

LATIN AMERICA POLICY JOURNAL



Innovation,
Development and
Politics:
Latin America
a Vibrant Region

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Editor's Remarks

Latin America is one of the most vibrant regions in the world. Political changes across the area, innovative ways to address social problems, and improvements in social development indicators are some of the characteristics of the region today. During the convulsive “lost decade” of the 1980s, the area began its transition towards prosperity. Most of the remaining dictators left power, and the Peace Agreements of Esquipulas allowed the end of formal internal conflicts and the beginning of a national reconciliation process within Central America. In the next decade, regional economies started a formal integration process with the world. However, events like the Mexican crisis of 1994 (known as “Tequila Crisis”) and the Argentinian crisis at the end of the decade reduced regional growth prospects.

After 2000, Latin America saw a political shift towards socialism. Left-wing governments canalized growing demands for higher standards of living. The commodities price boom observed during most of the decade helped them reduce inequality and poverty. However, after commodity prices dropped, it seems that there was an uprising shift towards right-wing Governments.

Nowadays, there are several interesting processes happening in Latin America. Colombia peace talks between the government and guerrillas, regional integration in Central America, gang violence in El Salvador, Argentinian new government, Brazilian corruption scandal and independent justice system, political changes in Venezuela, and United States–Cuba relations are some of those topics. The preceding list, far from being exhaustive, is just a modest effort to present some changes that Latin American countries have faced since 1980.

In the fifth volume of the Latin America Policy Journal (LAPJ), we are pleased to set the table for a broad discussion about some of these topics. Ernesto Samper, former president of Colombia and current general secretary of the *Unión de Naciones Sudamericanas*, gives us his views on the ongoing peace negotiations in Colombia and the benefits of achieving a peace agreement. Laura Chinchilla, former president of Costa Rica and political science professor at Georgetown University, analyzes the current situation, challenges, and opportunities of Central American nations. Professor Eduardo Levy Yeyati at the John F. Kennedy School of Government at Harvard University, a prestigious Argentinian economist, discusses the main challenges that President Mauricio Macri and the new Argentinian government are facing.

On the innovation front, Zara Snapp, a drug policy expert, makes a review of the newest drug policies that LatAm governments, especially Uruguay, are currently designing and implementing. In Colombia, Corporation Ruta N describes how the city of Medellin became a regional benchmark for innovation. And for Queretaro, Mexico, a five-researcher team discusses the benefits of the public policies that could be implemented to develop an aerospace cluster in this Mexican state. Moreover, regarding development, Diego Arias analyzes public policies and programs that can help to improve agriculture in the region, and Luiz Pinto discusses the importance of development banking and its policy implications in Brazil.

Finally, the LAPJ team would like to express our sincere gratitude to the Ash Center for Democratic Governance and Innovation, the Kennedy School Student Government, the Mossavar-Rahmani Center for Business and Government, the David Rockefeller Center for Latin American Studies, the Carr Center for Human Rights Policy, the Shorenstein Center on Media, Politics and Public Policy, and the Malcolm Weiner Center for Social Policy for their generous financial support to make this edition possible.

RICHARD MEDINA GÓMEZ

Not Only One Central America

By: Laura Chinchilla Miranda



Laura Chinchilla

Laura Chinchilla Miranda was the first female president of Costa Rica from 2010 to 2014. One of her major achievements

as president was the steady decline in major crime rates in Costa Rica. Prior becoming president, she consolidated a successful political career holding important public positions such as: minister of public security (1996–1998); elected member of the national congress (2002–2006), where she chaired the committee on legal affairs and the committee on narcotics; and both vice-president of Costa Rica and the minister of justice (2006–2010). Former President Chinchilla is currently a visiting professor for Georgetown University and the

Instituto Tecnológico de Monterrey. Also, she is active on global agenda issues by being part of various forums, such as the Club de Madrid, the Inter-American Dialogue, and the Latin America Presidential Commission. She is a political scientist who graduated from the Universidad de Costa Rica and holds a master in public policy from Georgetown University.¹

After I finished secondary schooling at eighteen years old, I decided to take a life-changing trip through Central America. It was the end of the 1960s, and several countries in the region were immersed in dreadful civil wars. I embarked on this trip because I wanted to understand first-hand what I had heard was happening in neighboring countries to Costa Rica, experiencing realities so different from the peace and democracy that I enjoyed in my homeland. What I witnessed upset me tremendously. I could not be convinced

by any argument of the reasons behind so much pain, violence, and sadness. The civil war's desolating scenes contrasted sharply with the natural beauty of these countries, with the warmth of its people, and with a mother's hope for a better future for her children. That Central America, hit by the chaos and turbulence, spoke eloquently about the lost opportunities of a region which had experienced unparalleled progress in terms of economic integration. This region was also destined to become an outstanding logistics platform for global trade and investment due to its geographical location—located in the waist of America and bathed by the waters of two great oceans.

Forty years after my encounter with the region, and thirty years after the signing of the First Esquipulas I Peace Agreement (1986), Central America is once again facing challenges tied to its past. However, at the same time, the region faces more opportunities to embrace a better future. Therefore, the big question is: why isn't Central America taking advantage of these opportunities? Or, more specifically, why are there some countries in the region taking more advantage of these opportunities relative to others?

The largest opportunity shared by Central American countries today is linked to the solid commercial platform that they have articulated for both interregional and intraregional commerce, having the precedent of

the Central American Common Market (1960). Thanks to this platform, Central American countries today enjoy the benefits of free trade and tariff harmonization in almost 100 percent of their tradable products. Also, this commercial platform has been strengthened and has expanded its scope to other regions—such is the case of the Dominican Republic–Central America Free Trade Agreement with the United States (DR-CAFTA)² and the European Union–Central America Association Agreement (EU-CAAA).³ In effect, due to the network of trade agreements and close commercial relationships with the United States, Central American countries have been able to maintain a relatively positive economic growth, which is today fueled by falling oil prices (since the economy is a net importer).

However, beyond some shared commonalities across countries, we could say that today there are three Central Americas: the “Northern Triangle,” also called the G3, composed of Guatemala, Honduras, and El Salvador; the “Southern,” composed of Costa Rica and Panama; and “Nicaragua's Central America.”

The Northern Triangle (G3)

The Northern Triangle (G3) is the region's most integrated block. On a positive note, Guatemala, Honduras, and El Salvador share customs and very harmonious commercial

systems, as well as having greater ease of migration, vehicular traffic, and capital movements. However, G3 countries also share serious problems, the most recent being the crisis of unaccompanied migrant children to the United States. The harrowing images of tens of thousands of children fleeing their countries led to the “Plan of the Alliance for Prosperity of the Northern Triangle,”⁴ propelled by the G3 governments and with collaboration of the United States, whose congress recently approved US\$750 million in support of this initiative.

The humanitarian crisis reflected in the migrant children is not circumstantial but is rather the consequence of poverty, violence, and sustained corruption that have characterized these countries since the end of their civil wars. First, it is estimated that poverty affects about 57 percent of the population of these three countries, and the number of people who have decided to emigrate is five times the average of the other countries in the region.⁵ Second, according to the United Nations Office against Drugs and Crime,⁶ El Salvador, Guatemala and Honduras have among the highest homicide rates in the world. Furthermore, Honduras is the world’s most violent country, with a national homicide rate of 103.9 per 100,000 inhabitants.⁷ Lastly, the proximity of the G3 countries to Mexico and the United States undoubtedly affects their

levels of insecurity and violence due to drug trafficking, but it also directly impacts their economies. According to a recent study,⁸ remittances from the United States to Central America have continued to grow after the financial crisis of 2009, with the Northern Triangle countries as the main recipients. In 2014, remittances to the region reached US\$15.8 billion, with the largest increases registered in Honduras (8.8 percent) and Guatemala (8.6 percent).

Besides G3 countries’ violence situation, what is equally distressing is their weak institutional capability despite significant recent progress in rule of law and individual rights’ protection. An example of this weakness was the overthrow of former President Manuel Zelaya in Honduras in 2009. In addition, drug trafficking and corruption have seriously undermined the institutional integrity at the highest government levels. This is confirmed by recent allegations of corruption and illicit enrichment against presidents and other public officers in Guatemala, Honduras, and El Salvador. Nevertheless, some hopeful signs seem to arise amid much controversy, such as the strong citizen mobilization against impunity and corruption, and the independence of media and public justice administration.

In sum, the situation of the Northern Triangle is somewhat paradoxical. On the one hand, their integration

benefits these countries in some socioeconomic aspects, but at the same time it ties them to the same problems of crime, illegal migration, and corruption. Also, their proximity to major markets such as Mexico and the United States favors them in terms of trade and investment but harms them in terms of illegal drug flows, migration, and trafficking. Also, their economies remain extremely dependent on income from remittances from migrants abroad. Even though these countries' most pressing problems will not disappear easily, their integrationist initiatives through platforms such as the "Plan of the Alliance for Prosperity of the Northern Triangle" becomes a positive factor strengthening their individual capacities by joining efforts to address collective problems. The integration of policies and resources will remain crucial for the Northern Triangle countries and their economies, not only at the government level but also from the business sector and civil society. Furthermore, international cooperation has also joined as a strong leading actor to support the civil societies' efforts towards reform.

South Central America

On the other side, we have the South Central America—Costa Rica and Panama—which has more sophisticated, service-oriented economies. In particular, Panama has shown economic dynamism for several consecutive years,

having exhibited the region's highest average growth in the last decade. Both countries are the most integrated to the global markets of goods and services. According to figures from the Economic Commission for Latin America and the Caribbean, Costa Rica and Panama remain the main recipients of foreign direct investment in the region (45 percent and 20 percent for 2014, respectively)⁹. Costa Rica, which has signed numerous trade agreements, also started to join the Pacific Alliance in 2014, where Panama is already a member. In addition, Costa Rica also started the process to join the Organization for Economic Cooperation and Development.

The insecurity and crime situation are also more contained in these two countries—8.5 homicides per 100,000 inhabitants in Costa Rica and 19.3 in Panama—compared to Northern Triangle countries.¹⁰ Social indicators are also better in these two countries: the poverty rate is slightly above 20 percent in both countries, and the human development index ranks high for both countries—0.780 in Panama and 0.766 in Costa Rica as of 2014.¹¹ Their democratic institutions also show better performance, although they are not exempt from difficulties in governance and political agreements (particularly in the case of Costa Rica) or cases of corruption (as evidenced by recent allegations against former senior government officials

in Panama). Lastly, both nations make significant investments in maritime logistics: Panama is expected to finalize the expansion of its canal by 2016, and Costa Rica is building a major container port on the Caribbean coast. These projects are expected to have a major impact on the development of these two countries and on the overall region.

Nicaragua

Lastly, there is Nicaragua. Nicaragua is a country that exhibits a high rate of growth and low insecurity indicators—the homicide rate is 13 per 100,000 inhabitants—but at the same time it is the country that presents the region’s worst future prospects due to its weakened democratic institutions. In effect, under recent President Daniel Ortega’s government, rule of law, political freedoms, and universal suffrage have been seriously undermined. There is currently no real separation of powers, no judiciary independence, no freedom of expression, nor adequate protection of civil rights. According to the 2014 Annual Report of the Special Rapporteur for Freedom of Expression of the OAS,¹² there remain problems in access to public information, especially for the opposition media groups.

Nicaragua’s 2008 municipal elections and 2011 general elections were cause for alarm due to the less transparent and irregular electoral process-

es. According to the Carter Center,¹³ in the 2008 municipal elections: two political parties’ legal statuses were canceled, the attorney general took to court the opposition candidate in the middle of the electoral process, credentials to national electoral observers were denied, media was repressed legally and economically, and there was significant violence and intimidation practiced against the opposition’s public electoral events. Meanwhile, in the 2011 general elections, which were preceded by a supreme court’s questionable decision that allowed the candidacy of President Ortega, there were important reservations emitted by observer missions. Specifically, the OAS Mission of Electoral Accompaniment¹⁴ warned of serious problems such as difficulties in carrying out its activities, a ban on non-governmental organizations to participate in election observation, and late delivery of accreditations to 9000 observers from the opposition table, among others. In the case of the Electoral Observation Mission to the European Union, the trial was categorical, saying in its final report that, “the November 6th elections have been a setback in the democratic quality of Nicaraguan electoral process due to the lack of transparency and neutrality that have been administered by the Supreme Electoral Council (CSE).”¹⁵ Given all the factors explained above, it is foreseeable that Nicaragua’s future

is the most threatened of all in the Central American region.

Final reflections

Despite the differences between the six nations of Central America that we have set in this space, there is no doubt that the future of each country is inextricably linked to the future of the others. While the region's past challenge was peace against politico-military internal conflicts, its future challenges relate to defeating organized crime, violence, and corruption. In effect, despite continuous initiatives, the Central American countries and the international community have not yet succeeded in implementing an effective and sustainable regional strategy to confront these scourges. The "Plan of the Alliance for Prosperity of the Northern Triangle" is a step in the right direction as well as the Central America Security Strategy.¹⁶ Moving forward in both cases will take many more economic resources and political will to defeat the serious problems that still prevail in the region.

Lastly, Central American countries also share a space for political dialogue and policy coordination in the SICA. However, in practice this system has failed to establish itself as a proper integration policy body, given the dysfunctionality of some of its organs, such as the Central American Parliament and the Central American Court of Justice, to which Costa Rica has not

joined given the high economic cost of these institutions and the abuse committed by former public officials aiming to evade legal charges. For all of the above, in the quest of its betterment, Central America should not aspire to a mechanism of perfect political integration but to one that respects the particularities of each nation, while banishing permanently undemocratic or corrupt practices within their governments and within their integration mechanisms. Only then will the region establish the necessary and exceptional conditions to achieve the desired levels of peace and development.

Endnotes

- 1 <http://politics.georgetown.edu/laura-chinchilla/>
- 2 DR-CAFTA Free Trade Agreement (2004) was signed between Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica and the Dominican Republic with the United States.
- 3 The EU-CAAA Free Trade Agreement (2010) was signed between Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica and Panama with the European Union.
- 4 The "Plan of the Alliance for Prosperity of the Northern Triangle" was signed in 2015 between the governments of Guatemala, El Salvador and Honduras with the aim of channeling resources and actions towards human capital development, productive sector, citizen security and institutional strengthening. See: "Triángulo Norte: Construyendo confianza, creando oportunidades." (2015). Accessed at: https://www.un.int/honduras/sites/www.un.int/files/Honduras/1-acciones_estrategicas_del_

- plan_de_la_alianza_para_la_prosperidad_del_triangulo_norte_folleto_07abril20151.pdf
- 5 Ibid. P.3.
 - 6 Oficina de las Naciones Unidas Contra la Droga y el Delito (2012). "Delincuencia Transnacional Organizada en Centroamérica y el Caribe: Una Evaluación de las Amenazas"
 - 7 "Global Status Report on Violence Prevention 2014," World Health Organization.
 - 8 Maldonado, R. and Hayem, M. (2015). "Remittances to Latin America and the Caribbean Set a New Record High in 2014," Multilateral Investment Fund, Inter-American Development Bank. Washington, D.C.
 - 9 Comisión Económica para América Latina y el Caribe (2015). "La Inversión Extranjera Directa en América Latina y el Caribe" (2015)." CEPAL, Santiago de Chile.
 - 10 Homicide rates (per 100,000 inhabitants) in the Northern Triangle reach 43.9 in El Salvador, 103.9 in Honduras and 39.9 in Guatemala according to the "Global Status Report on Violence Prevention 2014," World Health Organization.
 - 11 Human Development Index in the Northern Triangle reaches 00.666 in El Salvador, 0.631 in Nicaragua, 0.627 in Guatemala and 0.606 in Honduras, according to "Informe sobre Desarrollo Humano 2015: Trabajo al Servicio del Desarrollo Humano." Programa de las Naciones Unidas para el Desarrollo (PNUD).
 - 12 "Informe anual de la Relatoría Especial para la Libertad de Expresión: Informe Anual de la Comisión Interamericana de Derechos Humanos" (2014), vol.2 / Edison Lanza, Relator Especial para la Libertad de Expresión.
 - 13 http://www.cartercenter.org/news/pr/nicaragua_102308.html
 - 14 "Informe final de la Misión de Acompañamiento Electoral de la OEA sobre las Elecciones Generales Celebradas en la República de Nicaragua el 6 de noviembre de 2011, Departamento para la Cooperación y Observación Electoral. Observaciones Electorales, Serie Américas, no. 68.
 - 15 "Informe Final Elecciones Generales y Parlacen 2011," Misión de Observación Electoral de la Unión Europea, p.3
 - 16 The Central America Security Strategy (ESCA) emerged in the XXIX Regular Meeting of Heads of State and Government of the Central American Integration System (SICA) in 2006, and was renovated at the Heads of State SICA Summit in 2012.

Why Is Colombia Going to Sign the Peace Agreement This Time?

By Ernesto Samper Pizano

Ernesto Samper Pizano, secretary general of the Union of South American Nations, former president of the Republic of Colombia (1994–1998). He began his career as a member of the Parliament of Cundinamarca (1982–1984), city councilman of Bogotá (1982–1986) and member of the Senate of Colombia (1986–1990). He has held different executive offices, among which are the following: ambassador to the Assembly of the United Nations (1983), ambassador for Colombia in Spain (1991–1992), minister of economical development in Colombia (1990–1991), and coordinator of encounters of Former Latin American Presidents for a Global Agenda (2000–2005).

It is not the first time the Colombian government has attempted to engage in political talks with the Revolutionary Armed Forces of Colombia (FARC) in order to put an end to the armed conflict which has afflicted the country for over fifty years. Previous governments of the President Juan Manuel Santos had tried to achieve a peace agreement with the FARC. I myself had my chance. As president from 1994 to 1998, I started conversations with some guerrilla groups that, unfortunately, and due to circumstances not worth mentioning here, did not count with the same perspective as the negotiations now taking place in Havana, Cuba.

Why Are the Parties Going to Agree Now though They Haven't Before?

There are several reasons that might explain the present scenario. First and foremost, the guerrillas are finally

convinced that they will not take power through armed or violent means.

During Andrés Pastrana's administration (1998–2002), when the FARC decided to switch from guerrilla warfare to a permanent state of war, conquering territories and combining different forms of fighting, it was naïve to expect them to give up arms on principle. Indeed, the FARC had had the opportunity to end the conflict during the end of the Cold War. By that time, Fidel Castro had stated that the military confrontation was no longer valid or legitimate enough to reach power. Not only did the FARC ignore this warning, but they also declared themselves as the single standard-bearer of the Latin American revolutionary cause.

It should also be acknowledged that the “democratic security policy,” put into practice by President Alvaro Uribe Velez (2002–2010), has played a key role in motivating the government to negotiate. Uribe's administration forced the FARC to the defensive thanks to the “Plan Colombia,” which proved to be a quite efficient strategy to exterminate the guerrillas—at the cost of human rights. As a matter of fact, it would have been preferable if President Uribe had contributed to the peace by controlling the FARC's advances at the beginning of his term, instead of fighting his own minister of defense, Juan Manuel Santos.

Moreover, it is important to highlight that since the mid-1980s the

armed conflict has faced stagnation; none of the sides of the conflict has achieved considerable progress. In fact, this period has experienced the deterioration of humanitarian conditions. On the one hand, the FARC intensified kidnappings, both as a source of funding and in order to gain political leverage in eventual negotiations. On the other hand, the armed forces were responsible for the so-called “false positives,” in which poor young people were taken to war zones, executed, and dressed in guerrilla uniform to be recognized as casualties in combat.

The ethical deterioration of the conflict reinforced the national and international understanding that the only solution would come from humanitarian agreements, according to the Geneva Protocols, and with the support of international actors. In 2012, that was exactly the approach adopted by President Santos.

Unfortunately, at first agreements in Havana failed to address humanitarian standards, which would contribute to a less painful end to this conflict. With the argument that the parties' best interests were “to end and not to humanize the war,” the government and the guerrillas ignored the fact that international humanitarian law is the key to saving lives and protecting innocent civilians while the conflicting parties are unable to come to a peaceful solution.

However, it is worth mentioning

that this current negotiation process has been substantially different from previous ones. In the past, the parties had started debating the agenda together with negotiations themselves, all under media and public eyes. In Havana, in contrast, the government and the guerrillas had, for months, held several preparatory meetings to firstly agree on the five main issues of the agenda: land policy, drug trafficking, political participation, reparation to the victims, and demilitarization.

Land Policy

Land policy debate stems from protests of liberal guerrillas in the 1950s—precursors of the FARC—who demanded rural reform against excessive concentration of rural property. For as long as the Colombian armed conflict has lasted, there have been alarming rates of land accumulation in the hands of big landowners, paramilitaries, and even guerrillas. The concentration is equivalent to 2.5 times the number of hectares distributed in the land reform since the 1960s.

Drug Trafficking

The money from the illicit drug-trafficking trade has financed various forms of violence in Colombia in recent decades. It has supported guerrillas, paramilitary groups, and even professional killers on drug cartels' services. The FARC must be committed to stopping this illegal activity so as to

guarantee the legitimacy of the process and to ensure the support of the United States. The substitution of illicit crops and abandoning drug trafficking activities are the expected policies to be adopted in Havana agreements.

Political Participation

A novelty to the Havana process is the discussion on institutional mechanisms to allow the guerrillas to give up the armed violence for the electoral competition, in equal conditions as other political forces. The FARC intends not only to attend elections—they claim to become an alternative to the current political statement and to have access to the media, special peace districts, and campaign funds.

Reparation to the Victims

The reparation to seven million people, victims of the violence in recent years, is another essential chapter in the negotiation process, which affirms its legitimacy. In past attempts, the surrender of arms was the most important issue; hence, the recognition of victims' situations used to be merely secondary. It seemed as if victims simply did not matter. Nonetheless, this time in Havana, ethics has been restored. The so-called “transitional justice” should allow the Colombian society, affected by serious human rights violations, to recover from conflict thanks to the re-establishment of truth, justice, and reparation. It is morally vital to the

negotiation process to address the victims, to apply justice to aggressors, and to guarantee the violence shall not be repeated in the future.

Demilitarization

The last point of the agenda refers to the operational part of the agreement: the final and bilateral cease-fire, the demobilization of troops, the surrender of arms, and the reintegration of the guerrillas into society. The parties should agree on silencing their guns and on the final demobilization. This issue is still under negotiation and preventing the talks from being finalized.

The “modus operandi,” timing and place of the negotiation, agreed with anticipation between the government and the guerrillas, has positively influenced in the success of the talks so far. This has to do with the decision to not leave the table of negotiations until reaching a full agreement: “nothing will be agreed until everything is agreed.” They pledged that there would not be partial understandings and that the issues negotiated could be reviewed until the day of the final signature of the “Pact for Peace.”

