tax.

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<sup>16</sup> The list, within the database under study is available for download at:  
<https://alvarodiazbedregal.wordpress.com/2018/04/24/works-for-taxes-peru-data-as-of-12-5-17/>

Just as major companies are, for purposes of aligning their interests with the public interest (Porter et. al. 2006), smaller taxpayers could also be interested in forwarding smaller advances of income tax and by doing so, be able to promote the prioritization of projects around their communities, and advancing a taxpayer culture.

### **2.5.1 A collective Works for Taxes Fund?**

One way I propose to address this issue would be, that the tax collection Agency generates **funding that citizens pay in** advance of their future due income tax<sup>17</sup>, and collectively contribute to some work they also consider a priority in their community or surrounding areas.

These funds could be managed by the very tax collection agency which in turn will have Proinversion carry out a bidding process similar to that in a standard Works for Taxes procedure, but itself contracting the builder, overseeing the work through a hired independent supervisor, and requesting the Peruvian Ministry of Economy the issuance of a credit certificate for each of the registered participants at the onset of the process. These certificates, already registered electronically since 2014 (see Table 3, Part I) would be no different from a classical security representing debt.

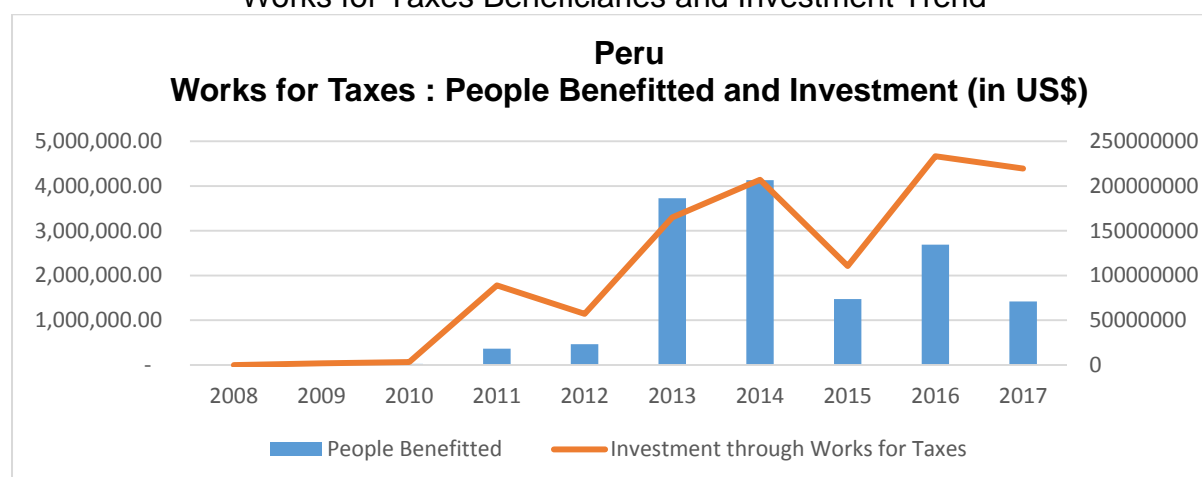
## **2.6 Benefited citizens and Investment trend**

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<sup>17</sup> Under Peruvian Law, free-lance professionals and workers receiving a paycheck from a permanent employer, make in advance payments of their due income tax each month. Though in smaller amounts (but probably, with time, in larger number of taxpayers) they too contribute in advance to the treasury and theoretically, their preferences could be aggregated to choose among prioritized projects when presented with them by their local authorities.

As we can appreciate in a trend chart showing people benefitted each year and yearly investment through the system, there was, until 2014 a steady increase in both, with a decrease during 2015 mostly owed to the Peruvian political process and elections in early 2016, and a rise in 2016, from there was a slight decrease in 2017 following from the data set.

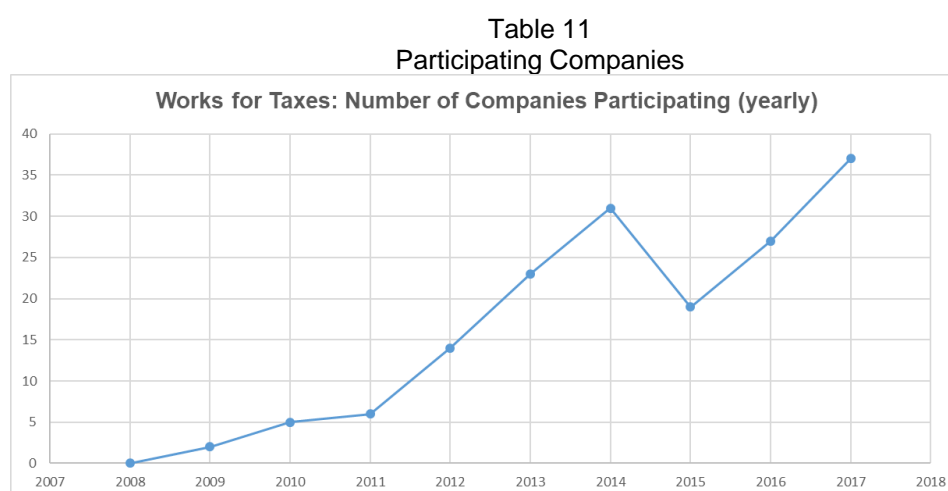
Table 10  
Works for Taxes Beneficiaries and Investment Trend