Timing has been managed so that there is no room for frustration in the course of the negotiations. Unfortunately, the initial agreement that the term of negotiation would be given by the process itself was not fulfilled when the government demanded in September 2015 that the FARC give a final date.

It was proposed to reach a bilateral and definitive cease-fire by 23 March 2016. And the deadline has already been missed. This issue affects the credibility of the process. It represents the inability to reach a final agreement or announce a partial agreement, compromising transparency. In issues as sensitive as the negotiation of such painful and prolonged conflict, as in matters of love, it is not beneficial to put deadlines or ultimatums.

The choice of the place of the negotiations, Cuba, was successful and made it possible for the process to move forward. Cubans have a long experience in discreetly and efficiently handling these type of talks. Furthermore, the process counts on the presence of the Norwegians, who are observers. Moving the negotiations away from Colombia lessens the chances of the process—especially its setbacks—being subjected to media debates. It prevents the “Caguan Syndrome,” or widespread of public rejection that occurred during Andrés Pastrana’s administration when the President tried to push a peace process by demilitarizing an area of 40,000 square kilometers in the Caguan on the eastern plains of Colombia. The place became the FARC’s headquarters, where they established drug processing laboratories, training bases, resting areas, and shelters to keep hostages.

It is likely that this present peace process will reach a good end since,

on the government side, the “ones that are needed” have been finally participating. In the past, political solutions to the conflict were pursued only by representatives of civil society, leftist academics, progressive bishops, or political leaders. The protagonists in the current process, on behalf of the government, are representatives of the establishment: direct spokespeople of the president; active military; representatives of business associations; and, at prudent but effective distance, the United States. Peace has been built by opposing sides, the real actors of the conflict.

Images of generals of the Colombian Armed Forces and guerrilla commanders in the same room—people who were fighting each other a few months ago—have strongly grown optimism about the chances of a positive outcome of this process. It is possible, however, that this concise form of representation could eventually undermine the legitimacy and credibility of the negotiations. Therefore, it would be necessary to develop an effort to educate the population and share the results with those who are not in Havana.

If the agreements are achieved, as most Colombians hope, we will achieve a “negative peace.” That is to say, there will be the absence of military confrontation between the parties. Then, and only then, the process of reconciliation will begin, with pardon, truth, and responsibilities. The process

foresees this difficult step from conflict to post-conflict, in which we are able to solve differences without arms. It will take us several generations to build a reconciled, fair, and democratic country.

As it has been agreed in Havana this time, unlike during other processes, the parties are taking action and necessary steps to reach a sustained agreement in which they can fearlessly substitute their weapons for democracy. In the past, we have never accomplished that much. Today it seems that we can actually do it.

Argentina's Transition Trilemma

By Eduardo Levy Yeyati

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With inflation persistently high, the economy in recession, and wage negotiations around the corner, observers of Argentina's transition—as well as, more importantly, investors—are hedging their bets. President Mauricio Macri came into office in December 2015 with few good choices and, while he is so far making the best of them, the verdict will be out only in the second semester. When Macri delivered his speech to launch the 2016 session of Congress on 1 March 2016, he devoted most of the time to the “legacy”—a buzzword that, in the Argentinean context, refers to the economic mess bequeathed to him by his predecessor, Cristina Fernandez de Kirchner.

The government has good reasons to warn voters about the legacy. Argentina's economy has stagnated for the last four years and is now *probably* (since reliable official data is hard to get) contracting. However, it closed 2015 roughly 1 percent higher, thanks to strong consumption fueled by artificially low interest rates (courtesy of financial repression) and an unsustainable fiscal impulse (the primary fiscal deficit was about 5.3 percent of GDP in 2015, up from 4.4 percent in 2014). In turn, formal employment in the private sector has been stagnant or decreasing and the public sector ran out of resources to pick up the slack (as it did until very recently); indeed, layoffs in the public sector have been in the headlines for weeks, against a more silent backdrop of job losses in the private sector. Finally, Argentina's inflation, in the two-digits realm since 2007, dropped from 37 percent in 2014 to 26 percent in 2015 (this, according to private estimates, since official figures are highly suspect). The reasons: frozen tariffs, a brief recession in late 2014 and early 2015, and an exchange rate anchor that brought the real effective exchange rate to pre-2001 crisis levels, deepening the misalignment at the origin of the capital outflows of the late 2000s and the resulting capital and exchange rate controls.

True, inflation has always been inertial and high; moreover, had tariffs and the exchange rate moved with

inflation, it would have been higher than the 26 percent that people saw. And the pass-through from the devaluation, while higher than in neighboring countries, still amounted to only 20 percent (the inflation rate rose by 10 percent even as the currency devalued by about 50 percent). That's about half the pass-through associated with the 20 percent devaluation that took place under Kirchner in January 2014. But, for the general public, Macri's first one-hundred days may be seen as having brought back stagflation, this time seasoned with a weaker labor market and a rising inflation that may lead to a real wage cut. Convincing voters that this present is the differed consequence of past mistakes is always hard, but it is worth a try.

The Trilemma

The Kirchner legacy is indeed complex, encompassing important long-term factors such as a run-down infrastructure, a fat and ineffective public sector, and lagging public education. But its short-term policy implications could be reduced to a simple trilemma: correct the exchange rate, reduce inflation, and grow.

Choose any pair of objectives and you will see how they conspire against the third one. Take the first two, for example. The exchange rate depreciation needed to lift controls and revive foreign investment inevitably translates into higher inflation; in

turn, to contain inflation the central bank should tighten monetary policy (raise interest rates) to cool demand, deliberately inducing a recession. If, instead, the government chooses to prioritize growth (a smart choice given the strategic importance of mid-term elections in

October 2017), then the options are a reversion to the damaging exchange rate anchor and capital restrictions put in place by Kirchner or an inflation rate higher than the one experienced during her tenure (which is, in fact, the most likely scenario).

Faced with this conundrum, the government appears to have chosen an interior solution: do a bit of each, gradually. The elimination of the “cepo” (the local slang for the foreign exchange restrictions) was immediate as promised, but selective. In effect, only retail demand and current (but not past) trade and dividend flows were allowed free access to foreign exchange. Predictably, this led to a sudden but rather smooth correction of the dollar from 9.70 to 15.00 pesos over two months. Also predictably, this correction pushed up monthly inflation, from about 2 percent in November to close to a monthly 4 percent in the first three months of the new government, and will probably stay high in March 2016. Simultaneously, the new Central Bank governor raised the interest rate by 9 percent, from 29 percent to 38 percent, to counter

exchange rate pressures. Focusing on the individual goals, orthodox critics could claim that the government fell short on all fronts—although, at 15 pesos per dollar, the exchange rate adjustment is near its target.

Where the government has exhibited a well-received gradualist’s sensitivity more openly is on the fiscal front, the apparent residual variable of the trilemma. By leaving the large fiscal deficit untouched, in the hope that the rapid settlement with Argentina’s holdout creditors will re-open its access to international finance, the government seems to recognize that its political fate is intimately linked to its capacity to rekindle growth and create jobs, to get in good shape to the critical 2017 mid-term elections.

Despite all the media enthusiasm and international endorsements, it is still too early to call the final score of Argentina’s trilemma transition game. Even after sorting out the legacy, important challenges will remain to realize the country’s large economic potential. But so far the government has struck a good balance between economic and political constraints to navigate the transition, eluding the technocratic allure of shock therapies that may be politically costly and trying to preserve the political capital needed to fight the main event: the quest for a sustainable road to development.



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Drug Policy Innovations in Latin America

By Zara Snapp

Zara Snapp was born in Mexico, raised in the United States, and currently lives in Mexico City. As a member of the Secretariat of the Global Commission on Drug Policy, Zara focuses on communications, Latin America, and international drug policy reform. She has a bachelor's degree in political science from the University of Colorado at Denver and a master's in public policy from the John F. Kennedy School of Government at Harvard University (2010), where she was a Truman scholar and Public Service fellow. She has worked for diverse organizations such as the Kellogg Foundation, the National Democratic Institute, the Denver Tent City Initiative, and Mi Casa Resource Center on issues of comprehensive sexuality education, housing and homelessness, judicial

reform, democracy, and governance programs. Zara is the author of *Dictionary of Drugs*, published by Ediciones B in 2015 in Mexico.

Abstract

Over the last decade, a paradigm shift has been underway in Latin American as countries adopt a human rights based perspective to drug policies and address the consequences of the war on drugs in a more efficient way. This paper will explore how the international drug control system defines reforms implemented by some countries in the region, demonstrating that drug policy reform can be a key step towards increasing institutional strength and dismantling the power of criminal organizations.

In the last twenty years, violence in Latin America has reached staggering levels. Although Latin America and the Caribbean are only 8 percent of the global population, the region

accounts for 33 percent of the global homicides.¹ The highly integrated corruption in government and community institutions has resulted in weak rule of law and public institutions unable to withstand pressure from organized criminal groups.² Although diverse factors contribute to violence and institutional fragility, a key aspect has been and continues to be that the majority of coca-based products, including cocaine, is produced by three countries—Colombia, Peru and Bolivia—as well as Mexico being the second largest producer of illegal poppy and a high producer of cannabis.³

With the United States as the world's largest consumer of cocaine,⁴ consumption in Brazil steadily rising,⁵ and Europe coming in as a close third, demand is clearly not diminishing, and without it decreasing in the United States and Europe, it is unlikely that Latin America will reduce its production. The geopolitical reality of the region means that a shift in policies is needed to address the actuality on the ground, rather than assuming that the current strategy of attacking supply and demand reduction is sufficient. Therefore, new policy innovations are required to address the issues of drug producing countries and prioritize policies that increase institutional capacity, rather than destabilizing them through corrupt, inefficient policies. Latin America has witnessed a growing understanding that drug policy

reform—including decriminalization, incarceration, and legally regulated markets—can be a key step towards reducing the power of organized crime and violence, while increasing institutional strength and attacking levels of impunity.

Countries across the region have taken concrete steps towards reducing the power of organized crime through separating the cannabis market from other illegal substances, implementing medical cannabis programs, and creating thresholds of specific amounts of drugs permitted for personal use. These policy reforms demonstrate a commitment to exploring new ways of addressing the issue of drugs, often without directly challenging the international drug control system.

To contextualize these changes, it is important to understand the regime that governs international and national drug laws. Beginning with the Single Convention on Narcotic Drugs in 1961, as amended by the 1972 Protocol,⁶ the international drug control system has established three primary legal instruments (1961, 1971, 1988) which seek to eradicate cannabis, coca, and poppy plants globally in order to combat the “evil” menace of drugs. The 1961 Convention created four lists or “schedules” of controlled substances which provided a process through which new substances could be scheduled without needing to modify or change the existing treaty. The

Convention currently contains more than one-hundred different substances that are categorized according to the control under which they are subjected.⁷ Although the deadline for gradually eradicating opium poppy was 1979 and the deadline for coca and cannabis in 1989, many within the international community continue believing that a drug-free world is possible. Others, including the author, would argue that it is neither possible nor preferable to live in a world without plants, which have traditional, cultural, medical, and therapeutic purposes.

Within ten years, the international community determined that the Single Convention would not be sufficient to address these issues, and the 1971 Convention on Psychotropic Substances was drafted.⁸ The 1988 Vienna Convention on Illicit Traffic in Narcotic Drugs and Psychotropic Substances delineated responsibilities for states to impose criminal sanctions to combat all aspects related to illegal production, possession, and traffic of drugs, as the criminal market became more globalized. This Convention established the strategy of the “war on drugs” and, for the first time, classified drug users as possible criminals. Mexico, along with other producing Latin American countries, advocated for this change in order to create greater shared responsibility between consumer and producer states.⁹

The conventions provide the “dual

obligation of governments to establish a system of control that ensures the adequate availability of controlled substances for medical and scientific purposes, while simultaneously preventing abuse, diversion and trafficking,” thus prohibiting any non-medical use, such as we have seen in regulated, cannabis markets in Colorado, Washington, Alaska and Oregon.¹⁰ For this reason, countries with medical cannabis or medical heroin assisted therapy are not breaching the Conventions, but regulated, legal markets of non-medical use could be viewed as breaking international law.

Along with failing to reduce consumption, production and trafficking over the past fifty years, in 2008 the United Nations recognized several supposedly “unintended consequences” of the current prohibitionist drug control system including: the creation of a large criminal market, ruled by violence; the displacement of production and transit to new areas, termed the “balloon effect;” the diversion of government resources from health to law enforcement; the displacement of use towards new, often riskier drugs; and the stigmatization and marginalization of people who use drugs.¹¹ Even with this acknowledgement, the majority of the world has not significantly changed its strategy, and as a result, we see countries without the capacity to confront externalities such as increased violence and corruption.

For many countries it is nearly impossible to combat the global illicit drug market, with an estimated value of US\$435 billion per year.¹²

Latin America has played a significant role in the global drug policy debate, with Mexico, Colombia and Guatemala calling on the United Nations secretary general to hold a special session on drugs to review and evaluate the current strategy.¹³ The United Nations General Assembly Special Session on drugs will take place from 19 April to 21 April 2016 in New York City. Although it would only seem that incremental changes would be on the table, the true shift comes from individual countries beginning to explore or already implementing drug policy reforms. A new paradigm is beginning to emerge in which the human rights and health of people who use drugs and the larger community are taken into account. Harm reduction as a concrete evidence-based practice for both drug use and drug policy is beginning to take shape and Latin America has been leading that charge.

While being disproportionately affected by the current militarized war on drugs strategy, Latin America is also emerging as one of the most progressive regions regarding drug policy innovations. Having been deeply affected by the negative consequences of this strategy, countries have begun implementing policy changes with generally positive results.

Case of Uruguay

In 2013, the president of Uruguay, Jose Mujica, began reviewing ways of regulating the production, distribution and use of cannabis. Following an extended legislative debate, passing first through the House of Representatives and later through the Senate, the bill was signed into law on 24 December 2013.¹⁴ The initiative regulates both the medical and non-medical cannabis market, promoting information, education, and prevention, while also respecting the rights of users. By approving this law, Uruguay became the first country in the world to regulate the market from seed to sale, using a strict regulatory model. Within international forums, Uruguay has defended this decision saying they are giving precedence to their international human rights obligations, over drug control measures.

The Institute for Regulation and Control of Cannabis was subsequently created for monitoring the process, providing licenses, and evaluating advances in the law. The Uruguayan government decided to begin the implementation of the non-medical market first, since they knew that the majority of users belonged to that category. To ensure that the legal market undermines the illegal market, the government has decided to set a fixed price depending on the potency and variety of the plant. Penalties for buying or selling cannabis on the black market have increased with the approval of the

law, since the government has created safe and secure pathways to access. Only residents of Uruguay are allowed to participate in the cannabis market and the limit is 40 grams per month.

Users have three ways of accessing the plant: Cultivating up to six plants in their home for personal use, without producing more than 480 grams per year and by registering with the government; joining a cannabis social club, which has between fifteen and forty-five members and up to ninety-nine plants (proportional to the number of members); or purchasing at government-run pharmacies.

Cultivation for personal use has grown over the last year and several cannabis clubs are operating with members taking on greater roles in politics. Licenses were recently approved for the state-regulated cultivation, but have not begun to be sold in pharmacies. It is estimated that 4,400 people are cultivating and seventeen clubs are currently operating.¹⁵ By separating the cannabis market from other illicit drugs, the government seeks to protect the rights of cannabis users.

Case of Jamaica

In 2015, a series of amendments of laws partially decriminalized cannabis and paved the way for a legal, medical marijuana market in Jamaica, a country where the drug has long been culturally entrenched. The bill to amend the Dangerous Drugs Act

decriminalized the possession of ganja—which is marijuana with higher levels of THC—up to 56 grams and established a cannabis licensing authority to regulate the cultivation, sale, and distribution for medical, scientific, and therapeutic purposes, opening the door to a legal medical marijuana industry in Jamaica.¹⁶

The possession of 2 ounces or less of ganja is no longer an offense that results in an arrest or going to court and does not imply having a criminal record. However, possession can lead to a fine of \$500 Jamaican dollars (approximately one US dollar) and possession of over 2 ounces remains a criminal offense in which offenders can be arrested, charged, and tried in court, with a possible fine, imprisonment, or both. It is important to mention that these rules do not apply for the possession of the drug for religious purposes as a sacrament in adherence to the Rastafarian faith, for medical or therapeutic purposes as prescribed by a registered medical doctor, or for scientific research.¹⁷ Since the bill was passed in early 2015, there have been 14,000 fewer arrests for cannabis, which directly impacts the lives of those who would have been incarcerated or given a criminal record.¹⁸

Case of Colombia

During the twentieth-century, drug policies in Colombia were heavily influenced by the international drug

control system and their relationship with the United States. Although little concrete progress has been made to date, the prevailing tendency today seems to shift towards less repression and more protection of the weakest sectors in the drug economy: growers and consumers. Drug use in Colombia is prohibited by the constitution, and there are laws banning it in certain specific circumstances, but it does not represent a criminal offense, rather possession of a specific quantity for personal use is permitted and is not a crime. The thresholds for personal use must not exceed 20 grams for cannabis, 5 grams for hashish, and 1 gram for cocaine.¹⁹

In 2015, President Juan Manuel Santos, signed a decree that fully legalized medical cannabis, allowing Colombia to join the long list of countries that are at the forefront of drug policy reform. Even though a 1986 law previously allowed the manufacture, export, and sale of cannabis for medical and scientific purposes, until last year the practice was not formally regulated. The new policy will make it easier to buy and sell the plant for medical reasons. Under the decree, growers will be able to apply for licenses from the National Narcotics Council, while those seeking to manufacture cannabis-based drugs will apply for permits from the Health Ministry, which will grant permits to export to countries where they are allowed.²⁰

Case of Ecuador

Ecuador has one of the most severe drug laws of all the countries. The Law on Narcotic Drugs and Psychotropic Substances has created an ongoing situation that violates both human and civil rights. The law establishes that someone carrying a few grams of marijuana could potentially end up serving a twelve-year sentence, including several categories under which someone may be accused, such as possession, smuggling, or trafficking, but people are often sentenced under more than one category—which is, in fact, unconstitutional.²¹

During 2014, in a progressive move, Ecuador released thousands of jailed drug “mules”, as part of a new policy that sees them as victims, not just criminals. Under the country’s new criminal law, a person caught with fewer than 50 grams of drugs can receive up to six months in prison, and a person smuggling up to 2 kilos may receive up to three years. Only those moving more than 5 kilos would receive a heftier sentence of as many as thirteen years in prison.²² For the thousands of people released from prison, primarily women, it gave them a new opportunity in life. However, last year, the country decided to modify the criminal code and toughen penalties once again, backtracking the criminal justice reforms. The modification increased penalties for small-scale drug sellers from two-

to-six months to one-to-three years, and for medium-scale trafficking from one-to-three years to three-to-five years.²³ At a time when the United States and countries in Latin America are taking meaningful steps towards a criminal justice reform, Ecuador unfortunately went one step forward and two steps back.

Case of Mexico

Without a doubt, the Mexican experience is indicative of failed policies towards drugs. Implementing a frontal combat against drug trafficking has resulted in more than 160,000 people killed.²⁴ Given its punitive laws, the economical and security situation is in decline, although Mexico has attempted to address the issue inefficiently. In 2009, the legislative body approved a series of reforms to the General Health Act and the Federal Criminal Code. These reforms established a table showing the maximum permitted quantity for personal and immediate use. It is not a crime to use psychoactive substances in Mexico, but the possession of a drug for the purpose of using it is classified as a crime. Even so, possession does not carry a prison sentence so long as the quantity does not exceed the limits established by the table. The limits are as follow: two grams of opium, 50 grams of heroin, 5 grams of cannabis, a 0.5 grams of cocaine, 0.015 milligrams of LSD, 40 milligrams of MDA or MDMA, and

40 milligrams of methamphetamine. If a person is found carrying above the permitted threshold, they can be punished as a small-scale trafficker, and if the amount is 1000 times higher, then the person can be imprisoned as a high-scale trafficker.²⁵ The current legislation has led to criticism because, even though possession—within these quantities—and consumption is not a criminal offense, growing, buying, or selling drugs is illegal and punishable and thus leads to legal ambiguities. For example, between 2009 and 2013, 140,860 people were detained at the federal level for consumption of drugs.²⁶

In 2015, a civil society organization presented an appeal to the Supreme Court to request permission to cultivate and transport marijuana for non-medical purposes, establishing that the current legislation violates the human right to make personal decisions. Using the argumentation of the constitutional right to the “free development of the person,” the Supreme Court ruled to allow cultivation and consumption of the plant for those four people.²⁷ The decision created precedent and has provoked a national and legislative debate on the rights of adults to use substances in their development as people. While the decision is a decisive step forward, it does not create jurisprudence for cannabis regulation. Four more cases, using the same argumentation,

would need to have positive ruling from the Supreme Court for law-makers to be forced to legislate, something which could happen over the next two years. In the meantime, legislators are drafting a bill that will hopefully undo the current contradictions between the judicial ruling and the current General Health Act.

Conclusion

The efforts undertaken thus far demonstrate the capacity of societies to overcome the stigma related to drug use and begin to address not only some of the potential harms of them, but also the harms that have been perpetrated in communities in the name of drug control. Moving away from prohibition, we find countries actively debating the need for legal regulation as a means to take resources away from organized crime, free up government resources to prioritize high-impact crimes, and build institutional capacity to confront the true issues of inequity, corruption, and economic vulnerability.

The world is shifting. There is now an overwhelming agreement among intellectuals and academics that punitive policies have not and will not reduce either consumption or production of currently illicit plants. Former presidents, heads of state, and high-level personalities, such as former UN Secretary General Kofi Annan, have spoken out about these failed policies, advocating for a legal

regulation — not because drugs are without risk, but because of the possible risks they pose.²⁸ United Nations agencies such as the UN Development Program, the UN University, and the UN Office of the High Commissioner on Human Rights have written scathing reports that indicate that the current strategy has not worked and in many cases has stifled development, violated human rights, and denied access to health services.

The approach implemented over the past one hundred years has failed. It is time for a new paradigm shift. Latin America and the Caribbean are leading the way by implementing policies that over time will reduce the power of organized crime and increase human security and development for their communities.

Endnotes

- 1 Igarapé Institute, Homicide Monitor, 2015, available at: <https://igarape.org.br/en/homicide-monitor/>
- 2 Transparency International, The Americas: how 2015 was a warning to the corrupt, 27 January 2016, available at: <http://wp.me/pxeWx-4pA>
- 3 Central Intelligence Agency, The World Factbook. 2013. <https://www.cia.gov/library/publications/the-world-factbook/fields/2086.html>
- 4 United Nations Office on Drugs and Crime, World Drug Report 2015, p. 53, 2015, available at: https://www.unodc.org/documents/wdr2015/WDR15_Cocaine.pdf
- 5 Ibid p. 54
- 6 United Nations, Single Convention on Narcotic Drugs, 1961, available at: <https://www.unodc.org>

- org/pdf/convention_1961_en.pdf
- 7 United Nations, The International Drug Control Conventions, Schedules of the Single Convention on Narcotic Drugs of 1961 as amended by the 1972 Protocol, September 25, 2013, available at: https://www.unodc.org/documents/commissions/CND/Int_Drug_Control_Conventions/1961_Schedules/SI-CND-I-Addl_E.pdf
 - 8 United Nations, Convention on Psychotropic Substances, 1971, available at: https://www.unodc.org/pdf/convention_1971_en.pdf
 - 9 United Nations, Convention Against Illicit Traffic in Narcotic Drugs and Psychotropic Substances, 1988, available at: https://www.unodc.org/pdf/convention_1988_en.pdf
 - 10 Ensuring balance in national policies on controlled substances: guidance for availability and accessibility of controlled medicines. Geneva: World Health Organization; 2011, available at: http://www.who.int/medicines/areas/quality_safety/guide_nocp_sanend/en/index.html, accessed December 22, 2015
 - 11 United Nations Office on Drugs and Crime, World Drug Report 2008, 2008, available at: https://www.unodc.org/documents/wdr/WDR_2008/WDR_2008_eng_web.pdf
 - 12 CNBC. Global drugs trade 'as strong as ever' as fight fails. August 13, 2013. <http://www.cnbc.com/id/100957882>
 - 13 Washington Office on Latin America, Latin American Leaders Bring Drug Policy Debate to the United Nations, 30 September 2013, available at: http://www.wola.org/commentary/latin_american_leaders_bring_drug_policy_debate_to_the_united_nations
 - 14 CBC News, Marijuana legal in Uruguay as President Mujica signs law, December 24, 2013, available at: <http://www.cbc.ca/news/world/marijuana-legal-in-uruguay-as-president-mujica-signs-law-1.2476025>
 - 15 El Espectador, Marihuana medicinal puede crear pequeño polo de desarrollo en Uruguay, Feb. 24, 2016. <http://www.elespectador.com/noticias/salud/marihuana-medicinal-puede-crear-pequeno-polo-de-desarrollo-articulo-618536>
 - 16 Transnational Institute, Statement by minister of justice on the dangerous drugs (amendment) bill for post cabinet press briefing, available at: <http://www.druglawreform.info/images/stories/documents/Statement-to-Press-Briefing-Ganja-Law-Reform-21-01-2015.pdf>
 - 17 Transnational Institute, Drugs and Democracy, Jamaica, available at: <http://www.druglawreform.info/component/flexicontent/items/item/5537-jamaica>
 - 18 Jamaica Gleaner. 14,000 Fewer Persons Arrested On Ganja Changes Since Changes To Law – Bunting. January 26, 2016. <http://jamaica-gleaner.com/article/news/20160126/14000-fewer-persons-arrested-ganja-changes-changes-law-bunting>
 - 19 ACNUR, Ley 30 de 1986, Estatuto Nacional de Estupefacientes, available at: <http://www.acnur.org/t3/fileadmin/Documentos/BDL/2008/6460.pdf?view=1>
 - 20 Presidencia de la República, Colombia, Noticias, Cecember 23, 2015, available at: <http://es.presidencia.gov.co/noticia/Noticia/Presidente-de-la-Republica-firmo-decreto-sobre-uso-de-cannabis-con-fines-medicos-y-cientificos>
 - 21 Transnational Institute, Systems overload: drug laws and prisons in Latin America, 2011, available at: http://druglawreform.info/images/stories/documents/Systems_Overload/TNI-Systems_Overload-def.pdf pag 52
 - 22 Global Post, Ecuador is freeing thousands of convicted drug mules, October 6, 2014, available at: <http://www.globalpost.com/dispatch/news/regions/americas/141003/ecuador-releases-drug-mules-victims>
 - 23 Drug Policy Alliance, Ecuador Backtracks on Criminal Justice Reforms, Increases Penalties for Drug Selling, 10 February 2015, available at: <http://www.drugpolicy.org/news/2015/10/ecuador-backtracks-criminal-justice-reforms-increases-penalties-drug-selling>

- 24 Breslow, Jason, The Staggering Death Toll in Mexico's Drug War, July 27, 2015 <http://www.pbs.org/wgbh/frontline/article/the-staggering-death-toll-of-mexicos-drug-war/>
- 25 Ley General de Salud, Congreso de la República, November 12, 2015, México
- 26 Colectivo de Estudios Drogas y Derechos (CEDD). Usuarios de drogas y las respuestas estatales en América Latina. http://www.drogasyderecho.org/index.php/es/?option=com_content&view=article&id=19&catid=8&Itemid=141
- 27 Zaldívar, Arturo, Amparo 237/2014, available at: http://www.sitioswwwweb.com/miguel/Amparo_en_Revisio__769_n_237-2014.pdf
- 28 Global Commission on Drug Policy, War on Drugs, June 2011, available at: http://www.globalcommissionondrugs.org/wp-content/themes/gcdp_v1/pdf/Global_Commission_Report_English.pdf

Quality of Exports as an Additional Tool for Policymakers: The Case of Colombia

By Lenin Balza & Alfredo Guerra

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Abstract

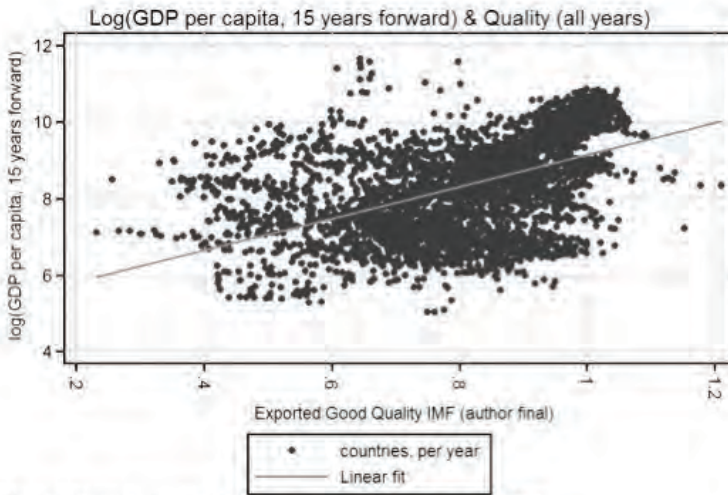
Industrial policy in Latin America and the Caribbean has experienced dramatic shifts in the way it is being conceived. From import substitution to emphasis on outward-oriented growth policies, many have been the efforts in the region to obtain productivity improvements and to promote growth and development. Later contributions have incorporated the notion of knowledge and productive capabilities into the discussion, and more recently the quality of what countries export as a new dimension through which to look at the composition of economies. This paper seeks to develop a framework for practitioners and policymakers through which targeted policies to key sectors (based on productive capabilities, complexity, and quality of exports) can provide a useful guide to inform policy. The first section analyzes the quality of exports and its role as a tool for industrial policy. Section 2 develops a framework by looking at the case of Colombia, and section 3 concludes.

1. Evolution of Industrial Policy in Recent Decades and Quality as an Additional Tool Kit for Policymakers

As industrial policy in Latin America has changed its focus over the last half a century, many have been the lessons drawn from previous experiences. Although Latin America and the Caribbean have a not-so-stellar relationship with industrial policies, as evidenced by its considerable failure during the import-substitution era, the reality remains undeniable: almost every country, if not all, that have industrialized in the last half century have done so with government assistance and under well implemented industrial policies^{1, 2} Yet, industrial policy remains one of the most challenging tools for policymakers when trying to promote successful productive transformation.

While many health prevention or vaccination policies have a clear objective and a well-defined path to implementation, the same is not true in industrial policy, where most of the effort lies in the “discovery” of productive capabilities and the internalization of positive externalities of upgrading the quality of sectors or of jumping into new sectors in the economy.³

The literature on this topic has been aiming to provide answers to many of these issues. The analysis of economic complexity provided a framework of not only how “complex” of knowledge-intensive each exported



Source: Own calculations based on Henn, Papageorgiou and Spatafora (2013)

product is,⁴ but also of how dense is the space around a product you already produce, and what products are easier for you to start exporting, given what you already know how to do.⁵ This last component has to do with the “latent” competitiveness a country enjoys based on how many of the capabilities needed to start exporting a product you already have, this was regarded as the “Implicit Comparative Advantage” a country has on a product it does not already export competitively.⁶

On a similar note, the quality of exported goods can provide a similar contribution to this discussion. In fact, both theoretical and empirical work has been done highlighting the role of the quality of export in shaping development outcomes. For instance, export quality has been linked to economic activity, firms’ export success, countries’ skill premium, and direction of trade.^{7, 8, 9, 10}

But what do we mean by the quality

Figure 1: Scatterplot between log(GDPPC) 15 years forward and present quality level.

of what you export? Naturally, it is essential to have a clear definition of quality for the purposes of our study. Broadly speaking, quality of export is defined as any tangible or intangible attribute of a good that increases all consumers’ valuation of it.¹¹ In general, for practical purposes most studies have approached the measurement of quality of exports by a price index of export unit values. But the truth is that unit values may vary for many reasons other than quality. More recently, studies began controlling for potential confounding factors of this measurement. Among them, the study of Henn, Papageorgiou & Spatafora controlled for the “likelihood” that certain countries will trade between themselves through a trade gravitational model, where factors such as geographic proximity, common

language, among others make some countries more likely to engage in trade between themselves than with others.¹²

A simple descriptive exercise using the dataset from Henn, Papageorgiou, and Spatafora’s study shows the relationship between higher level of quality of products and future levels of income per capita (see Figure 1).¹³ At a more analytical level, by understanding the quality of products, we can see whether there is a room for growth by supporting firms on an intensive margin. Namely, by helping existing firms upgrade the quality of the products, they make as a driver for future growth. Alternatively, another channel through which quality operates is the “extensive margin,” through which countries are more likely to start exporting products that they do not export today when they are close to a dense network of high-quality products.¹⁴

This approach to industrial policy is particularly useful in cases where market failures are keeping firms and entrepreneurs from jumping into sectors that would otherwise bring an optimal financial decision to these actors. It may be the case that information asymmetries are present or is simply that the externalities of their decisions are not being internalized by businesses. It is in this instances where a technically sound framework to detect unexploited “latent capabilities” in the country can bridge the gap between existing products and sectors within

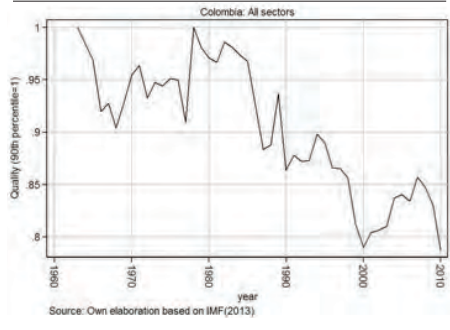


Figure 2: Evolution of national-level quality of exports in Colombia (1962-2010)

reach given the existing capabilities and quality of the things the country already knows how to produce.

Nevertheless, the political component of these policies should not be underestimated. In the particular case of vertical industrial policies, there is the ever-present risk of ending up strengthening well-established and often inefficient firms instead of promoting the upgrading efforts of newcomers in key sectors. This concern further strengthens the case for developing a technically correct and unambiguous framework to select how to adequately support specific economic sectors and the developing of missing sectors in the economy.

2. Framework for Leveraging Quality of Exports as an Additional Tool for Policymakers: The Case of Colombia

As we understand the quality of exports as an additional tool for policymakers, a challenge remains in how we can effectively incorporate the extensive literature of quality of exports as a practical lever for developing countries

who are seeking to understand how to optimize their scarce resources in a way that would maximize their impact on the economy. We will share this analysis for the case of Colombia.

How is Colombia doing in terms of the average quality of its exports?

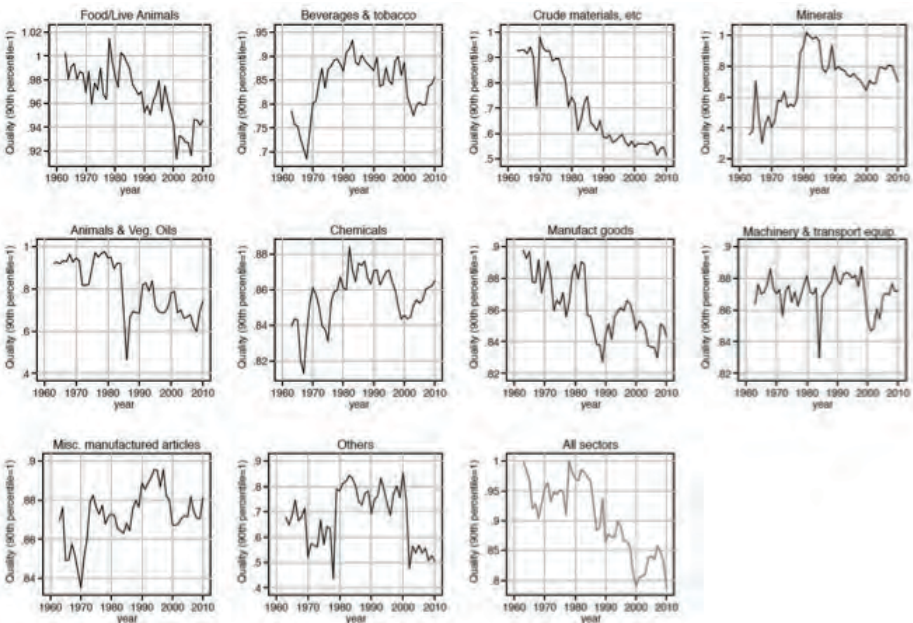
It is pivotal then to begin by appropriately diagnosing the state of Colombia’s country-level quality of exports and then thinking of how such analysis can inform a better policy formulation to achieve an effective productive transformation policy in a country.¹⁵

When doing the diagnostic analysis, we find that Colombia’s country-level quality of exports have been declining overtime. Figure 2 display

overall export quality in Colombia. The figure reveals that, on average, the quality of Colombian exports have been following a downward trend. Despite decade-to-decade variations, aggregate export quality in Colombia was reduced in more than 20 percent over the last fifty years. Nonetheless, this downward trend might be driven not by absolute declines in the quality of its exports but of losing ground relative to others in the world, it is important to understand what might be driving this results and what its economic implications may be.

As a matter of fact, aggregate qual-

Figure 3: Evolution of 1-digit sector quality of exports in Colombia (1962-2010)



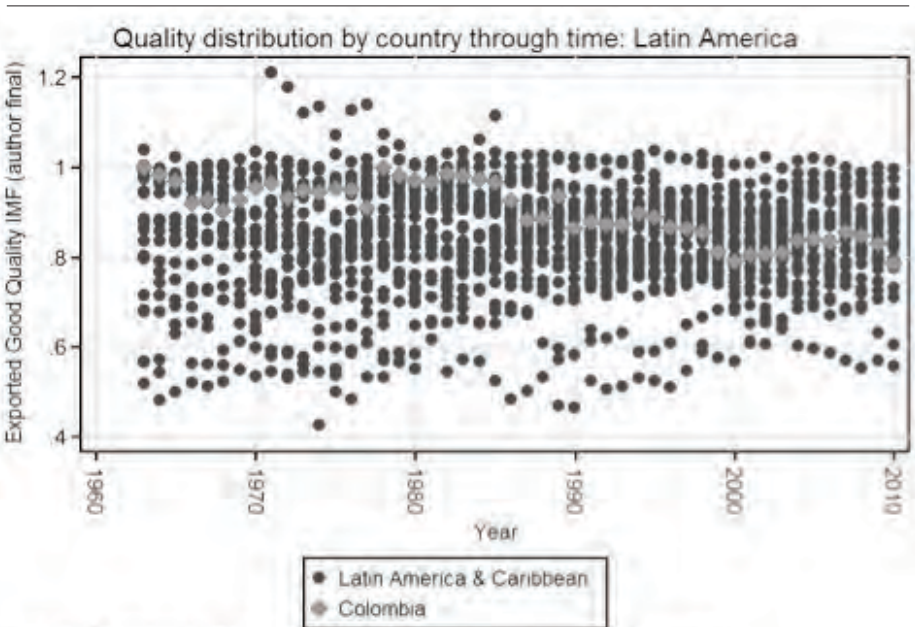
ity of internationally traded goods figure tends to hide great heterogeneity among sectors within the economy. Given the exceptional detail of the data we have access to, it is possible to break down the national-level quality of exports into a much more detailed assessment of how Colombia is doing at the Standard International Trade Classification (SITC) 1-digit aggregation level and in key sectors we deem of interest. Perhaps not surprisingly, we find significant variance and large differences in the way the quality of exports in each sector has evolved over time.¹⁶

Lastly, we can also take advantage of the availability of this data for other countries of interest to Colombia and see how they have evolved

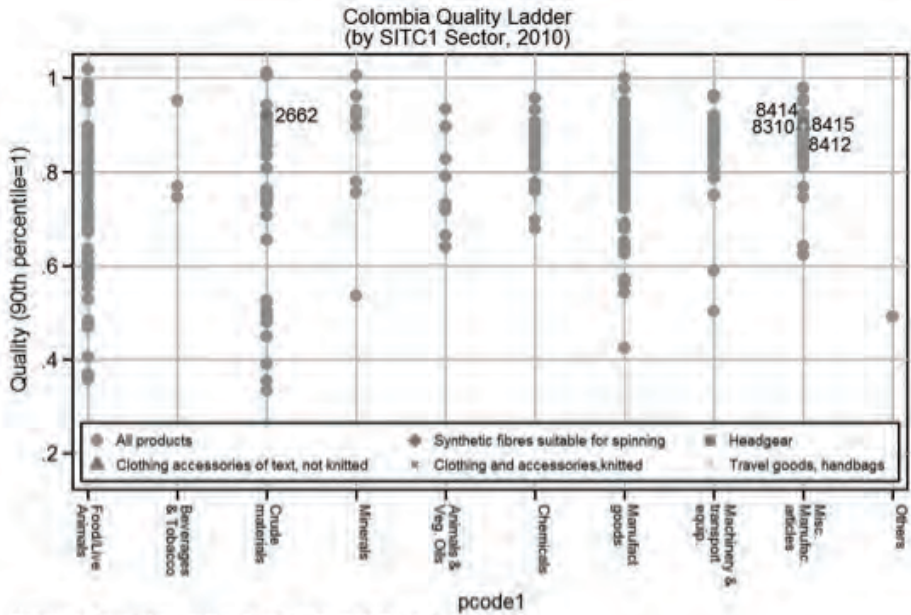
over time in comparison to each other. This analysis suggests that Colombia was one of the countries with higher quality of exports up until 1980, but has dramatically fallen since then.

Figure 4 displays the aggregate quality of internationally traded goods distribution by Latin American and Caribbean countries through time. It shows that most Latin American Countries improved their relative export quality above Colombia during the 1963–2010 period. In other words, neighboring countries left Colombia behind.

Figure 4: Evolution of national-level of quality of exports in Colombia in comparison to Latin America (1962-2010)



Source: Own calculations based on Henn, Papaioannou and Spatafora (2013)



Source: Own elaboration based on IMF(2013)

How is Colombia's product-level of quality doing at the sector level?

To develop the granularity of our study, we can then see how is Colombia's quality of specific products doing within the range of quality in each sector. This exercise can allow us to then identify sectors where significant changes have materialized in recent years as a way of understanding instances where quality upgrading occurred and study what conditions were in place that make such changes possible.

An initial exercise toward this end is looking at the top products in quality that Colombia exports and understand what patterns emerge. By doing that exercise, we find that several agricultural products top the list, but also other more complex manufactured products make the cut, such as "Cine. Cameras,

Figure 5: Distribution of product-level quality of exports by 1-digit sector in Colombia (2010), highlighting key "garment" products

projectors, sound recorders etc."

However, many of those products are being exported competitively and comprise a small portion of Colombia's total basket of exports. To account for this potential confounding factor, we can then take a look at the top products in terms of quality in which Colombia has a "Revealed Comparative Advantage" (RCA>0.1).¹⁷ By doing so, we then find that:

This list can then be a good starting point to analyze how the quality of these particular products have evolved over time, in comparison to other relevant countries. By analyzing this list, it becomes evident that some patterns emerge. More specifically, five of those

products with high quality belong to the garments sector and three others reflect inputs related to said sector.

By zooming into the garments sector, we see from Figure 5 that five of the products listed above are near the top of their respective sectors. Similarly, when we evaluate their evolution in terms of quality through time, we can appreciate that they have increased their level of quality significantly through the last five decades.

This analysis can then allow us to understand on the time dimension, when this upgrade in quality occurred, which in turn will inform the instances where we should look for qualitative data that can complement the story behind these changes that we see on this dataset.

How Does This Diagnosis Translate into the Colombian Policy Context?

Once we have identified Colombia's position in the spectrum of quality of exports and the evolution of quality in specific sectors and products through time, we can then try to understand what was behind those changes over time and being able to formulate policies accordingly. After all, most countries that have developed economically and pursued a successful structural change during the last fifty years, have done so in hand with well-developed industrial policies.¹⁸

Case Study of Leonisa

A heavily studied case in Colombia is that of the lingerie company "Leonisa."¹⁹ Their success story provides support to the findings from research studies on how the export of quality matters for growth. On one hand, businesses who improve the quality of their own activities are said to be "climbing up the tree," making reference to how monkeys (as businesses) can improve the quality of what they do as they climb further up on the tree of their industry.²⁰ Similarly, Leonisa is also a story about "jumping out," making reference to instances where businesses venture out into new unexplored sectors (monkeys jumping into nearby trees).

Leonisa was a lingerie company who used to compete with low-value lingerie businesses in China and elsewhere, until their owners decided to invest heavily into upgrading their company's machinery. Although the equipment were twenty times as costly as Leonisa's, the president went ahead and made the investment (therefore, starting to climb the lingerie quality ladder in Colombia). The effect was undeniable; they passed from competing with China to competing with French and Italian products. This represented a case of a business that upgrading the quality their product (by climbing the tree).

As this was happening, Leonisa later on jumped into the nearby

“bathing suits” sector. As they did so, they also became a reputed brand name in this sector, therefore successfully jumping to a sector with arguably similar capabilities requirements, and they did so maintaining a high level of quality. Recent research indeed seems to suggest that jumps to nearby sectors are more likely when the quality of exports of a sector is higher, particularly for certain sectors and levels of proximity. Nevertheless, more research is needed to better understand what happens to the level of quality of exports of the sector businesses jump into.