The observation of data and trends in investment through the system and the number of beneficiaries of it (14,342,279 Million people in total, as of December 2017<sup>18</sup>) confirms that the adjustments made during the first years of the system in place (see Table 3, Part I) were probably necessary for private companies to engage in works under this scheme. There was little or no use of it in 2008, and starting from 2011 its use started to become wider.

<sup>18</sup> The number of beneficiaries of each project (and therefore this total number of beneficiaries in the first ten years of the system) is calculated considering the population in the area, the actual and potential demand for the piece of infrastructure prioritized, and the sizable and attributable direct spillovers in surrounding or connected communities that the work may have. This number is given by the Peruvian Ministry of Finance when approving each proposal of works for taxes and is part of its *ex ante* social profitability analysis.

If we recall that tax credits certificates issued under the system were not negotiable at the beginning (therefore financially sinking the investment until the following tax paying season for the holder), It is no surprise that the number of companies using the mechanism started to grow only when these adjustments were made, progressively, starting in 2011 and really changing performance in 2013. This is confirmed by the fact that the companies (all of them major) participating in the system, went from 0 to 37 in 10 years, as indicated in the following chart, but increased from 14 to 31 from 2012 and 2014.



We should be careful in appreciating that the forthcoming legal adjustments made in 2013 were known beforehand by expert users of the system, and their coming benefits were internalized by markets and incorporated into their cost benefit analysis marking a raise in investment trend since 2012. Also, we shall take into consideration that the number of beneficiaries' fluctuation may not exactly mirror investment trends, as geographic hardships, unitary costs and populations covered, vary among projects.

Recalling the account of legal adjustments to the system given on Part I of this work, it was in 2013, with Law 30056, which amended the original Works for Taxes Law, 29230, making the tax credits certificates negotiable, that the investment through the system and the number of companies participating in the system had a dramatic increase to levels that, with the exception of the election year gap of late 2015 to early 2016, are now expected to stay.

**The possibility of trading tax credit certificates** was therefore a critical step in the legal adjustment of the system, which since 2013 permitted a massive increase in infrastructure investment. One additional issue that deserves attention is the prohibition for the contractor itself to be a participant company. I see no reason why, under an adjusted contract form, a contractor could invest in a Works for Taxes project, be hired by Proinversion (ultimately, the general assistant for all regional and local governments on these processes, should they choose to), do it itself, and receive the certificate to use it as a collateral in financial institutions to fund the work itself. As long as the contractor enters into a well-structured contract and has the supervision of an independent peer company, there is no functional reason why this prohibition should still be in place. When redesigning the system, a different procedure and contract (and not a prohibition) could be defined for contractors and engineering companies willing to be themselves the investors in projects under Works for Taxes.

## **2.7 A Price for More Expensive Works?**

Pricing solutions to the under provision problem for infrastructure in far regions of Peru have not yet been considered by authorities managing this system.



However I believe it is useful to consider a scenario in which CIPRL or CIPGN values (those paid for by companies) were not only adjusted by 2% yearly (probably less than a normal year Peruvian inflation) but were freely tradable and yielded some interest rate. In that setting, the higher rate of return of CIPRL and CIPGN would further incentivize both their trading and the evaluation and promotion of more projects under the system. It would also counter the negative appeal of decisions to carry out projects in unprecedented regions, helping the system expand its already remarkable reach.

Under the Peruvian Constitution, public entities may not compete or participate in business where there private companies are. Therefore, the rate at which the Government could promote the alignment of public and private interests through these prime certificates should be lower than the market interest rate, but higher than the legal interest on tax credits (paid by the Peruvian Tax Collection Agency, SUNAT) when it refunds money paid but not due, paid in excess or which turned out to be return).

A proposed range for structuring these higher yielding certificates (either CIPRL or CIPGN if at National Government level), which will be in line with Peruvian constitutional boundaries and yet promote higher participation of contractors and companies for works outside the lower cost covered areas could be:

*Standard Security (principal + market interest rate) > Far Region CIPRL  
(principal + noncommercial rate) > Current CIPRL yield (principal +2%  
yearly)*

Although the law now prohibits the payment of interest to certificate holders, paying a premium on CIPRL certificates from Works for Taxes in uncovered regions would both i) incentivize works in those under provided regions, ii) promote a market that would expand the reach of the system and iii) introduce an incentive for investors to further analyze unsolicited projects in regions where higher yielding CIPRL will be issued if a Works for Taxes project is carried out. And those are objectives any developing country seeks.