Technical, Political, and Administrative Considerations

As one moves the discussion from research into policy formulation, it is essential to be fully aware of the context in which policymakers will operate when it comes to industrial policy. Very often, governments dedicate tremendous amounts of resources into developing resources deemed “key for the nation’s development.” However, many times the way those sectors are selected has more to do with perceptions than facts. Often times the sectors that are being promoted are far from what they currently know how to do (large distance) and are perhaps in areas with low density around them (don’t have many other sectors to jump afterward).

It is for this reason that technical correctness is essential to properly identify the sectors that would generate the largest benefits for the economy. A potential framework among these lines could be for policymakers to focus on:

- Products with highest implied comparative advantage (given by those products with the densest forest around them).
- Products with the highest Opportunity Gain (given by those products that will translate into higher returns if they are competitively exported, as measured by Hausmann et al. (2011).
- Products with the highest quality of export frontier (given by those products where more room for growth in quality is available).

In addition, having a theoretical backing for why to promote certain sectors (on the intensive or extensive margin) will help optimize scarce resources from a government while providing a clear rule to select sectors, which can also reduce the room for rent-seekers to interfere with these policies. In a context where implementing vertical industrial policies aimed at helping companies upgrade the quality of their products, the room for political capture could be high, for which reason clear rules on how such policies must be implemented are pivotal. Similarly, other considerations must be made in terms of choosing the most appro-

appropriate institutional arrangement to implement these policies. In the case of Colombia, it is more likely that a centrally-implemented industrial policy of this sort might be more resistant to political capture than if local governments were to resist pressure from large corporations among their constituencies.

It is also important to be cognizant of the administrative capacity on the policymakers in each context. These considerations might translate into narrowing the number of industries chosen to be promoted, or focusing on specific desirable industries that require the least intervention from the government. Lastly, another dimension to consider is the amount of effort these policies should require. Namely, should policymakers aim at a “big push” to promote a massive jump to a sector (or group thereof) or should policy efforts be more passive in the sense, that certain conditions must be in place for upgrades in quality or jumps into nearby sectors to happen.²¹

3. Conclusions

Even though the literature on the implications of changes in quality of exports for future growth is very recent, its initial findings suggest a promising avenue for policymakers. Not only are increases in quality of exports associated with higher future exports and likelier jumps into nearby sectors, but also

provide another dimension through which to understand the industrial composition of a nation.

As a result, the notion of translating this knowledge into better-informed industrial policies can allow governments to become smarter in the way they spend their resources when trying to grow their industries. Based on previous work focused on Colombia,²² it becomes clear that targeting sectors and businesses through the lenses of complexity and quality can become a promising avenue for future policy formulation in Latin America.

Lastly, as new and more detailed datasets become available of the subnational composition of industries in each country, new opportunities will arise that will allow us to better understand the spatial considerations of divergence in quality of products and services within a same country and set of national institutions. These exercises with more granular detail then represent promising avenues to further enrich the debate on how to improve evidence-based industrial policies in the region.

Appendix

Table 2

sitc4	rank_q	Name
514	1	"Apples, fresh"
2119	2	"Hides & skins, nes"
3215	3	"Briquettes of coal"
2311	4	"Natural rubber and similar natural gums"
6113	5	"Calf leather"
513	6	"Bananas including plantains, fresh"
512	7	"Other citrus fruit"
511	8	"Oranges, tangerines and clementines"
8960	9	"Works of art, collectors pieces"
6673	10	"Other precious & semi-precious stones not set"
8615	11	"Cine. Cameras, projectors, sound recorders etc."
711	12	"Coffee, green or roasted"
7114	13	"Aircraft incl jet propulsion engines"
3214	14	"Coal /anthracite, bituminous/"
7116	15	"Gas turbines, other than for aircraft"
5132	16	"Chemical elements nes"
8613	17	"Binoculars, microscopes & other optical instrum"
1210	18	"Tobacco, unmanufactured & scrap"
6895	19	"Base metals, nes"
520	20	"Dried fruit, dehydrated artificially"

Source: Own calculations, based on Henn, Papageorgiou & Spatafora (2013).

Endnotes

- 1 Inter-American Development Bank, 2014, "Rethinking Productive Development" Inter-American Development Bank. Crespi, G., Fernandez-Arias, E., Stein, E., eds.
- 2 Rodrik, Dani, 2004. "Industrial Policy for the Twenty-First Century." Discussion Paper Series No. 4767.
- 3 Balza, L., Guerra, A. (forthcoming). "Better is better: Quality of exports." Mimeo Harvard University.
- 4 Hausmann, R., Hidalgo, C., 2011, "The network structure of economic output," *Journal of Economic Growth*, 16, 309-342
- 5 Hausmann, R., Hidalgo, C., Bustos, S., Coscia, M., Chung, S., Jimenez, J., Simoes, A., Yildirim, M., 2011, "The Atlas of Economic Complexity," Puritan Press.
- 6 Hausmann, R., Hidalgo, C., Stock, D., Yildirim, M., 2014, Implied Comparative Advantage. Working paper. Center for International Development. Harvard University.
- 7 Grossman, G. M., Helpman, E., 1991, "Quality ladders in the theory of growth," *Review of Economic Studies*, 58(1), pp. 43–61.
- 8 Hummels, D., and P. Klenow, 2005, "The Variety and Quality of a Nation's Exports," *American Economic Review*, Vol. 95, pp. 704–723.
- 9 Verhoogen, Eric, 2008, "Trade, Quality Upgrading, and Wage Inequality in the Mexican Manufacturing Sector," *Quarterly Journal of Economics*, 123, 489–530.
- 10 Hallak, J. C., 2006, "Product quality and the direction of trade," *Journal of International Economics*, Vol. 68, pp. 238–65.
- 11 Hallak, J. C., and P. Schott, 2011, "Estimating Cross-country Differences in Product Quality," *Quarterly Journal of Economics*, Vol. 126, pp. 417–74.

- 12 Henn, Christian, Papageorgiou, Chris and Nikola Spatafora, 2013, "Export Quality in Developing Countries," IMF Working Paper 13/108.
- 13 Ibid
- 14 Bahar, D., Rosenow, S., Stein, E., Wagner, R. (forthcoming) "Quality upgrading and the dynamics of export diversification." Mimeo
- 15 This measure is derived by computing an export-value-weighted average of quality for all the exports in Colombia.
- 16 Is important to note that sectors like the "crude materials" sector, in the case of Colombia, might bias our national-level quality of exports indicator, given that this measure is developed as a weighted average of all product export's quality.
- 17 At this stage, we are using a more generous threshold for "competitive exports" than the one suggested by Hausmann et al (2011) of an $RCA > 1$ just to account for the quality dimension with a broader set of products. Namely, there may be sectors whose quality might be on the rise but whose Revealed Comparative Advantage might not still be above 1. Based on previously mentioned research on quality of exports, given the relationship between quality growth and future exports, it would not be appropriate to exclude such sectors from our analysis.
- 18 As note by Rodrik, Dani, 2004. "Industrial Policy for the Twenty-First Century." Discussion Paper Series No. 4767.
- 19 For instance, in IDB (2014).
- 20 In the traditional jargon from Hausmann et al. (2011)
- 21 Murphy, K., Andrei Shleifer and Robert W. Vishny, 1989, *Journal of Political Economy* Vol. 97, No. 5, pp. 1003-1026
- 22 Balza, L., Guerra, A. (forthcoming). "Better is better: Quality of exports." Mimeo Harvard University.

Development Banking and Counter-Cyclical Policies in Brazil

By Luiz Pinto



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This article tackles the challenges and limitations of the Brazilian long-term financing system following the 2008 global credit crunch, when disbursements from the state-owned Brazilian National Development Bank (BNDES) boomed due to major yet unsustainable changes on its capital structure. The article concludes that the Brazilian development finance needs to be reformed in order to increase its efficiency and contribute to macroeconomic stability. As it stands, the system spurs segmentation within the Brazilian financial markets, with subsidized long-term interest rates pushing the free-market equilibrium real interest rate upwards. The recent expansion of subsidized loans has reinforced this movement and intensified the tendency to benefit projects and investments with low social externalities. Thus, reforms may include

changes in the targeting of investment projects and additional reliance on market funding and other sources of private savings.

Long-Term Finance and Development Banking In Brazil

Development finance is the art of gathering funds to pay for multiyear payback capital-intensive undertakings. According to the G30 (2013), these long-dated funds are deployed in different sorts of large-scale projects, including real estate enterprises, infrastructure, education, research, and the acquisition of capital goods, equipment, and software. They are important to create jobs, expand production, and increase productivity.

Firms based in emerging markets often face capital constraints and other restrictions due to market failures such as financial incompleteness, capital markets pro-cyclicality, risk-aversion, and coordination problems. Hence, emerging markets have to foster development finance through public policy. Harnessing state-owned development banks became one of the most effective ways to provide long-term finance and boost industrialization after the Second World War. Global economic geography would probably be different if emerging market-based private groups and state-owned companies did not have the development banks' support. By fusing public policy with

capital mobilization and investment management, development banks were crucial to boost catch-up industrialization and import substitution policies in Asia, Latin America, Africa and the Middle East. However, globalization, macroeconomic stabilization, financial market integration and capital market development forged major changes in development banks' nature.

The Brazilian National Development Bank (BNDES) is one of the largest development banks in the world by both total assets and total loans. A cornerstone of the Brazilian "developmental state," the BNDES funded the most important infrastructure and industrial projects of the 1950s, 1960s, and 1970s, nourishing a catching up process that consolidated a large base of diversified private groups. Despite its protagonist role during the Brazilian state-capitalism "golden years," BNDES embraced economic reforms after the international debt crisis exhausted import substitution policies and public savings in the 1980s. Crowding in private investors

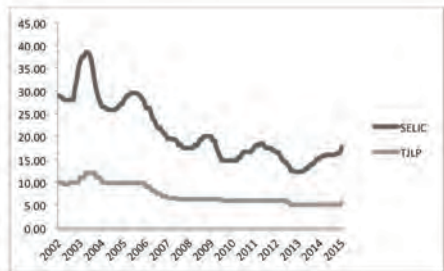


Figure 1: Monthly rates of SELIC and TJLP (percent), 2002-2015

and developing capital markets, the BNDES operated and managed the Brazilian National Privatization Program (PND) in the 1990s.

Along with the macroeconomic stabilization, the PND created conditions for further modernization. Paradoxically, although ownership restructurings diminished state participation as a majority investor, it boosted its corporate influence as a minority shareholder. Positions were held through BNDES' equity arm BNDES Participações (BNDESPAR) and state-related entities such as pension funds of state-owned companies. Thus, the government was able to increase its power centrality while major changes increased the performance of former state-owned companies, enhancing capital allocation and favoring the development and deepening of capital and credit markets.

Development Banking in the International Post-Crisis Blues

Despite structural reforms and relevant improvements in the macroeconomic setting during the 1990s and early 2000s, the Brazilian sovereign yield curves in domestic currency are persistently volatile and high; preventing private agents from borrowing long-term and blocking the development of a free market for long-term credit at fixed interest rates in Brazilian Reals (BRL).¹

Moreover, real interest rates are



Source: Author's elaboration based on data from BNDES' annual reports

Figure 2: Net Inflows from FAT and Total Disbursements, 2000-2013

much higher in Brazil than in other emerging and developing markets. As of February 2016, while short-term real interest rate is 3.58 percent in Brazil, other BRICS and MINT countries (Mexico, Indonesia, Nigeria and Turkey) benefit from far better rates, including 3.11 percent for Indonesia, 2.76 percent for China, 1.55 percent for South Africa, 1.4 percent for Nigeria, 1.14 percent for India, 1.12 percent for Mexico, -1.9 percent for Russia, and -2.08 percent for Turkey.²

This is a major problem for a sustainable development of Brazilian capital markets. Monetary stability and low rate risks increase the demand for long-term debts. Longer debt duration implies higher confidence and creditability, fostering the creation of benchmarks for debt markets and the widespread use of long-term commercial papers. In contrast, high and volatile real interest rates express how the stability of Brazilian institutional architecture is still incomplete.³

Structural distortions such as the very short-term structure of debt stocks and country-specific factors related to credit market segmentation diminish

the monetary policy effectiveness. Having access to cheap funds based on compulsory savings arrangements, state-owned banks are able to supply credit at better-than-market terms, presenting less sensitivity to movements of the overnight market rate on federal debt repos (SELIC).

The Federal Constitution established in its article number 239 that at least 40 percent of compulsory pension savings (PIS-PASEP) unified under the Worker’s Assistance Fund (FAT) should be channeled to the BNDES for development finance, while the remaining 60 percent should finance the program for unemployment insurance and salary bonuses. Funds directly allocated to the BNDES comprise the so-called FAT-Constitutional, a subordinated debt or quasi-equity in which no amortizations are made while interests are paid semi-annually based on the Long-Term Interest Rates (TJLP). Interests are limited to 6 percent per year for the TJLP liabilities. The excess yield is capitalized and added to the outstanding balance of FAT funds. Special Deposit FAT is comprised of additional resources channeled to the BNDES when revenues from FAT exceed annual expenditures required by the legislation, (i.e., when the remaining 60 percent of the savings from FAT exceeds the disbursements for unemployment insurance and salary bonuses).

Being much lower and much less volatile than SELIC (see Figure 1), the TJLP is the cornerstone of long-term financing in Brazil. Although it supports the provision of cheaper funding for entrepreneurs, it also lessens the power of monetary policy. Thus, along with the subsidized loans from Banco do Brasil and Caixa Economica Federal for housing and agriculture, the BNDES disbursements push upwards the equilibrium real interest rate in the free market.⁴

However, the FAT – the only steady external source of funds for the BNDES – is depleting, which poses challenges for the future expansion of BNDES’ operations. The annual average of total net inflows from FAT as a share of total disbursements decreased from 14 percent in 2000-06 to 4.5 percent in 2007-14. Although net inflows from FAT-Constitutional are keeping pace with disbursements, secular trends on Brazil’s labor market are ramping up FAT annual expenditures with unemployment insurance, pushing FAT-Special Deposits net balance to negative levels and reducing total

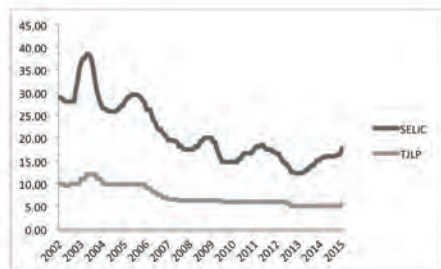


Figure 3: Total Assets, 2004-2014

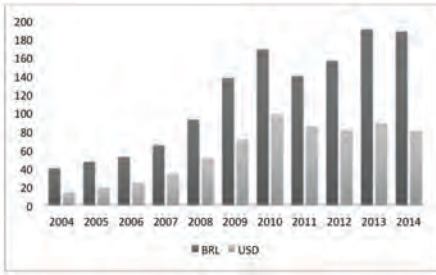


Figure 4: BNDES Disbursements, 2004-2014

net inflows from FAT to the BNDES. FAT-Special Deposits net balance deteriorated quickly, plummeting from a positive amount of BRL 20 billion in 2000-06 to a negative amount of BRL 7.1 billion in 2007-14. (See Figure 2)

On the other hand, net outflows from FAT-Special Deposits started amidst a surge in total disbursements. The gap was nevertheless more than fulfilled by resource mobilization from the National Treasury. From 2002 through 2014, the National Treasury funded the BNDES with BRL 426 billion. Thus, BNDES capital structure changed accordingly, with the participation of the National Treasury increasing from BRL 3.8 billion or 3.4 percent of total in 2001 to BRL 450 billion or 54 percent of total in 2014. FAT relative participation in the capital structure decreased from BRL 69.4 billion or 61.5 percent of total to BRL 192.4 billion or 23 percent of total during the same period.⁵

Reasons behind government support to the BNDES include anti-cyclical policies after the subprime meltdown of 2007 and credit crunch of 2008, a renewal bet on industrial policies “picking winners” and fostering

“national champions,” and progressive changes on macroeconomic policies leading to the so-called “new economic matrix” of President Dilma Rousseff. New government bonds were issued by the National Treasury to channel funds to the BNDES. Differences between government borrowing costs and subsidized TJLP imply resource mobilization from the National Treasury to the BNDES have a fiscal impact, affecting the gross national debt and crowding out private investment.

From 2004 to 2014, BNDES’ total assets more than five-folded in BRL (to BRL 834,756 million) and more than six-folded in USD (to USD 356,733 million). (See Figure 3) Similarly, in the same period BNDES disbursements over four-folded in BRL (to BRL 187 billion) and over five-folded in USD (to USD 80 billion). (See Figure 4)

Expansion in earmarked loans attained remarkable success preventing a credit crunch and a recession in Brazil. However, the macro, industrial and social views prevailing on the government pushed for a continuing mobilization of funds even after the economy fully recovered. Out of the BRL 413 billion raised by the National Treasury to the BNDES since the beginning of the international financial crisis in 2007, BRL 283 billion or 66 percent was raised after 2009,⁶ when the Brazilian economy rebounded strongly. While the new matrix of

Brazilian economic policies boosted government-driven credit expansion, state-owned banks participation in the national credit market ramped-up. (See Figure 5)

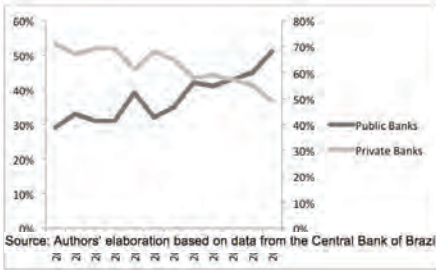


Figure 5: Share of Credit Operations by Bank Ownership, 2002-2013

During this period, the BNDES surpassed Santander Bank and consolidated its position as the fifth largest bank by total assets and total loans in Brazil. Holding a virtual monopolist position over long-term financing, BNDES channels subsidies from compulsory savings and Treasury transfers to its customers. BNDES' net interest margin (NIM) was 1.54 percent in 2014, 325 basis points lower than the average of the eight largest banks in Brazil, 183 basis points lower than the average of the two biggest state-owned banks (Banco do Brasil and Caixa Economica Federal) and 382 basis points lower than the average of the five largest private banks (Itau Unibanco, Bradesco, Santander Brasil, Safra and BTG Pactual). (See: Table 1)

Yet, BNDES had a net income of BRL 8,150 million in 2013. However,

gross income from loans registered a loss of BRL 1,649 million, being offset only by the BRL 11,271 million earned by returns on securities. It is worth noting that 72 percent of the BRL 160.8 billion held by the BNDES in securities is state-related, including BRL 62.9 billion in government and sovereign bonds and BRL 39.8 billion in shares from state-owned companies.⁷ If subsidies for its funding were eliminated, BNDES' net interest margin would drop from 1.54 percent to -4.37 percent in 2013. In other words, taxpayers spent over 4 cents for every dollar allocated by the BNDES during the year.

Subsidies are justified whenever government driven loans fulfill market failures, funding projects that cannot be funded by private markets but whose social benefits exceed their financial costs. This includes credit to capital constrained firms and social intensive sectors such as infrastructure, education, health, housing and agriculture. However, recent empirical analyses and econometric studies strongly support that BNDES' operations do not maximize social welfare.⁸ BNDES channels 67 percent of its total disbursements to large enterprises that can fund their projects with other sources of capital.⁹ Moreover, such trends have strengthened after the international financial crisis and the surge on government driven credit. Recently, larger, older and less risky firms benefited most

Table 1: Largest Banks in Brazil, BRL million (2014)

	Total Assets	Total Loans	Debt Ratio	D/E Ratio	NIM	ROA	ROE
Banco do Brasil	1,437,485	645,674	0.41	6.87	3.93%	1.20%	21.88%
Itau Unibanco	1,105,721	412,234	0.37	5.05	4.77%	1.52%	20%
Caixa Economica Federal	858,325	485,487	0.43	10.24	2.81%	0.86%	22.63%
Bradesco	838,301	323,979	0.4	4.67	4.84%	1.45%	16.92%
BNDES	784,857	287,148	0.91	11.20	1.54%	1.02%	12.85%
Santander Brasil	453,052	226,206	0.35	3.55	5.68%	1.18%	7.03%
Safra	124,399	48,662	0.59	10.34	4.21%	1.09%	19.09%
BTG Pactual	120,888	18,119	0.16	1.55	7.32%	2.29%	21.65%

Source: Author's elaboration based on data from banks' annual reports and Bloomberg

from government-sponsored loans. Monopolistic firms have 18 percent higher chances of receiving loans from the BNDES than other firms – chances were 11 percent higher before 2007. Additionally, BNDES reduced its relative participation in social intensive sectors by 25 percent after the international crisis.¹⁰

Resources allocated to large “national champions” could still be justified if loans and equity capital had a positive effect on firms’ performance, investment or productivity, funding their riskier projects and boosting innovation. But data shows no significant effect of BNDES loans and equity capital on firms’ profitability, market valuation,¹¹ productivity,¹² investment and capital expenditures.¹³ There is simply no evidence that services provided by the BNDES stimulate potential output growth. Rather, ev-

idence suggests that publicly listed firms are borrowing long-term to either reduce capital costs or even benefit from interest rate arbitrage profit.¹⁴ Thus, Brazil clearly needs to reform its development banking system. The national government can indeed undermine macroeconomic stability if it keeps using the BNDES to artificially expand credit or to support para-fiscal policies and accounting gimmicks. A slowdown on government-driven credit and smaller SELIC-TJLP spreads are part of Brazil’s fiscal consolidation program.

However, the BNDES needs deeper changes. Funding structure and implicit subsidies imply disbursements should support projects with higher social externalities. In this sense, targeting and selecting policies may follow the trend created by leading development finance institutions, increasing the

share of social intensive projects in its portfolio. Priorities may include micro-enterprises and start-ups, small and medium sized enterprises (SMEs), infrastructure, and international trade. Project monitoring and accountability should be enhanced, subjecting firms to performance targets conditional on their allocated capital. Finally, given the structural limits of compulsory savings and macroeconomic restrictions to further Treasury transfers, the BNDES should improve its governance and rely more on market funding and private sources of savings, increasing market-based operations and off-balance sheet activities such as syndications, co-financing, project finance and underwritings.

Endnotes

- 1 Sotelino, F. (2014). "A Functional Financial System for Brazil, When?," paper presented in the BRICS Lab Conference: BRICS, the road ahead, Columbia University, New York, NY, March 6, 2014.
- 2 Data: Trading Economics.
- 3 Lopes, F. (2010). "A Estabilização Incompleta," Macrometrica Working Paper (2010).
- 4 Various: Segura-Ubiergo, A. (2012). "The Puzzle of Brazil's High Interest Rates," IMF Working Paper N° 12/62 (2012). Lopes, F. (2010). "A Estabilização Incompleta," Macrometrica Working Paper (2010). Bacha, E. (2010); Além da tríade: há como reduzir os juros?," Instituto de Estudos de Política Económica Casa das Garças Working Paper N° 17 (2010). Lara Resende, A. (2013). Os Limites do Possível: A economia além da conjuntura. São Paulo: Penguin, 2013.

- 5 BNDES, Individual and Consolidated Financial Statements. Rio de Janeiro: BNDES, 2000/2014.
- 6 Ibid.
- 7 Ibid.
- 8 Various authors: Bonomo et al. (2014). "Macroeconomic and Financial Consequences of the After Crisis Government-Driven Credit Expansion in Brazil," Central Bank of Brazil Working Paper N° 378 (2014); Lazzarini et al. (2015); "What Do State-Owned Development Banks Do? Evidence from BNDES, 2002-09," World Development 66 (2015): 237-253. Mello and Garcia (2012). "Bye, Bye Financial Repression, Hello Financial Deepening: The anatomy of a financial boom," The Quarterly Review of Economics and Finance 52(2) (2012): 135-153. Coelho, D. and Sousa, F.L. (2010) "Os Efeitos dos Financiamentos do BNDES sobre o Desempenho das Empresas Industriais Brasileiras" in Estrutura Produtiva Avançada e Regionalmente Integrada: Desafios do Desenvolvimento Produtivo Brasileiro, Livro 5, Vol. I, organized by De Negri, F. and Almeida, M., IPEA, Brasília.
- 9 BNDES, Annual Report. Rio de Janeiro: BNDES, 2014.
- 10 Bonomo et al. (2014). See Endnote VIII
- 11 Lazzarini et al. (2015). See Endnote VII
- 12 Coelho, D. and Sousa (2010). See Endnote VIII
- 13 Bonomo et al. (2014) and Lazzarini et al. (2015). See Endnote VIII
- 14 Bonomo et al. (2014). See Endnote VII.

Beyond Autopilot: How to Make the Aerospace Cluster of Querétaro Take Off

By Rodrigo Quintana, Liliana Olarte,
Juanmanuel García-Sánchez, Pedro
Rangel, and José Lyra Netto

Abstract

The aerospace cluster is a promising one for Mexico. And it has not come about by surprise. With more than 200 firms in eighteen states, the development of the aerospace cluster has been the product of an aggressive national and sub-national agenda as well as the supply chain dynamics of the global manufacturing firms in the aerospace industry. The cluster in the state of Querétaro has become one of the most advanced in the country. Its trailblazer progress is thanks to policies oriented to attract foreign anchor firms and to the provision of a comprehensive set of training programs at the first Aeronautic University in the country – UNAQ. Employing the Competitiveness Frame-

work developed by Michael Porter,¹ we analyzed the value proposition of the cluster.² We find that unless important policies are introduced, the aerospace cluster in Querétaro risks emulating the maquiladora model in Mexico where the main export of the country is a service (keeping costs low) instead of a product (a higher value added from what it is imported).

Introduction

Mexico has one of the highest gross domestic product (GDP) per capita in Latin America (driven by northern states) but suffers from low productivity (pulled by the southern states). Querétaro, a state in central Mexico, is trapped in the middle. It benefits from a safer environment, low corrup-

tion, and specialized education. It also hosts high-performing manufacturers spurred by an active government, abundant natural resources and skilled labor. But it faces large transport costs due to significant distances to the United States and ports; lower contract enforcement and an industrial focus on manufacturing rather than design.

The aerospace cluster is promising for Mexico with more than 200 firms in eighteen states. And Querétaro hosts one of the most advanced clusters in the country. There the aerospace exports have been growing particularly for assembly operations. The cluster has a strong position in the engines sub-cluster while developing its defense sub-cluster. However, it faces fierce competition from other local clusters. To being with, Baja California, Sonora, Chihuahua and Nuevo Leon clusters are closer to the US border. To offset this cost barrier, the current value proposition of Queretaro is to offer heavy subsidies to anchor firms; provide training at the Aeronautic University in the country; and keep labor costs low.

While these measures lower production costs, these do not render the cluster competitive. To scale up its productivity, we recommend to: (1) brand the state as a talent hub to attract skilled labor; (2) condition subsidies on the development of local suppliers and (3) leverage the purchasing power of the state with the production capacity

of firms. We also suggest to (4) cut the red tape of contract enforcement; (5) expand airport capacity and reach to reduce transportation costs; (6) complement the production capability of nearby states; and (7) include a design and development program in UNAQ's curriculum.

Mexico's Competitiveness Overview

Over the past three decades, the economy of Mexico has risen steadily (at annual average of 2.4 percent) driven by its ability to diversify its export earnings away from oil.³ However, its GDP growth is losing pace vis-à-vis other countries in the region (See Figure 1). And its productivity has reached a plateau despite being the largest manufacturing exporter of Latin America. The combination of high labor costs with low investments in research and development and in technology licensing and patenting, has rendered Mexico unable to move beyond its current productivity level.

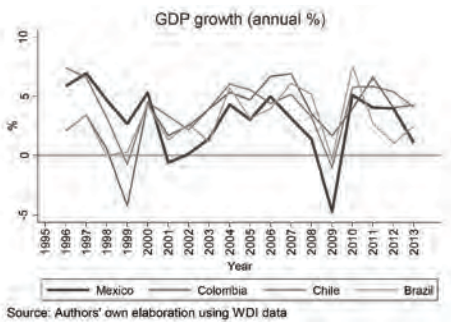


Figure 1: Annual rate of GDP growth

Its proximity to the US offers a privileged access to one of the largest markets in the world. Mexico benefits from the outsourcing efforts of American business and both direct and indirect foreign investment. In this line, the North America Free Trade Agreement (NAFTA) facilitated the development of domestic suppliers which evolved to produce quality, low-cost components for domestic and foreign firms, creating in turn a growing internal market. However, poor education and low R&D investment has limited specialized production and services.

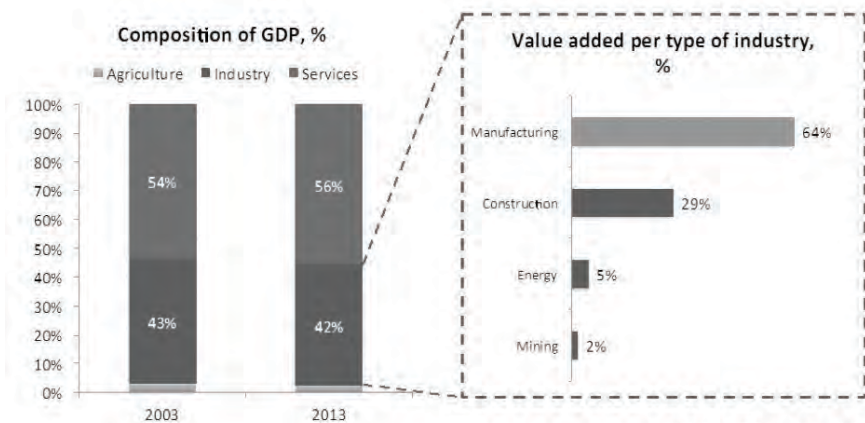
Querétaro's Competitiveness Overview

Querétaro has caught up with the country in terms of prosperity (GDP/capita) due to its sustained economic growth. Even though more than half of the GDP of the state comes from

services, manufacturing plays an important role accounting for nearly 27 percent of GDP (See Figure 2) for various reasons.

The state is located in the central region. It has good access to Mexico City, both coasts, and is well connected with the north and south of the country. Querétaro is also home to a variety of metallic and non-metallic products, including silver, copper, and opals. Besides its natural abundance and privileged location, the state has managed well its finances. In 2012, Standard & Poor's upgraded the classification of its debt from BBB- to mxAA+.⁴ Querétaro enjoys good educational performance relative to other states. And while the country faces huge security challenges, Querétaro is deemed as a safe place.

Querétaro also offers one of the strongest innovation environments in Mexico, ahead of the main competitor states in terms of aerospace



Source: Garcia et al. (2015)

Figure 2: Composition of GDP and value added per type of industry

clusters, such as Nuevo León, Baja California, and Sonora. The state is the second best performing out of thirty-two states in number of patents.⁵ It also has high-ranking universities and research institutions including in the aeronautic sector (Aeronautical University of Querétaro and its connected research centers).

Notwithstanding its well-oriented policies, Querétaro faces many problems. First, enforcing contracts follows a very bureaucratic procedure, takes longer, and costs more than in most states (See Figure 3). Secondly, it has one of the lowest rates of paved roads among Mexican states. Finally, the availability of flights and destinations of its recently built airport is limited. These three barriers pose a challenge to lift up aerospace exports.

The Aerospace Cluster in Querétaro

Although Mexico is overall losing world market share on most clusters, the clusters of aerospace engines, and aerospace vehicles and defense have been growing over time (See Figure 4). Also, despite representing only 2 percent of the total exports in the country in 2011, Querétaro represents nearly 15 percent of the aerospace exports in Mexico in the same year.⁶ It is the fourth exporter of engines and the second exporter of aerospace vehicles and defense (See Figure 5) in the country.

These exports have dramatically grown over the past years. Between 2007 and 2008, the exports of aerospace engines grew at a compound annual growth rate (CAGR) of 13.7 percent and aerospace vehicles grew at a CAGR of 15.7 percent. This growth rate was way above the national trend of 3.7 percent and 0.9 percent respectively. According to State Governor Jose Calz-

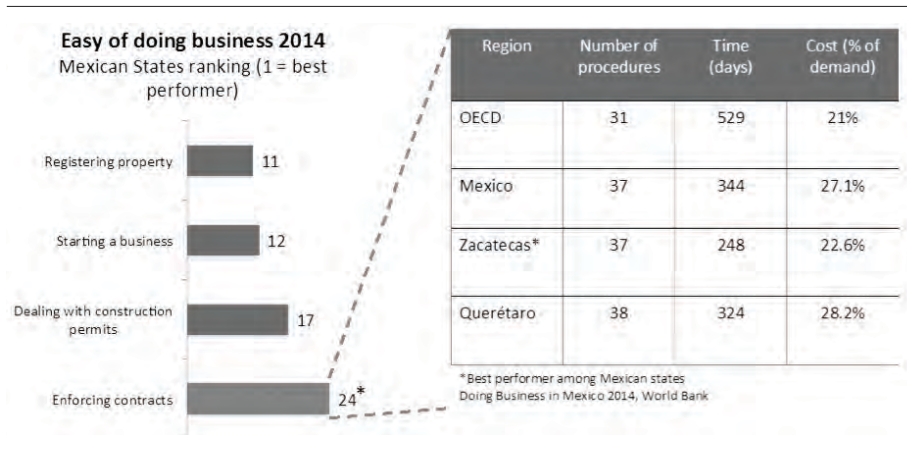


Figure 3: Ease of doing business 2014h

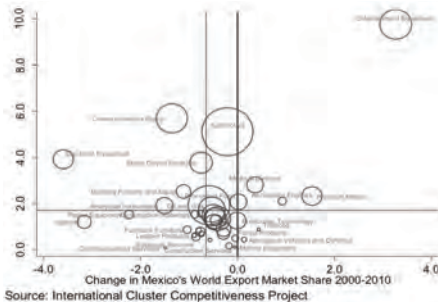


Figure 4: Change in Mexico's World Export Market Share 2000-2010

ada, the aerospace sector in Querétaro is growing at annual rate of 15 percent compared to 10 percent nationwide.

Besides this aggressive growth, the aerospace cluster in Querétaro receives the largest amount of FDI at the national level according to the FDI.⁷ In terms of employment, the aerospace industry employs over 4,800 workers with a 255 percent growth from 2010 to 2012.⁸ While in 2005 there

were only two companies established in the cluster (General Electric and Turborreactores), by 2013 this number had grown to thirty-four.⁹

The manufacturing capabilities of the cluster comprise propulsion systems, airframe structures, sub-assemblies and subsystems, engine components and landing gear systems (see below). Its long term vision is to become a hub for complex machining processes and maintenance, repair and operations (MRO) supported by the following policies:

- **FDI:** aerospace companies get VAT returns within five days and do not pay income tax.
- **Logistic platform:** large fixed-cost infrastructure such as the Aero-

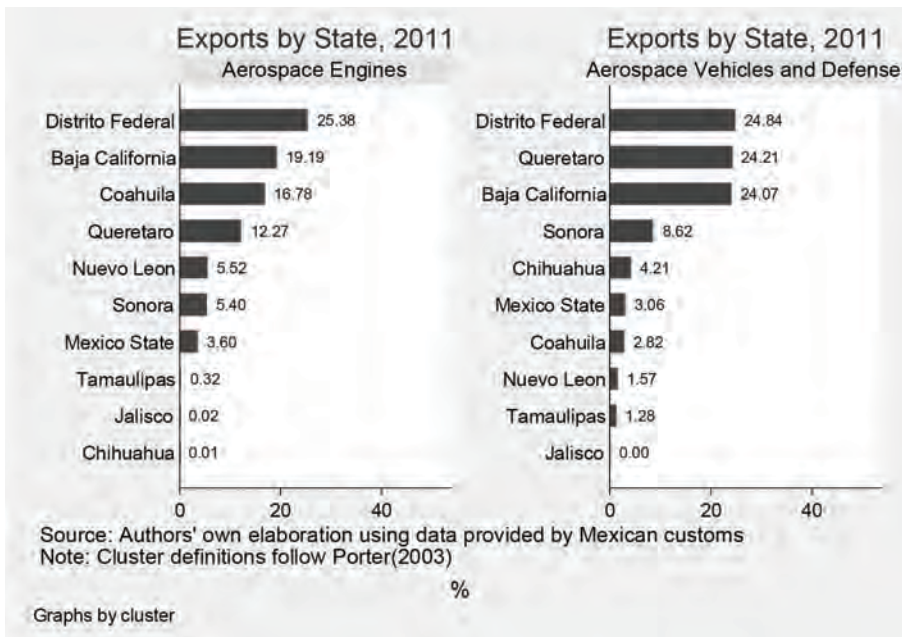


Figure 5: Aerospace exports by State 2011

space Industrial Park and incentives to settle such as the acquisition of machines and technologies.

- **Technological R&D:** funding for research and development for the aerospace industry.
- **Support to local companies:** subsidies up to 70 percent of the costs for certification to SMEs to become suppliers of multinational companies.
- **Education focused on competencies:** training center for aerospace companies from technical to post-graduate level in the National Aeronautics University.

Cluster's Domestic Competition

The most relevant clusters (Sonora, Chihuahua, Nuevo Leon and Baja California) are closer to the United States than Querétaro, forcing the latter to diversify its export destinations to Canada and Europe. The clusters compete in three areas. In value chain, Querétaro focuses more on complex machining and maintenance, repair and operations (MRO) but competes with Nuevo Leon on advanced manufacturing and MRO.¹⁰ In training, while Querétaro funded the first aeronautic university where two-thirds of Bombardier labor force studied, Nuevo Leon offers customized training to firms.¹¹ In manufacturing inputs, Bombardier in Querétaro employs composites to produce 85 percent of its manufactur-

ing parts while Nuevo Leon mainly uses metal components.

Cluster's Competitiveness Analysis

Limited linkages with domestic suppliers in value chain. Global patterns suggest that Original Equipment Manufacturers (OEMs) are moving to vertically build their global supply chains.¹² But in Querétaro over 50 percent of the main aerospace firms have brought along their own foreign suppliers and less than 40 percent of these plan to develop local suppliers.¹³ The reason for this is that it is easier for foreign firms to relocate already certified companies to Querétaro rather than having to train and certify local suppliers which are mainly spin-offs of auto and metal firms.

Limited Push for R&D: Lack of university curriculum on design. OEMs are increasingly focusing on fuel-efficient products which has led them to purchase composite products that are lighter and less polluting.¹⁴ In Querétaro, the development of composites is gaining popularity through the establishment of a lab that focuses on testing the level of duration of composite material. However, Bombardier, which manufactures 85 percent of composite materials in the state, recently discontinued a large part of this activity without having transferred its technology. Also, UNAQ lacks a program on the design and development of composite materials.¹⁵

Airport infrastructure does not meet growing needs. OEMs are outsourcing manufacturing in proximity to the United States to lower costs in lean times.¹⁶ But distance poses a cost disadvantage to Querétaro. While it costs USD\$150 in tolls to ship a nine-axle truck from Querétaro to Reynosa–US customs (917 km and 9 hours), it only costs USD\$80 in toll from Chihuahua to Ciudad Juárez–US customs (351 km and 3.5 hours).¹⁷ On top of this, the state airport has limited capacity. Moreover, only 2.44 percent of the exports exit through its airport while 44 percent leave via nearby airports in Toluca and D.F.¹⁸

Strategic Vision, Challenges, and Recommendations for the cluster

a. Cluster's Current Value Proposition

Mexico has structured a value proposal mostly centered on manufacturing activities at comparably cheaper production costs. The manufacturing of aerospace components represents the largest activities performed by aerospace companies in the country with 76.56 percent. The production costs of the country are 21 percent lower than in the United States achieved through a combination of cheap labor force and significant government benefits such as

Querétaro follows the national

trend by offering its manufacturing capabilities combined with relatively cheaper production costs. However, unlike other Mexican states it offers three important advantages. A safe and developed industrial environment (especially through the automotive cluster) connected with the capital of Mexico. Second, a skilled labor force trained locally through the first aerospace university as well as overseas. Third, a higher involvement of the state government allowing Querétaro to offer distinct opportunities for international companies.

Even though the labor force of the state is in better position than in other states, it is still unable to help the cluster move up the value chain. The reasons are multiple and represent the typical chicken and egg problem. First, there is very little demand for design or engineering jobs, since most of the R&D activities are done in the HQ of the anchor companies. Because there is little demand for labor, the university fails to prepare students for more R&D, design or engineering type of jobs. And because there are no jobs and no labor for engineering jobs, there are very few linkages with local suppliers.

b. Recommendations at the National Level

Promote the government purchase of locally-produced aircrafts. Given the industry is a low-demand, high

mix business, the government could leverage its purchasing power to spur local demand by guaranteeing the purchase of domestically produced jets and helicopters for its defense fleet. So far the Mexican government purchases Brazilian and Russian aircrafts. Had the government ensured the purchase of the Learjet 85 from Bombardier, the firm might not have discontinued its production.

c. Recommendations at the State Level

Forge an alliance with other aerospace clusters within Mexico. While most countries have one aerospace cluster (Brazil, France, Canada) or between two and three in the case of relevant players (the United States), Mexico has over five agglomerations nationally identified as clusters. Not only that, these clusters compete with each other for the attraction of foreign companies instead of collaborating among themselves. For instance, the product capabilities of Nuevo Leon and Querétaro complement each other in the value chain. Yet little cooperation exists among them despite being connected through the same corridor and shipping exports via the same customs.

Launch a brand strategy to market the state as a main talent hub for innovation. Querétaro has a large potential to attract talent given its close location to Mexico City and education opportunities. It also outcompetes its rival

clusters in the US border in security issues. However, the government does not have a marketing strategy to attract talent from competing rivals nor from Mexico City.

Improve contract enforcement in Querétaro. Lack of contract enforcement affects negatively the business environment of the state, especially in an industry characterized for its low demand nature. The lack of enforcement means that if one contract falls through, it is hard for a company to compensate by jumping to another offer quickly. The government can reduce this level of uncertainty by reducing procedures, cost and time to enforce contracts.

Expand airport capacity, destinations and create a performance-based tax credit to attract cargo companies to the airport. The state airport has not only limited cargo providers but the existing ones do not normally travel to the main destinations of the state exports. To attract these companies, the state first must expand its airport capacity. Then it should create a performance-based tax credit to lure cargo to export aerospace products that they can also purchase locally to lower their operations.

d. Recommendations at the Cluster Level

Include courses on design and development of composite materials in UNAQ's curriculum. The university

program so far focuses entirely on manufacturing despite a growing interest for composite development both internationally and domestically. The university can tap the expertise of Bombardier engineers to help craft the courses and attract experts from the other clusters through the talent campaign.

Condition FDI subsidies of state agencies on the development of local suppliers. So far OEMs receive heavy subsidies without leaving in place any technology transfer or developing local capacity to support their operations. Therefore, helping the development of local suppliers in exchange of the subsidies can help the cluster improve their competitiveness in case OEMs leave the country in the future.

Cluster's Recommended Value Proposition

The current value proposition of the aerospace cluster in Querétaro is anchored around the manufacturing of components (mainly engine components) at lower production costs. Unless important policies are introduced, the aerospace cluster in Querétaro risks emulating the maquiladora model of the country in which the main export is a service (lower costs) instead of a product (a higher value added).