Amendments to the legal framework needed to create this feature would still be in line with the Peruvian constitution, but incentives would be realigned to promote a market for investments outside the initial 37 companies participating, through the promotion of a market for very safe (and socially valuable) financial assets. The desired change in supply of infrastructure funds will happen with the entry of new agents to this market.

## Conclusion

In the first ten years of entering into force, the works for taxes system put in place by Peru expanded to influence 98.47% of the Peruvian territory and benefitted –according to official records contained in investment programs- 14,342,279 Million people, which amounts to almost half of the Peruvian population (estimated for 2017 in 31 Million).

55% of the investment made through this system was done in projects in the coastal region of Peru, while only 6% was placed in the Amazon rainforest region of Peru and 39% was made in the Andes Mountains region. Data therefore confirms that the system has been useful to deliver basic infrastructure outside the main production areas of the country.

A breakdown of the distribution of investments made through the system shows that, after 10 years of its creation, already 20 of 25 departments of Peru (including the Callao port as one of them) have in some way been covered by at least one projects carried out under Works for Taxes. This is not however, a clear sign of nationwide success, given the absence of departments which do demand infrastructure and have not participated in the system. Further qualitative study is needed to asses why these 5 departments' authorities' were not willing or their teams unable to prioritize, design and carry out projects for infrastructure under this system.

Through 308 projects registered as of December 2017, the system has already covered a wide variety of areas of public service, including Elementary and

higher Education, Transportation, Health and Sanitation, therefore helping Peru close its infrastructure gap, and cover basic needs of citizens in regions where these services are still under provided.

Investment under the system only started to increase in a tangible way to the Peruvian society in 2013, only after the tax certificates of the system were made freely tradable. It was the possibility of trading the certificates what facilitated a greater flow of resources and a tangible increase in investment trends through the system.

Participating companies peaked at 37 per year in 2017, but are still mostly composed of major taxpayers financially able to choose among prioritized projects to align their interests with the public interest. As individual professionals and small businesses do advance their income tax and sales tax payments, nothing prevents the creation of a system for these smaller taxpayers to also participate and choose to forward their resources to pieces of infrastructure needed by their communities. A policy formula for broader participation would not only give them that opportunity but also further incentivize a culture of taxpaying and prevent any distortive and badly perceived **distributional effect** of the system putting only high profit generating companies in a position to exercise choice among projects and pay for them. Social equilibrium considerations must be further studied in this extreme of the system. This is increasingly important, now that it is confirmed that other countries not only are interested in the system but have replicated it. The first one was Colombia, in 2016<sup>19</sup>.

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<sup>19</sup> Official notes on the Colombian Works for Taxes initiative may be found at <http://es.presidencia.gov.co/noticia/180316-Lista-seleccion-de-primeros-proyectos-de-Obras-por-Impuestos-para-el-Posconflicto>

Joint work by delegations of Peru and Colombia for the design of their system occurred under the international forum of the Pacific Alliance cooperation.

The fast and unprecedented growth of this financial tool both for corporate social responsibility interests, company branding and positioning, and faster basic infrastructure delivery for Government entities has therefore been successful in terms of geographic reach and variety of services covered, but could still increase its contribution to the general infrastructure investment made in Peru if policies were promoted to facilitate the trading of tax certificates granted through the system, and if the demand for investment in social infrastructure experienced by smaller taxpayers was aggregated under some alternative system, for example funds to which they could contribute to collectively reach the necessary amounts for small or medium works.

**A pricing system**, through which higher yielding CIPRL were issued, could promote expanded access of the system to far regions of Peru, not yet covered by it. This further adjustments to system should be in line with the Peruvian Constitutional framework on subsidiarity of state enterprise activities and therefore may not feature discount rates more favorable than market discount rates. Nevertheless, it could render a yield higher than what the current CIPRL does for any company participating in the system, which only sees its certificates adjusted by 2% annually, whatever the inflation is in Peru.

If the system was designed to cover and unattended demand for infrastructure investment, a solution based on promoting further supply of private investment in

social infrastructure for public services seems to be a sound solution. And there could be levels of yield for the tax credits certificates that would be both in line with the Peruvian constitution regarding not competing on financial services with the private sector, and also promoting a broader market for these certificates and more projects under the system.

Premium CIPRL certificates from Works for Taxes in uncovered regions could be designed and structured for far regions of Peru where data indicates that incentives are not yet sufficiently aligned. As CIPRL represent credits against taxes, the trading of higher yielding CIPRL could trigger a culture of higher income reporting and then give more transparency and better data to markets and the tax collection agency and governments.

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