We recommend achieving a realistic intermediate goal before embarking in the long term goal of producing higher value added products. This intermediate

value proposal should aim at manufacturing not just engines but rather interlinked structures in coordination with others states that would facilitate specialization and advancement within the value-chain. In the long run Querétaro should exploit its advantages of being home to excellent education institutions, its location and safety standards to become an innovation hub in the Mexican aerospace industry. By becoming a hub Querétaro has the unique opportunity of leading the transformation of the national aerospace industry away from the maquiladora model and towards an industry that promotes locally seeded R&D and suppliers.²⁰

Endnotes

- 1 Porter, M. (1998). *On Competition*. Harvard Business School Press.
- 2 Porter, M. (2008). *On Competition*. Updated and Expanded Ed. Harvard Business School Press.
- 3 Author's own estimations using WDI indicators.
- 4 Standard & Poor's (2012) Standard & Poor's asigna su calificación en escala global de BBB- y confirma la de escala nacional de mxAA+ del municipio de Querétaro, Mexico. Standard & Poor's.
- 5 IMCO (2014) *Indice de Competitividad Estatal 2014*. IMCO.
- 6 Garcia-Sanchez, J., Lyra, J., Olarte, L., Quintana, R., and Rangel, P. (2015). *Aerospace Cluster in Queretaro, Mexico*. Final Project written for *Microeconomics for Competitiveness*. Harvard Business School: Boston, MA. Retrieved from [http://www.isc.hbs.edu/resources/courses/moc-course-at-har-](http://www.isc.hbs.edu/resources/courses/moc-course-at-har)

- vard/Documents/pdf/student-projects/
Queretaro_Aerospace_Cluster_2015.pdf
- 7 Secretaria de Desarrollo Sustentable (2010). La industria aeroespacial en el estado de Querétaro. Gobierno del Estado de Queretaro: Queretaro, Mexico.
 - 8 Ibid
 - 9 Salinas, J (2014). Labor Relations and the Development of the Aerospace Industry in Mexico. University of California, Los Angeles.
 - 10 EY Global Markets. (2014). Megatrends shaping the Mexican aerospace and defense sector. EY Knowledge.
 - 11 Ibid
 - 12 Ibid
 - 13 Salinas, J (2014b). Mexico as an Aerospace Competitor? Lessons from the Aerospace Cluster in Queretaro. Universidad Autonoma de Querétaro: Queretaro, Mexico.
 - 14 EY Global Markets. (2014). Megatrends shaping the Mexican aerospace and defense sector. EY Knowledge.
 - 15 Ibid
 - 16 Ibid
 - 17 Secretaria de Transporte y Telecomunicaciones (2015). Rutas punto a punto: Traza tu ruta. Mappir: Mexico, DF. Retrieve from http://app.sct.gob.mx/sibuac_internet/ControllerUI?action=cmdEscapeRuta
 - 18 Garcia-Sanchez, J., Lyra, J., Olarte, L., Quintana, R., and Rangel, P. (2015). Aerospace Cluster in Queretaro, Mexico. Final Project written for Microeconomics for Competitiveness. Harvard Business School: Boston, MA. Retrieved from http://www.isc.hbs.edu/resources/courses/moc-course-at-harvard/Documents/pdf/student-projects/Queretaro_Aerospace_Cluster_2015.pdf
 - 19 KPMG (2012). Competitive Alternatives Report. KPMG.
 - 20 Additional material consulted to elaborate the article include: AMPIP (2010). An overview of the Mexican industrial parks. Mexican Association of Private Industrial Parks. Center of Latin American Issues (2012). The aerospace Industry in Mexico: Baja California, Chihuahua, Sonora & Querétaro. The George Washington, University. Gobenceaux, C (2013). Best practices in the aerospace industry: an example to follow. Grupo INLAC. Gobenceaux, C (2013). The aeronautic industry in Mexico: development and potential. Mexican Federation of the Aerospace Industry (FEMIA). Porter, M (2003). The Economic Performance of Regions. *Regional Studies*, 37.6&7, 549-578. PROMEXICO (2012) Mapa de Ruta Tecnológico. Secretaria de Economía. Mexican Ministry of Economy (2012). Industria Aeronautica en Mexico. Direccion General de Industrias Pesadas y de Alta Tecnologia. PROMEXICO (2012). The Aerospace Sector. Secretaria de Economía. PROMEXICO (2014). National Flight Plan. The Mexican Aerospace Industry: a Route Map. Secretaria de Economía. Salinas, J (2013). La estrategia de implantacion del sector aeronautico en el estado de Querétaro, Mexico. Universidad Autonoma de Queretaro: Queretaro, Mexico. Schwab, K (2014) The Global Competitiveness Report 2014-2015. The World Economic Forum. The World Bank (2014) Doing Business in Mexico 2014. The World Bank. Weiss, E & Rosenblatt, D (2010) Regional Economic Growth in Mexico: Recent Evolution and the Role of Governance. The World Bank, Latin American and Caribbean Region, Agricultural and Rural Development Unit.

Innovation, in the DNA of Medellin

By Ruta N Medellin



Ruta N is a corporation created to facilitate the economic development of the city of Medellin, Colombia, towards businesses intensive in science, technology, and innovation in an inclusive and sustainable way. Its main objective is to position Medellin as the most innovative city in Latin America by 2021.

In the last decade, Medellín made a decision that will mark its future: it changed its economic vocation. The city, known in the twentieth century as the “Industrial Capital of Colombia,” decided to move from a traditional industrial operation to a knowledge economy. Corporation Ruta N is articulating these efforts and boosting a true ecosystem of world-class innovation.

Medellin’s challenge was clear: move from an industrial to a knowledge city in which the value of labor is overpassed by that of ideas.

After a long investigation, which included different players in business and academic sectors and in cities like Boston, Barcelona, Singapore, and Madrid for references, the mayor of Medellín, with the support of Public Enterprises of the city (EPM by its acronym in Spanish) and the telecommunications company UNE, created the Corporation Ruta N, center for innovation and business of Medellín, which aims to promote business knowledge based on what is known as CT + i (science, technology, and innovation) to stimulate the economy and help improve the quality of life of citizens.

Today, six years later, Medellín is a benchmark for other cities looking to replicate their model and build true innovation ecosystems.

Innovation for All

One of the keys to the success of Ruta N lies in its ability to permeate society and bring innovation to every corner of the city. Until a few years ago, the Corporation was in a period of consolidation in which it focused on solving the needs of the academic and business sectors, growing industries that spoke little about innovation. Recently, this entity began to speak to the public and to show them that they can be innovative in everyday life.

That is why, in addition to offering programs to train businessmen and entrepreneurs, funding for research projects, support for the generation of talent, technology watch, intellectual property, and market access, among other things, Ruta N has been interested in generating a culture of innovation in Medellín, a cornerstone in the sophistication of knowledge ecosystems.

Ruta N, Urban, Social and Economic Transformation

On a land that seven years ago was no more than rubble, in front of the University of Antioquia, the main center of thought in the region, now stands Complex Ruta N. It is an imposing architectural symbol that through the strategy of business landing has facilitated the establishment of 115 companies focused on health, energy, and CT+i, the three strategic

clusters that the city prioritized in the Science, Technology and Innovation Plan. These companies, from nineteen countries, have generated 1,786 skilled jobs to date. This complex was the beginning of what is now called the Medellinnovation District, an area of 172 hectares that breathes innovation and, hopefully, will generate 28,000 jobs by 2021.

But while the city is thinking in prospective, the impact of Ruta N is more than noticeable today. Only in 2015, for example, the corporation accompanied more than 700 organizations, strengthening them on innovation skills. Ruta N also played a key role in the development of 123 new innovative businesses and consolidated a network of wmart capital with 16 entities, including angel investors and investment funds, with assets of over COL\$530 billion (about US\$190 million), projecting Medellin as the hub of venture capital in Latin America.

The Innovative DNA

These figures were possible not only because of Ruta N but thanks to the inherent innovation in the people of the city. You could say that it is genetic. This explains why more than 3,800 citizens and 2,000 organizations in the region signed the Great Pact for Innovation—Medellinnovation—which seeks to ensure that by 2018 investment in areas related to science,

technology and innovation activities reach 2 percent of GDP of the region.

In a city that carries entrepreneurship and innovation in the blood, Ruta N has become a benchmark, the place where that DNA is powered and where ideas move from paper to the market.

The citizens of Medellin look at what they have done and project for what comes. The goal is not easy and can even sound ambitious: that by 2021, innovation will be the main engine of economic development and welfare of the city. Under the leadership of Ruta N, and the partnership of university-enterprise-state, surely we will achieve it.

New Insights about Wage Inequality in Colombia

Andres Gomez-Lievano, Eduardo Lora, and Juan Tellez



Andres Gomez

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Abstract

This paper presents a descriptive analysis of wage inequality in Colombia by cities and industries and attempts to evaluate whether the inequality of cities relates to the inequality of industries. Using the 2014 Colombian Social Security data, we calculate the Gini coefficients for cities and industries and draw comparisons between their distributions. Our results show that while cities are unequal in similar ways, industries differ widely in how unequal they can be. Crucially, industrial composition plays a significant role determining city inequality.

1. Introduction

Inequality has undoubtedly become one of the crucial challenges of the contemporary era. In general, the main purpose of studying the inequality phenomenon is to provide a picture of the distribution of income (or welfare) disparities among several individuals, in or-

der to take the required policy measures to correct them if it is necessary. The Organization of Economic Co-operation and Development (OECD) showed that the poorest 10 percent of people earn 9.6 times less than the income of the richest 10 percent in the OECD countries.¹ The Credit Suisse Research Institute and The Oxford Committee for Famine Relief (OXFAM) estimated that 48 percent of global wealth (net worth in financial and real assets) is held by the richest 1 percent.² At current trends, it is expected that in 2020 this proportion will increase to 54 percent.

In Latin America, income inequality has been decreasing since the year 2000 but levels remain high compared to other regions of the world.³ Colombia experienced a period of growth from 2002 until 2012, and the 2013 Gini value of 53.5 was their lowest since 1995.⁴ But even with this improvement, Colombia still occupies the 127th place out of 138 countries in terms of income inequality, which shows an enduring need for policies that address this issue. With the goal of generating significant advances toward a more equal society, the government has already implemented two programs: the 2014 to 2018 National Development Plan (NDP), “Todos por un nuevo país;” and the

2010 to 2014 NDP, “Prosperidad para todos.”

Nevertheless, government intervention has not always been welcomed. It has long been argued that efforts to achieve income equality may sacrifice economic growth. This view has changed in the last decade, where institutions such as the International Monetary Fund (IMF) and the World Economic Forum (WEF) have stressed the key role of equality in order to achieve growth. For example, studies have found evidence that a more equal society fosters long term growth, and this factor is at least as important as free trade, political institutions and macroeconomic stability.⁵ Consequently, the reduction of inequality has become an important target for policymakers, to the extent that they have started to adopt the term *inclusive growth*.

Essentially, income is divided into two sources: capital income and labor income. Each contributes differently to inequality.⁶ Income from capital is difficult to study in detail because tax agencies do not typically share these data for research purposes. However, labor and capital income can be studied more generally using household surveys.⁷ More recently, social security datasets have become increasingly available to researchers, providing the opportunity to ana-

lyze the full population of formal workers. Our study is the first to describe wage inequality using the 2014 Colombian Social Security data that contains all formal workers in the country. While this dataset has a number of limitations, particularly because in Colombia only 30 percent of the working age population contributes to social security, it has the advantage that the share of labor income due to formal employment is approximately 43 percent (as defined by the total wages of workers with social security over estimated total wages in Colombia). As we show here, access to this dataset is an opportunity to investigate in full depth the wages of all formal workers across locations and economic activities.

The literature at large has studied wage inequality in the context of nations, considering effects due to differences in education and years of experience. But few studies have used the fact that labor can be differentiated in a variety of ways, and is expressed in a variety of economic activities. In particular, industries differ in the types of skills firms typically hire, therefore we expect different industries to display different inequality patterns. What effect does industrial composition have on the wage inequality of places? Our contribution lies in analyzing wage inequality from this angle in

Colombia through the formal sector, describing the role that industries have in determining the inequality of different cities.

The paper is organized as follows. The next section presents a literature review on inequality. Section 3 describes our database, explaining how the wage variable was calculated. Section 4 is divided into two subsections; the first shows the results of our analysis of wage inequality by cities and the second subsection by industries. Section 5 presents the model and the estimation results. The final section draws conclusions and suggests further research steps.

2. Literature Review

Colombia has mainly been focused on understanding inequality in different regions.^{8,9} We go beyond regions and also analyze inequality by economic activity. In the United States, this type of analysis has been more popular, thanks to a more institutionalized interest in inequality and public policy.^{10,11} In Latin America, some articles investigate income inequality by industries in Argentina and Mexico.^{12,13} While those mentioned papers consider all sectors in their analysis, they both focus on manufacturing.

Aside from a geographical study of the wage inequality in Colombia, others perspectives have mostly been centered in explaining the factors that

contribute to it, such as education, experience and gender. For example, some efforts have aimed to identify the determinants of income inequality focusing on regions and putting emphasis on the level of education.¹⁴ Additional studies have analyzed income distribution and the labor market in Colombia, focusing on a gender perspective, studying wages as well as capital gains.¹⁵

This paper is the first attempt to draw a common picture, comparing and establishing a relationship between the income inequality distribution of cities and of industries in Colombia. This could prove to be helpful and insightful for future policy-making.

3. Data

We use the Social Security database of Colombia as the source of our analysis on wages. This database consists of all the monthly contributions to the social security system that firms pay to their workers. Hence, our population of analysis is the set of formal workers who contributed to social security in 2014.

Our database also reports the municipality in which each worker lives and the industry in which he or she participates. Industries are classified according to the International Standard for Industrial Classification (ISIC Revision 3.0 classification, for which there are a total of 445 unique

four-digit industry codes. We use one methodology to delineate nineteen metropolitan areas that consist of a collection of municipalities that are strongly connected in terms of commuting patterns.¹⁶ This definition is an attempt to delineate labor markets. We consider forty-three additional municipalities as labor markets that have populations above 50,000 and are 75 percent urban. Hence, our geographical units of analysis are sixty-two cities.

In the year 2014, there were 10,535,139 formal workers contributing to social security. Almost half of them show up with more than one job. Of all workers in our database, 92 percent live in cities. All our statistics are about these workers living in our sixty-two cities. We aggregate this data in a way such that, for each worker-job, we calculate the net wage earned in each year, we divide by the total days of work that were reported in the social security system, and multiply by thirty to get the average monthly wage of the worker. The monthly mean wage was COP\$1,063,638 in nominal value. Interestingly, median wage was COP\$616,000, corresponding to the Legal Monthly Minimum Wage (LMMW). Hence, wages in the formal sector are strongly clustered around the minimum wage and, in fact, only 40 percent of formal workers have a wage above it. The top 1

percent, 0.1 percent and 0.01 percent wages are, respectively, above COP\$7,200,000, COP\$19,350,000, COP\$40,000,000. The differences in wages are summarized in a total Gini of 36.6.

4. Descriptive Analysis

Figure 1 shows the boxplots of the Gini coefficients for all cities and industries. Both distributions differ in several aspects. First, while both cities and industries have Gini coefficients that are approximately symmetrical, they are around 0.28 for cities and around 0.33 for industries, and this difference is statistically significant ($t = -4.37$). Second, the standard deviation of the Gini for industries is twice as for cities. And third, cities have a tendency to have some outliers, whereas industries have Gini more or less uniformly distributed (approximately between 0.05 and 0.65). This indicates that there is an important proportion of significantly *smaller* Gini values for some cities.

Given that industries have much higher Gini variability than cities, this leads us to two different scenarios: industries can be much more unequal than cities but also much more equal. It is interesting to note that the first quartile is almost the same for both distributions, and then the second and third quartiles are higher for industries. The behavior is different, however, since there are no outliers

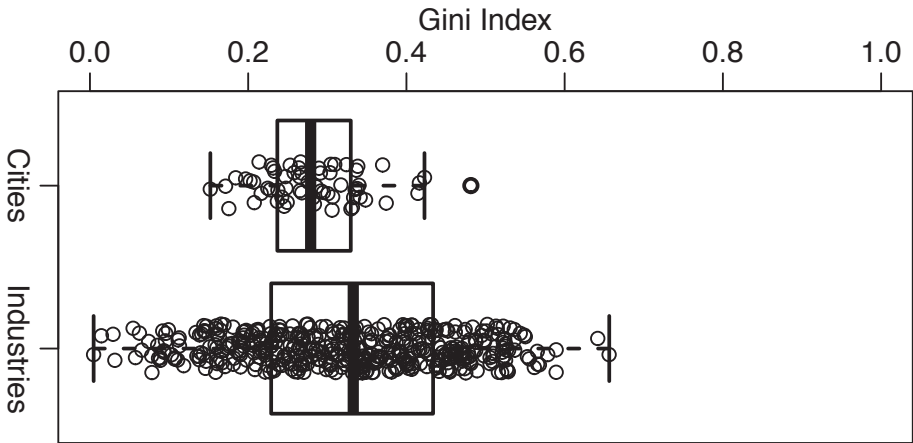


Figure 1: Boxplot of Gini (scaled between 0 and 1) across cities and industries in Colombia in 2014 (only formal employment). In the figure, the points have been jittered in the horizontal direction to ease visualization.

for industries but there are some for cities. By taking the industries boxplot as a benchmark, the most relevant fact that we can retain from this figure is that cities and industries seem to have different inequality patterns. It is safe to assume cities do not appear to be disproportionately concentrating industries that have similar inequalities (either on the high or low end of Gini coefficients). Instead, cities seem to be mixing the inequality of industries.

4.1 Inequality across Cities

Most economic activity happens in cities, almost by definition. This fact, presumably, makes cities very unequal places. Rich get richer, differences generate segregation, and the pattern repeats itself. The profile of inequality in Colombian cities

is not surprising. Bigger cities are more unequal, and Gini indices cluster around the national value (see Figure 1).

Table 1 and Table 2 show Gini coefficients for the five least and most unequal cities in Colombia in 2014. The city in Colombia that has the most equal income distribution (in the formal sector) is Apartadó, and the most unequal distribution is Montelíbano.

As we mentioned, we want to go beyond cities as the unit of analysis, and also study industries. Since people do not just work in cities, but also in specific industries, understanding the relationship between the inequality in cities and industries can provide insights about how to propose economic growth that can be more inclusive.

4.2 Inequality across Industries

Table 3 shows the five least unequal industries in Colombia for the year 2014. The first four, which are the

City	Formal employees	Working age population	Gini
Apartadó	41,120	112,298	15.2
Cartago	24,400	101,326	17.1
Chigorodó	4,645	48,612	17.5
Girardot Met	24,106	109,197	18.4
El Carmen del Bolívar	2,079	48,507	19.6

Table 1: Least unequal cities in Colombia in 2014

City	Formal employees	Working age population	Gini
Cartagena Met	308,874	877,439	37.4
Barrancamermeja	69,915	143,384	41.4
Arauca	20,050	54,084	41.6
Bogotá Met	3,440,811	7,002,520	42.2
Montelíbano	8,144	53,471	48.1

Table 2: Most unequal cities in Colombia in 2014

most equal industries, belong to the *manufacturing* sector. The remaining industry in this top five belongs to the *wholesale and retail trade* sector. Notice that these aforementioned industries have very low Gini coefficients (less than 6).

Table 4 shows the five most un-

equal industries in Colombia for the year 2014. This time the situation is different from the least unequal industries, if we group them by sectors. Two of them belong to *transport, storage and communications*, two others to *mining and quarrying* and one to *financial intermediation*. Notice that

Code	Industry	Industry Size	Industry Gini	Sector	Sector Gini
1924	Manufacture of plastic footwear with any type of sole, except sports footwear	156	0.4	Manufacturing	41.62
2927	Manufacture of weapons and ammunition	57	1.4	Manufacturing	41.62
3692	Manufacture of musical instruments	1210	2.9	Manufacturing	41.62
1925	Manufacture of sports footwear, including molded	133	3.1	Manufacturing	41.62
5112	Wholesale on a fee or contract basis of parchment coffee	1555	5.4	Wholesale and retail trade	34.67

Table 3: Least unequal industries in Colombia in 2014

Code	Industry	Industry Size	Industry Gini	Sector	Sector Gini
6120	Inland water transport	2958	57.8	Transport, storage and communications	34.32
1331	Mining of nickel ores	603	58.9	Mining and quarrying	55.16
1030	Extraction and agglomeration of peat	274	58.9	Mining and quarrying	55.16
6714	Other activities related to the stock market	2164	64.1	Financial intermediation	49
6050	Transport via pipelines	2247	65.6	Transport, storage and communications	34.32

Table 4: Most unequal industries in Colombia in 2014

no industry of these top five belongs to the manufacturing sector.

5. Do Economic Activities Affect Urban Inequality?

The observation that the variability of industries' Gini is much wider than the variability of cities' Gini suggests that cities may have an averaging effect, reducing the inequalities that characterize each industry. We test this by constructing, for each city, an average Gini from the Gini of industries that are present, weighted by the number of workers that are employed in each industry. Hence, we have

$$X_c = \sum_i Gini_i * \frac{E_{c,i}}{E_c},$$

where $E_{c,i}$ is the number of workers in city c employed in industry i , and E_c is the total size of formal employment in city c .

Figure 2 plots the real Gini of cities against our prediction from an averaging of industries' Gini, in the year 2014. The correlation is

$r = 0.64$, meaning that $R^2 = 0.41$. It is important to emphasize that the industries' Gini are national. This means that 40 percent of the variability in Gini across cities can be explained by the inequality within industries that are present in a place. It is worth noting that the variation of city wage inequalities that is not accounted for by the inequality of industries can come from a range of other effects, including the inequalities *between* industries.

The converse analysis can be done for industries. We calculate in this way an average of city Gini for each industry, according to how many employees it has across cities, such that

$$Y_i = \sum_c Gini_c * \frac{E_{c,i}}{E_i},$$

where E_i is the total size of formal employment in industry i . This weighted average Gini Y_i only explains 4 percent of the variation of real Gini industries.

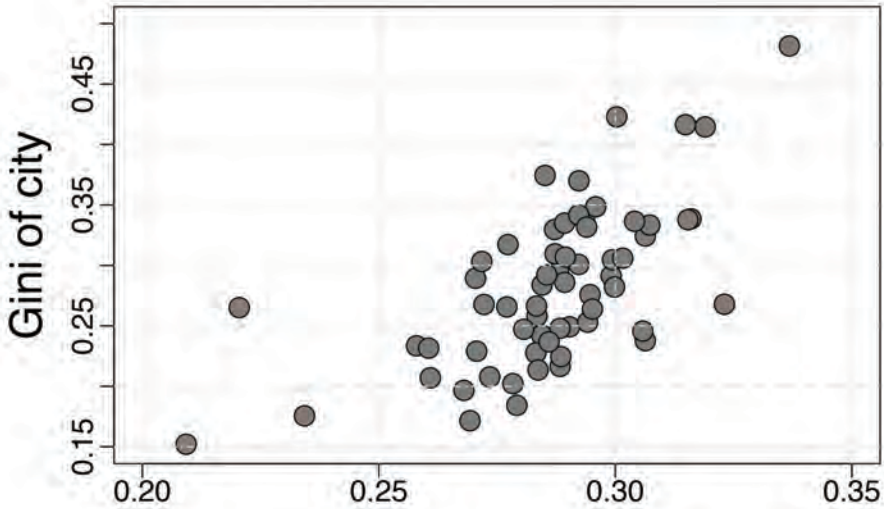


Figure 2: Plot of the Gini of cities (scaled between 0 and 1) against weighted average of national industries' Gini.

6. Conclusion

This paper aimed to provide two contributions to the inequality literature in Colombia, with the motivation of bringing out insightful elements to generate accurate economic and social policies. First, we characterized the present state of inequality in the formal economy in Colombia, using Gini indices for cities and industries. For this we used the 2014 Social Security data. Second, we were able to elucidate information about how industry inequality affects city inequality.

Industries are very heterogeneous in terms of income inequality, meaning that industries, despite sharing within Colombia similar institutions, laws, and prices, differ widely in the way they remunerate their workers. Cities, in contrast,

are much more homogenous, suggesting that industries with different income inequalities tend to be present together. This means that, geographically speaking, there is a tendency of places to *average out industry inequality*. Activities related to *manufacturing* tend to have the lowest inequality, as opposed to *finance* and *natural resource extraction*, which show the highest inequality indices. These results, which point to specific industries, are a stepping stone towards a more complete characterization of inequality for policymakers, because it goes beyond analysis at the level of a whole country, and recognizes the role of specific economic activities in generating income inequality in different places.

Thus, we found evidence that industrial composition matters to explain inequality in a city. This perspective should therefore be included in further research and policymaking analysis.

Further work should include a measure of inequality between industries. One can start asking whether less unequal industries can be fostered without sacrificing productivity. This opens the door to further novel questions. For example, we know that industries differ in the products they produce and the skills they require and cities differ in their size and economic diversity. Consequently, what is the effect of this interaction for income inequality? What is the relationship of the within and between inequality of industries with other traditional factors such as education and gender?

Future work will also consider informal workers, which is important since inequality is a feature of most economic activities, not just the formal. This dimension needs more analysis since part of the agenda for a more inclusive growth is to understand the determinants of informality.

Studies that can probe which mechanisms make industries more, or less, unequal can produce several insights for labor policies that address specific problems of income inequality. Moreover, research that analyzes inequality within a city and an industry will provide understanding about an economic activity that is specific to a place. We believe that this point of view, emphasizing the differences between economic activities and places, once developed, will be of great use to practitioners.

Endnotes

- 1 OECD (2015). *In It Together, Why Less Inequality Benefits All*. OECD Publishing, Paris. URL: <http://dx.doi.org/10.1787/9789264235120-en>.
- 2 Credit Suisse Research Institute (2014). *Global Wealth Databook 2014*. Credit Suisse, Zurich.
- 3 López-Calva, L. F. and N. Lustig (2010). *Declining Inequality in Latin America: A decade of progress?* Brookings Institution Press. SEDLAC. Socio-Economic Database for Latin America and the Caribbean (CEDLAS and the World Bank).
- 4 World Development Indicators. The World Bank.
- 5 Berg, A. and J. D. Ostry (2011). *Inequality and Unsustainable Growth: Two Sides on the Same Coin?* IMF Staff discussion Note 11/08 (Washington: International Monetary Fund).
- 6 Piketty, T. (2014). *Capital in the 21st century*. Cambridge: Harvard University.
- 7 Pineda, J. and L. Acosta (2009). *Distribución del ingreso, género y mercado de trabajo en Colombia*. Mercado Laboral Colombiano. Cuatro Estudios Comparativos. Organización Internacional del Trabajo, OIT, Bogotá, pp. 13-57.
- 8 Bonilla, L. (2008). *Diferencias regionales en la distribución del ingreso en Colombia*. Documentos de trabajo Sobre Economía Regional, No 108. Banco de la República, Centro de Estudios Económicos Regionales (CEER), Cartagena.
- 9 Garza, N. (2008). *La distribución del ingreso y las economías del Caribe colombiano*. *Economía, gestión y desarrollo* 6, 245–271
- 10 Galbraith, J. and J. Hale (2014). *The Evolution of Economic Inequality in the United States, 1969-2012: Evidence from Data of Inter-industrial Earnings and Inter-regional Incomes*. *World Economic Review* 3, 1–19.
- 11 Moore, W. (2009). *Income Inequality and Industrial Composition*. *Public Administration Quarterly* 33(4), 552–581.

- 12 Esquivel, G. and, C. G. (2011). The dynamics of income inequality in Mexico since Nafta. *Economía* 12(1), 155–188.
- 13 Marshall, A. (2010). Desigualdad Salarial en la Industria Argentina: Discusión de las Tendencias en 2003-2008. XLV Reunión anual de la Asociación Argentina de Economía Política, Buenos Aires.
- 14 Bonilla, L. (2009). Causas de las diferencias regionales en la distribución del ingreso en Colombia, un ejercicio de micro-descomposición. Documentos de trabajo Sobre Economía Regional, No III. Banco de la República, Centro de Estudios Económicos Regionales (CEER), Cartagena.
- 15 Pineda, J. and L. Acosta (2009). *Ibíd.*
- 16 Duranton, G. (2013). Delineating metropolitan areas: Measuring spatial labor market networks through com-muting patters. Mimeographed, Wharton School, University of Pennsylvania.

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The Case of Oil Income Management in Venezuela: Industry Investment versus Social Expenditure

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Abstract

This article explores a tradeoff between industry investment and social expenditure in oil rent allocation in Venezuela during the oil price boom from 2006 to 2014. We propose an approach based on the clash between capital-intensive industry needs and capital-deficient country needs in an institutional framework that restrains private sector involvement and enhances NOC participation. Data suggest that policy makers favored discretionary social expenditure, running into investment deficit and industry decay. Since capital deficiencies persisted, developmental goals and further oil specialization were not accomplished.

Introduction

This piece aims to briefly examine the decision-making process of oil rent management in Venezuela during the last decade. It describes the clash between the national oil industry investment needs and the country's capital deficiencies, in the presence of abundant resources and under an institutional framework that limits private sector involvement.

First, we expose our approach to oil income management in Venezuela's institutional arrangement. Second, we describe the magnitude and composition of recent oil investments, comparing it with the original business plan goals. Third, we identify rent redistribution schemes through social programs, both budget and off-budget. Finally, we contrast capital and social expenditures as a tradeoff between these rent allocation strategies.

Oil rent allocation and institutional framework: How to manage rents?

The relationship between natural resources and long-term economic outcomes is widely explored in the literature.² Oil is an interesting case due to high rents and volatile prices. Since the 1960s, petro-states have increased their share of oil business rents in most regions. This extended the State property of resources and a rent distribution model around the globe. Moreover, abundant resources

in the hands of the State involve the disposal of public rents, which contours political and economic decisions.

The capture of rents from natural resources is a source of conflict among the State and private agents. State property of oil shapes the economic decision-making process of rent allocation, which faces distributive and rent-seeking pressures; constituting a fundamental challenge for developing countries with weak institutions. The state faces immediate social demands as well as government opportunities to obtain political benefits from patronage, which elevates the opportunity cost of decision-making. Besides, the investment requirements of a capital-intensive oil industry compete with the funding needs of a capital-deficient country.

Venezuela exemplifies these dynamics. State-ownership and private exploitation of resources was the original rent management scheme since oil discovery; however the institutional framework mutated over time. Nationalization of the oil industry in 1975 fostered state participation on income generation process through the newly born National Oil Company (NOC), *Petróleos de Venezuela Sociedad Anónima* (PDVSA).

After a short liberalization cycle, the institutional framework was reverted in 2003. The government limited private sector involvement in oil investments, created off-budget mechanisms and

gave the NOC and itself a discretionary mandate on rent distribution. Following these reforms, PDVSA has been responsible for most capital expenditure in the industry. The NOC was also converted into an executioner of central government international and social policies, managing the operation and financing of newly created social programs (such as housing, subsidized food, etc.).

As a consequence of this institutional arrangement, the policy preferences of the Central Government and the high barriers to private sector entry shape the process of resource allocation over two alternatives: industry investment and social expenditure.

New PDVSA, new policies

Recent booming commodities prices improved external inflows to natural resources exporters, mostly since 2004. Higher export revenues implied new external income transfers mainly to these States and, hence, additional pressures to manage rents into the domestic policy arena. Venezuelan case is remarkable in this context: U.S. Energy Information Administration estimated a total of USD\$582 billion in net oil exports revenue from 2005 to 2014, i.e., USD\$2.182 per capita annual average.³

Venezuela accounts for the largest oil reserves in the world (17 percent out of world total), 96 percent of its exports are crude oil and oil prod-

ucts, and stands as a potential top investment receiver in upstream and downstream projects. Nonetheless, declining production, financial deterioration among other operating trends in the industry, combined with the ongoing macroeconomic crisis and political instability have translated into some disappointing outcomes and challenges to attract investment in the aftermath of the price boom.

Venezuela exports oil since 1917 and has developed an institutional framework that progressively increased the state's industry share. Resources were nationalized and PDVSA (the NOC) was created in 1975 and 1976, respectively. The NOC has played a key role on industry outcomes since the oil sector nationalization. Although the government directed energy policy and appropriated rents, PDVSA managed the hydrocarbons business with some independence. The company conducted investment and R&D in the sector, while revenues were transferred to the treasury for government to allocate rents.

During the 1990s, a slump in oil prices prompted a new investment cycle and policy-makers established an incentive scheme for International Oil Companies (IOC) to develop abundant reservoirs. However, low rents and the subsequent drop in income transfers inspired criticism from resources nationalists suggesting that IOCs and PDVSA were appropriating

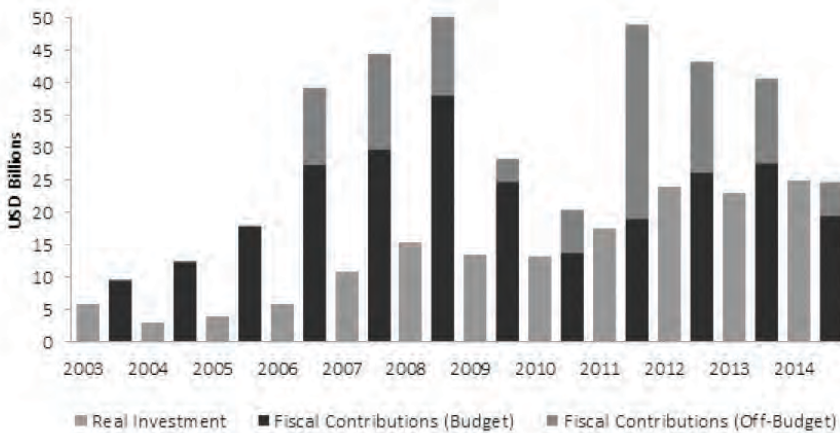
revenues instead of the population. Pressures for rent redistribution spurred major changes of the institutional framework during the first years of the XXI Century.

The National Assembly (Venezuelan Parliament) approved in 2005 key reforms to the legal framework regulating the management of oil revenue. The Endogenous Development Fund (Fonden) was then created as a major tool to finance central government policies. The reforms passed by the Assembly had two objectives: first, to establish a non-disclosed methodology for the Central Bank to assess the “sufficient” level of International Reserves (IIRR). Second, to allow PDVSA to retain foreign currency after IIRR were above the pre-established level. Finally, excess reserves were assigned by the NOC and the central government to

cover PDVSA’s expenses in foreign currency, and as transfers to Fonden.

Additionally, the NOC was reformed under the new revenue management framework implementation. The government replaced the company Directive Board with managers ideologically/politically close to President Hugo Chávez.

Following a national strike in 2003, control of the NOC was assured by firing over 18,000 employees, mostly managers in the financial and human resources departments. Meanwhile, legislation regarding the exploitation of 260 billion barrels of heavy and extra-heavy proved oil reserves in the Orinoco Oil Belt (OOB) was amended. Government share of oil rents was increased with additional royalties, taxes and a new joint venture structure, which extend the NOC’s share in the



Source: PDVSA Financial Statements and CIEA-IESA.

Figure 1. Social expenditure and oil industry investment, 2006–2014

OOB. Also, new fiscal and financial burdens were added to PDVSA, which became also responsible for most of investment in the sector.⁴

Furthermore, a systematic approach was implemented to maximize rents transferred to Fonden: every year the oil price was underestimated by the Finance Ministry, diminishing constitutionally enforced transfers to states and municipalities. Fonden is managed by the President without pre-approval or budgetary control from the Legislative branch, thus excess revenues that resulted from the underestimation of prices generated a large concentration of resources for discretionary management.

These reforms shaped the allocation of rents to alternative purposes, including investments pertaining the oil industry. The government allocated resources prioritizing social expenditure over oil investment, as illustrated in Figure 1. This allocation constrained the oil industry expansion and privileged the implementation of social policies without check and balances.

Oil industry investment scope and allocation: The oil sowing failure

In a context of growing demand and high prices, capital intensive oil industry needs high investments to achieve long term growth. Low operational costs of Venezuelan fields make the case for attractive conditions for investors to fulfill capital needs. Policymak-

ers were aware of this situation. Two investment plans named *Oil Sowing Plan* (OSP) shaped the business investment profile since 2006. Both plans added up to USD\$334 billion in oil industry investment projects and other unrelated businesses.⁵ OOB potential in heavy and extra-heavy crude production backed both investment schemes. In the OSP, a quarter of total capital expenditures were initially planned to be allocated on this reservoir and new *mixed companies* and associated projects were created, allowing private sector participation. In spite of that, PDVSA assumed more than 70 percent of expenses, setting hard constraints on private contributions.

Beginning in 2006, the first OSP set out ambitious goals for oil and gas (O&G) development until 2012 with over USD\$77 billion in expected investments. The business plan was announced in the midst of favorable global economic context and proposed to double O&G production, local and international refining capacity and hydrocarbon exports. In spite of good prospects, the plan failed to fulfill expected results. In 2012, the industry underperformed, oil output and exports followed a declining trend, ending down 3 MBD (million barrels per day) and 2.6 MBD, respectively. Refining capacity remained virtually unchanged and gas production did not reach half of the targeted level.

In 2012, a second plan more than

Areas	Oil Sowing Plan I (2006-2012)		Oil Sowing Plan II (2013- 2019)	
	Goal	Real 2012	Goal 2019	Real 2014
Crude Oil Production (MBD)	5.8	2.91	6	2.79
Refining Capacity (MBD)	4.1	2.822	4.6	2.82
Exports of Crude Oil and Products (MBD)	4.7	2.568	5.6	2.51
Natural Gas Production (Million Cubic Feet)	11,500	3,200	11,947	2,750
Liquefied Natural Gas Production (MBD)			0.255	0.242

Source: PDVSA Management Reports.

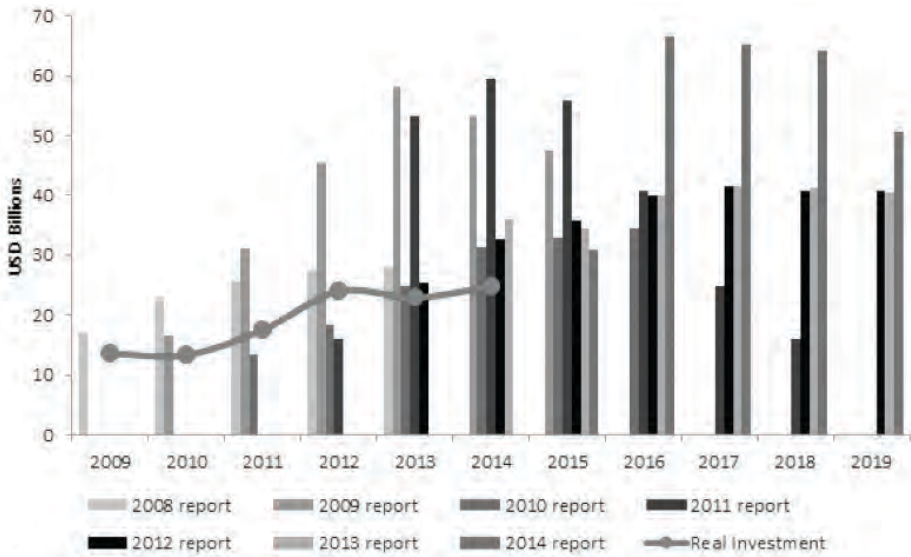
Table 1. *Oil sowing plans* goals and achievements

tripled the first scheme’s projections of expected investment, setting total disbursements near USD\$257 billion; this program established more challenging goals until 2019.⁶ Many investment projects were expanded and some others were created, non-oil business accounted for USD\$15 billion or 5 percent of total planned expenditures of six years, according to PDVSA’s management reports. As of the end of 2014, the plan didn’t not show any advances on its targets. On the contrary, O&G production continued to diminish and refining capacity remained stagnant.

The main reason behind lack of completion in business goals lies on insufficient effective investment and misallocation of resources. Efficiency and managerial issues affecting the

industry since PDVSA’s reform also determined current trends in the oil sector.⁷ Centralized procurement procedures, declining cash flows due to subsidized sales to Latin American and Caribbean nations, loan repayments to China, growing liabilities and increasing payroll have led to efficiency decay. Additionally, the investment schedule has not been accomplished, revealing a gap in resource allocation with respect to targets.

Since 2006, investment in the oil industry has been slower than projected. Despite high revenues, real investment underperformed planned investment. Compared to reported projections from 2009, the real investment from 2010 to 2014 was on average USD\$20.39 billion lower per year.



Source: PDVSA Management Reports and CIEA-IESA.

Figure 2. PDVSA projected (bars) and real (line) investment, 2009-2019

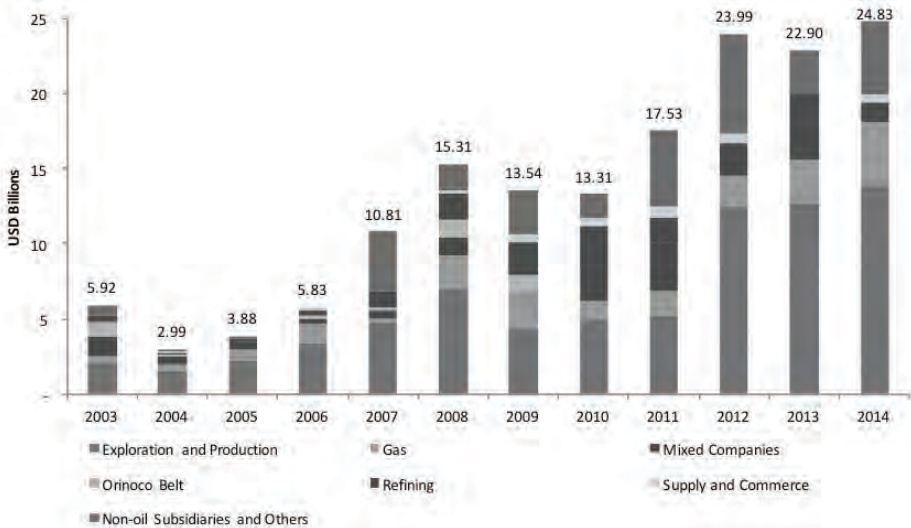
Moreover, taking into account the total investment composition, the quality and destination of disbursements becomes relevant. As investment grew approximately from USD\$6 billion in 2003 to USD\$25 billion in 2014, investment targets within the capital expenditure aggregate changed, pivoting to non-oil destinations. During this period, exploration and production, refining, gas and other oil-related expenses increased sharply, most evidently in new associated gas production and OOB exploration and production, accounting for USD\$160 billion in total investments. Nonetheless, approximately USD\$30 billion were apportioned to recently created non-oil subsidiaries and other expendi-

tures. Accounting for these items, the size and scope of industry investment over the last decade decreased.⁸

In the midst of an historical opportunity, the oil sector failed to accomplish expansion projects. In spite of competitive and attractive investment conditions and an windfall in process, total investment effectively decreased as resources got diverted toward social expenditure. As a consequence, the industry reduced its production, capacity and exports.

Social expenditure and redistributive policies

Venezuelan law states that public expenditure must be pre-approved each year by the National Assembly. Nevertheless, PDVSA managed over USD\$116.8 billion during the decade, without supervision by additional



Source: PDVSA Management Reports and CIEA-IESA.

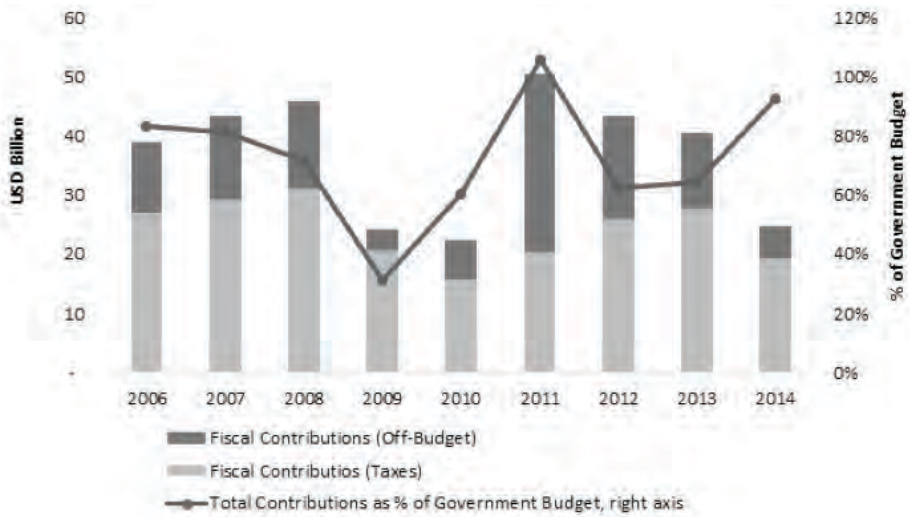
Figure 3. Oil sector investment disbursements composition, 2003-2004

branches of the government during the price boom. Several reforms were implemented to increase the state's share of rents, as a Windfall Oil Price Tax which increased government share as prices were above USD\$80 per barrel. These rents represent contributions to the government made by the NOC to finance policies. Off-budget expenditure by the NOC averaged 25.2 percent of the official budget from 2006 to 2014. Both PDVSA, through subsidiaries, and Fonden financed the Administration's most popular social programs, named *Social Missions* by former president Hugo Chávez. Total contributions to the Executive followed several strategies. This section addresses three: (1) budgetary contributions such as royalties, income tax and further taxes; (2) off-budget contributions

to Fonden managed directly by the Presidency; and (3) the NOC's off-budget expenses to finance social programs.

Figure 4 provides estimates of total contributions using budgetary and off-budget mechanisms during the period from 2006 to 2014. The former totals USD\$217 billion (65 percent). On the other hand, net transfers to Fonden sum up to USD\$59.2 billion (18 percent) and social development programs managed directly by the NOC aggregates to USD\$57.6 billion (17 percent).

Moreover, there are accountability blackouts on off-budget contributions: while PDVSA's financial statements report USD\$116.8 billion, its management reports estimated social expenditure in USD\$221.7 billion.⁹ This difference can be explained by USD\$84 billion over-reported to social development programs, while transfers to Fonden seem overestimated



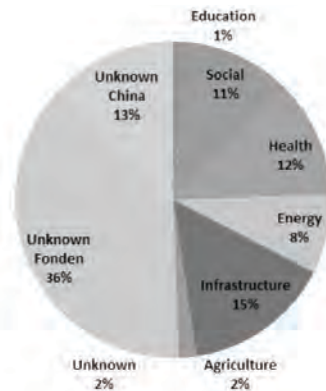
Source: PDVSA Financial Statements, Official Gazette and CIEA-IESA.

Figure 4. PDVSA's contributions to the Republic by USD\$19 billion.

However, the management report provides useful insights. We observe nine categories for social expenditure programs.¹⁰ The distribution of these expenses is illustrated in Figure 5. Two issues arise to assess these programs: the magnitude of expenditure and unavailability of information regarding the success or failure of its objectives.

Social development expenditure features discretionary management and lacks accountability. This is relevant, considering that 51 percent of USD\$221 billion were allocated into funds with unknown destination from 2006 to 2014. Meanwhile, social investment, including education and health programs, accounts for 24 percent of reported social expenditure. On the other hand, PDVSA played an additional role financing interna-

tional alliances. The Executive used the NOC to establish international agreements with China and several Caribbean nations. The former refers to the Joint Chinese-Venezuelan Fund. This fund allowed the country to collect in advance income, comprising the NOC to supply oil barrels



Source: PDVSA 2014 Management Report and CIEA-IESA.

Figure 5. Social expenditure allocation, from 2006 to 2014

to the counterpart. The value of barrels shipped under this agreement is up to USD\$74 billion during period from 2006 to 2014. The latter agreement is *Petrocaribe*, which includes several Caribbean and Latin-American countries. It establishes supply quotas and a low cost long-term financing scheme. In the same period, *Petrocaribe* adds up to USD\$28.5 billion in financed barrels.¹¹

Finally, the PDVSA financed Venezuelan public institutions and companies by near USD\$34.9 billion during 2006 and 2014 through notes and accounts receivable instruments.¹² This includes financing facilities for the Armed Forces, the national electric company, the national petrochemical firm, the national steel company, etc.

All these direct and indirect financial contribution mechanisms increase PDVSA's opportunity cost of resource allocation. Poor accountability and discretionary redistribution of resources hinder industry investment while incentivizing the allocation of rents to social programs.

Final remarks: industry investment versus social expenditures

Venezuela suffers a crisis after a sharp decline in oil prices, with roots traceable before this event.¹³ The nation currently faces a severe crunch of foreign exchange liquidity, mainly due to low capacity to increase oil and non-oil exports. Foreign exchange

and price controls, high inflation, rising fiscal deficits and an overvalued currency can explain most of the economic deterioration the country faces. Meanwhile, poverty increased to 48 percent (10.8 percentage points since 2006).¹⁴

External revenues from oil price hikes were managed in a discretionary manner by the Executive over more than a decade. Political patronage and pressures to redistribute rents were followed by social development programs. The Central Government pretended to brand PDVSA's expenditure as social or human capital investment, yet no conclusive evidence on the impact of such expenditure has been ever presented. Moreover, the industry's downward operational and financial trends, combined with non-oil business expenses, harmed investments quality and scope. As a result, capital expenditures were not disbursed as expected and the oil industry underperformed at all business plan goals.

Pressures to distribute oil rents on social expenditure posed two major issues to policy makers, which also planned to expand industry capacity in ambitious plans. Industry requirements were neglected while rents were allocated into redistributive programs without any considerations for the productivity of the NOC. Under this framework, capital deficiencies persisted, denying both diversification and oil specialization. In the wake of the

largest windfall of its modern history, the country and its oil industry lost a historical development opportunity.

Endnotes

- 1 International Center for Energy and Environment, Instituto de Estudios Superiores de Administración (CIEA-IESA). Phone: +582125554513. diego.guerrero@iesa.edu.ve, armando.romero@iesa.edu.ve.
- 2 Vid. Karl, Terry L. *The Paradox of Plenty: Oil Booms and Petro-States*. England: University of California Press, 1997; Kolstad, I. & Wiig, A. It's the rent, stupid! The political economy of the resource curse. *Energy Policy*, vol. 37, pp. 5317-5325, 2009; and Rodríguez, Luis Roberto and Rodríguez, Pedro Luis. *El petróleo como instrumento para el progreso: una nueva relación Ciudadano-Estado-Petróleo*. Caracas: IESA, 2012.
- 3 U.S. Energy Information Administration. *Opec Revenues Fact Sheet*, 2015. Available at <<https://www.eia.gov/beta/international/regions-topics.cfm?RegionTopicID=OPEC>>.
- 4 Corrales, Javier and Pendolf, Michael. *Dragon in the tropics: Hugo Chávez and the Political Economy of Revolution in Venezuela*. Washington, D.C.: Brookings Institution Press, 2011.
- 5 PDVSA Management Reports, various years.
- 6 PDVSA Management Report, 2012. Available at http://www.pdvsa.com/index.php?tpl=interface.sp/design/biblioteca/readdoc.tpl.html&newsid_obj_id=10919&newsid_temas=III>.
- 7 Vid. Monaldi, Francisco. *The impact of the decline in oil prices on the economics, politics and oil industry of Venezuela*. New York: Columbia SIPA, 2015.
- 8 PDVSA Annual Management Reports, from 2007 to 2014. Available at <http://www.pdvsa.com/index.php?tpl=interface.sp/design/biblioteca/readdoc.tpl.html&newsid_obj_id=5319&newsid_temas=III>.
- 9 According to PDVSA's management and operational report, this difference is justified because the management report disregards accounting rules regarding the fiscal periods of expenses and assets value. Hence, we estimate contributions from financial statements.
- 10 Education policies include objectives such as to provide adults with high school education, promote college education in newly created Government universities and foster sports. Health policies refer to establish outpatient clinics on poor communities and low-cost surgeries for visual disabilities. Social policies are those that provide low-cost food supplies, pensions and benefits to old-age population, pregnant women and mothers, low-cost painting to low-income neighborhoods, and some not-specified expenses. Energy policies include subsidies to substitute light bulbs, enhance automobile gas infrastructure, and increase electric generation and distribution. Infrastructure include low-cost housing policies and road infrastructure. Agriculture was promoted through Agro-Venezuela Mission and Agriculture Projects. Unknown policies are those where amounts allocated to previous objectives cannot be inferred, although their goal is to support social, educational, health and production. Fonden and China are expenses managed or directed towards investment through these Funds.
- 11 Additionally, the Republic summed USD\$77 billion in accounts receivable with PDVSA from 2010 to 2014. The purpose of this debt is unclear. We are inclined to think that some of this central government debt represents Chinese Fund and *Petro-Caribe* schemes. During 2011, PDVSA financing Chinese Fund and *PetroCaribe* agreements were paid with discounts on

royalties. However, from 2012 onwards PDVSA suggest that part of these compromises are accounts receivable. This is coherent with an expansion of the Republic debt to PDVSA near the value of financed barrels since 2010. Vid. PDVSA Financial Statements. 2014, 2013, 2012, 2011, 2010, 2009, 2008 and 2007. Available at <www.pdvs.com/index.php?tpl=interface.sp/design/biblioteca/readdoc.tpl.html&news-id_obj_id=5319&newsid_temas=III>.

- 12 Vid. PDVSA's Financial Statements. 2014, 2013, 2012, 2011, 2010, 2009, 2008, 2007. Available at <www.pdvs.com/index.php?tpl=interface.sp/design/biblioteca/readdoc.tpl.html&newsid_obj_id=5319&newsid_temas=III>.
- 13 Vid. Hausmann, R. & Rodriguez, F. (eds). *Venezuela before Chávez: Anatomy of an Economic Collapse*. Pennsylvania, The Pennsylvania State University, 2014.
- 14 UCAB, USB & UCV. *Encuesta sobre Condiciones de Vida Venezuela, 2014*. Caracas: IIES-UCAB, 2014. Available at <<http://www.rectorado.usb.ve/vida/sites/default/files/pobreza.pdf>>.

Colombia: Growth after the Commodities Boom?

By Liliana Olarte, Rodrigo Quintana, Lenin H. Balza, and Juan Espinosa Balbuena

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Lenin H. Balza is an economist at the Infrastructure and Environment Department at the Inter-American Development Bank (IADB). Previously, he worked as a research fellow at the Energy Division of the IADB, as a junior research economist at Santander Investment Group, and as a consultant at the Andean Development Corporation. Lenin holds a master's degree in economic development (MPA/ID) at the John F. Kennedy School of Government at Harvard University. He also holds a bachelor's degree in economics from Universidad Central de Venezuela and has post-graduate studies in economics from Torcuato Di Tella University. Lenin's areas of interest and research includes development strategies, energy economics, and economic development in resource-rich countries. Juan Espinosa (MPA/ID 2015) is a Mexican national working

in the Unit of Economic Productivity in the Mexican Secretariat of Finance. He is working in the design of public policies to promote productivity and growth. Before completing the MPA/ID at Harvard he worked as a senior analyst at Evercore Partners analyzing monetary and fiscal policy. Juan holds a bachelor of economics from the Instituto Tecnológico Autonomo de Mexico.

Abstract

From 2004 to 2014, Colombia's average GDP per capita growth rate was 3.61 percent. If that rate were to be maintained, Colombia would take 71 years to catch Norway's current GDP per capita, the 2nd highest in the world. Historically, the country's growth has been based on natural resources which represent nearly 80 percent of total exports. However, with commodity prices declining, the question is whether natural resources will continue to be the base to build upon. This paper analyzes Colombia's binding constraint to long-term growth, taking Norte de Santander, a bordering state with Venezuela, as a case study.

Key Words: economic complexity, commodity boom, growth diagnostic, Colombia

JEL Classification Numbers: F13, F14, F16

Introduction

In Latin America, commodity exporters were blessed with the commodity boom price. And Colombia was not the exception. Economic growth was buoyant in the last decade hovering around 4.81 percent¹ accompanied by a strong decline in poverty rates from 50 percent to 33 percent.² Also, the terms of trade of the country have improved (see Figure 1), driving upward the production of commodities such as oil (see Figure 2) and minerals. Taking advantage of the boom, Colombia has evolved to become one of the most solid economies in the region. The macroeconomic fundamentals attest to the government commitment to sound fiscal and monetary policies as well as the favorable internal environment.

However, not everything has been as rosy. Figures at the national level hide great heterogeneity within the country. The inequality thermometers of the country - the Gini and Theil coefficients - have been very irregular since 1995 (see Figure 3) with strong cross-regional variation (see Figure 4). This variation may be in part explained by a diverse geography, different endowments that make them more or less vulnerable to commodity booms, the differential

exposure to the armed conflict, and their geographical dependence on neighboring countries.

Norte de Santander (NdS hereafter), a bordering state with Venezuela, is the vivid mirror of Colombia. Its economic path, housing the main customs with Venezuela, resembles the behavior of the country in economic terms (see Figure 5). Unlike the rest, NdS faced a point of inflection in 2008. After a robust surge in 2005 propelled in part by a fictitious demand from Venezuela following a scarcity wave, its compound annual growth rate deaccelerated from 4.5 percent to 2.6 percent when both countries broke commercial ties in 2008 (see Figure 6). This decline was mainly driven by a collapse in transportation, mining, construction and manufacturing (see Figure 7). As a result, the unemployment rate went up 1.6 percentage points (pp) while in Colombia it declined 1.4 pp from 2008 to 2013. Also, in 2010, the informality rate increased by 7 pp while it dropped by 3 pp in the country.³

Despite a strong past and resilient present, the future for Colombia is uncertain. With oil prices free falling leading South American economies close to a full stop, a question arises as to how to make growth sustainable in Colombia. More specifically, with the Venezuelan economy on critical conditions, the question in NdS is how to make it grow post-Venezuela.

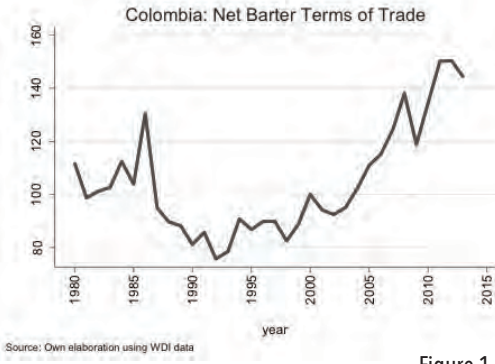


Figure 1

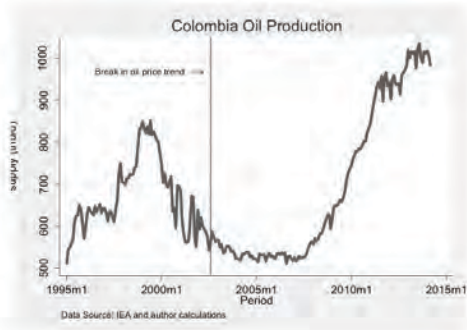


Figure 2



Figure 3



Figure 4

Methodology

This paper presents the first effort to identify the binding constraint to growth for Colombia at the regional level, taking Norte de Santander, a bordering state with Venezuela, as a case study, employing the growth diagnostic approach that Hausmann, Rodrik and Velasco developed.⁴ This method follows a decision tree (see Figure 8) to identify the most plausible explanation for the lack of growth in a country. The branches of the tree, to be tracked from top to bottom and left to right, maps out the main drivers of growth, from finance and infrastructure to education and security. We follow this tree in the subsequent sections of this article although we only highlight the most salient issues. The full diagnostic report is available upon request.

The first step is to determine where among the primary branches lies the main constraint. To this end, we found that after 2001 real interest rates are not correlated with investment. While the real interest rates oscillated from 4 to 14 percent, the total investment as a percentage of GDP increased from 16 to 25 percent almost constantly (see Figure 9). This evidence leads us to discard the high cost of international finance as the binding constraint to growth and, therefore, discard the right side of the decision tree.

The Colombian Conflict: A Long-Standing Obstacle to Economic, Political, and Social Stability

One of the most cited reasons for the lack of growth of the country is the internal conflict unfolding since 1964. The country has endured a war between the government, paramilitary groups, guerrillas and drug landlords. The conflict, however, has not been uniform. While some states have experienced little to no conflict, NdS experienced homicide rates, a proxy for conflict, which were among the highest in the country in 2006. Fortunately, this rate declined in 2013 converging to the national average (see Figure 10).

President Juan Manuel Santos has stated that signing a peace agreement with guerrilla groups would allow the GDP to grow two percentage points more.⁵ But while in previous decades the conflict acted as a constraint to growth, it is currently not binding. To start, the severity of the conflict has sharply diminished over the years. In 1999, Colombia had the highest homicide rate in the region with a rate of 62.3 per 100,000 inhabitants. By 2013, this rate halved to 30.8. Furthermore, changes in the homicide rate do not seem to be strongly correlated with changes in non-oil Foreign Direct Investment (FDI) (see Figure 11). Also, for NdS, it is also unlikely to be the binding constraint to growth. Other departments with much higher homicide rates have much higher per capita GDP (see Figure 12).

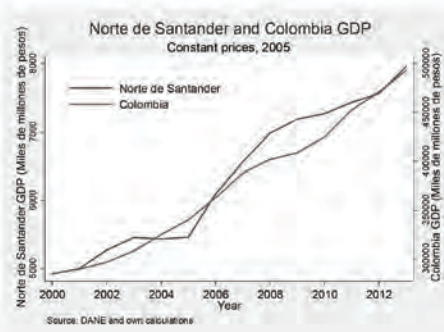


Figure 5

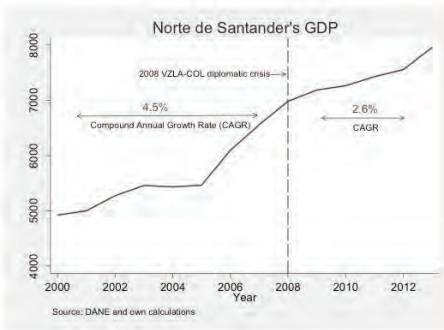


Figure 6

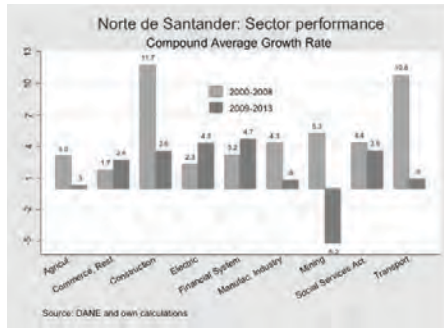


Figure 7

Education and Employment: Significant Improvements in Quantity with Gaps in Quality

When the internal conflict is not to blame, education usually takes its place. Education has traditionally been cited as one of the reasons why the country does not progress. Although it may be a constraint to growth, is it

Problem: Low levels of private investment and entrepreneurship

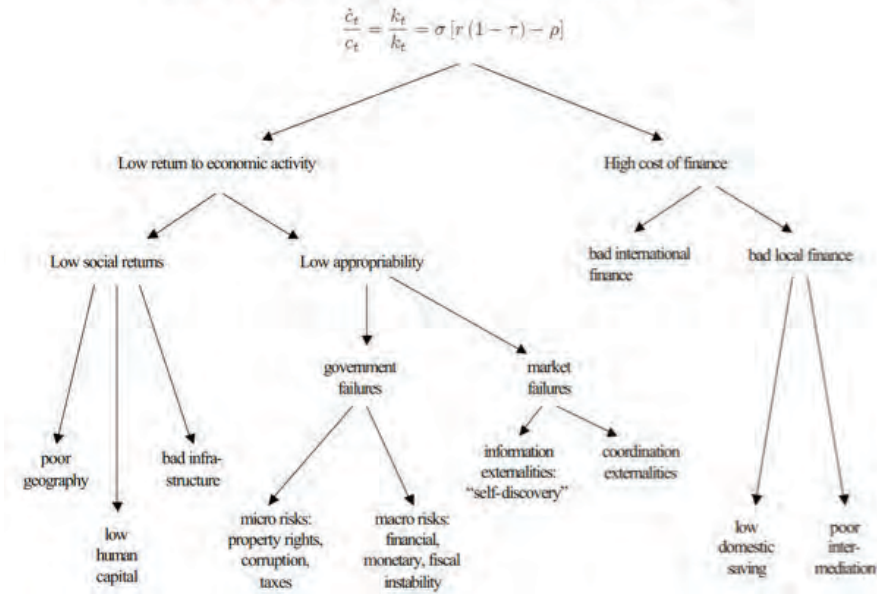


Figure 8

binding? When measuring education by the average number of completed years, Colombia lies above the Latin American average. Also, for its given level of years of education, there are other countries with a much higher level of GDP per capita, like Uruguay and Mexico (see Figure 13). In parallel, the estimated returns to education coefficient is around 0.12 for Colombia and 0.10 for Norte de Santander which are not high relative to what is found in the literature.⁶

However, when we analyze the quality of education, the results change. Colombia had a poor performance in the Programme for International Student Assessment (PISA) tests: the country ranked 62, 60 and 57 in Math, Science and Reading tests respectively, out of a sample of 65 countries.⁷ Additionally, the country exhibits a slightly higher GDP per capita for its given

level of PISA scores (see Figure 14). This result would mean that the country is already doing ‘a lot more than expected with what it has. However, drawing conclusions about educational quality based on PISA scores can be misleading. Up to now, only OECD countries plus a handful of others take PISA tests, making results potentially biased due to the small sample size. This bias together with the country’s poor growth performance given its educational level (measured in years) suggests that education is unlikely to be the binding constraint to growth for Colombia and NdS.

If education is not the culprit, could it be the labor market? Colombia’s labor force participation rates are among the highest in the region (see Figure 15). Likewise, the labor force partici-

pation rate in NdS is convergent to the national average. Also, unemployment seems to be decreasing dramatically reaching 7.84 percent in 2014, one of the lowest points in many decades.⁸ In the case of NdS however, the unemployment rate is double the national rate at 14.2 percent.⁹ Nevertheless, we argue that this is a symptom that the economy in NdS lacks the capability to generate jobs rather than a constraint.

High participation rates conceal high informality rates. As in many other Latin American countries, informality is high in Colombia (almost 50 percent). While informality is certainly a constraint for developing better jobs, worker productivity, and product diversification, it is unlikely to be the binding constraint to long-term growth. Our results show that informality is apparently caused by the labor tax, and hence it is more likely to be a symptom of a bigger problem rather than a constraint (see Figure 16).

This may not be the case for Norte the Santander whose informality rates are by far the highest in Colombia (see Figure 17). Unlike the rest of the country, which exhibited decreasing informality rates since 2009, the informality rate in NdS spiked in 2009 only declining as of 2014. However, like in Colombia, informality seems to be a symptom rather than a constraint. With the deteriorating economic and social context in Venezuela, informal activities such as illegal exchange

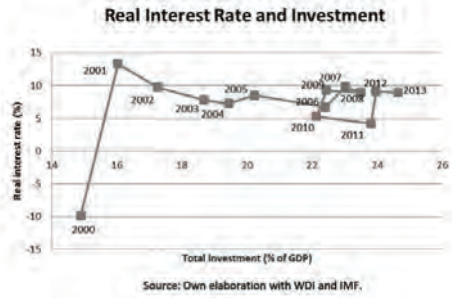


Figure 9

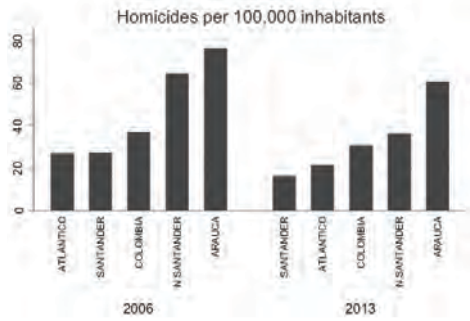


Figure 10

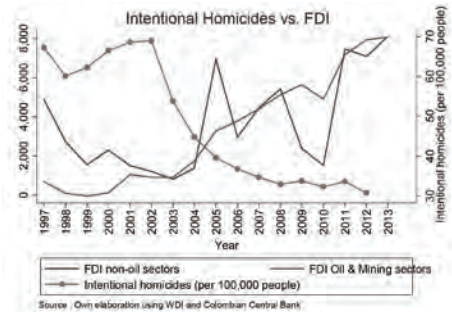


Figure 11

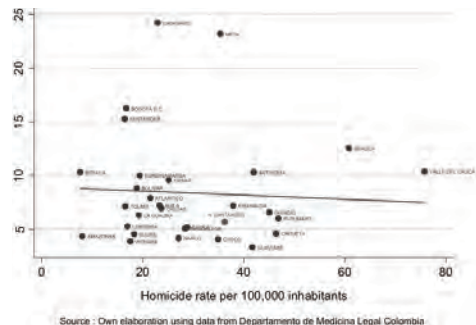
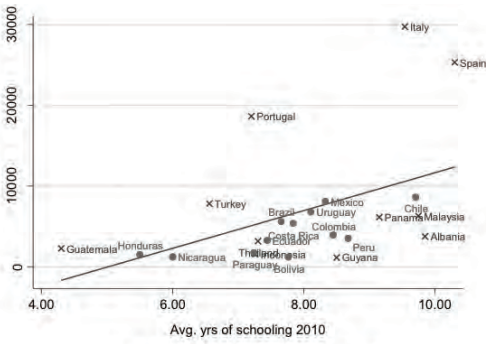


Figure 12



Source : own elaboration using Barro & Lee data and WDI

Figure 13

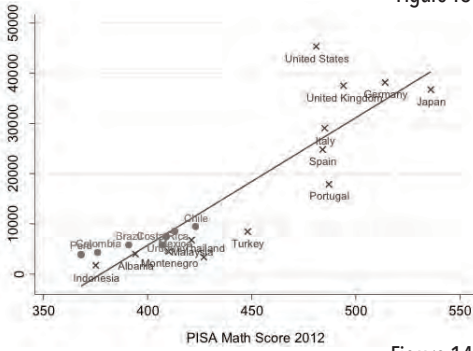
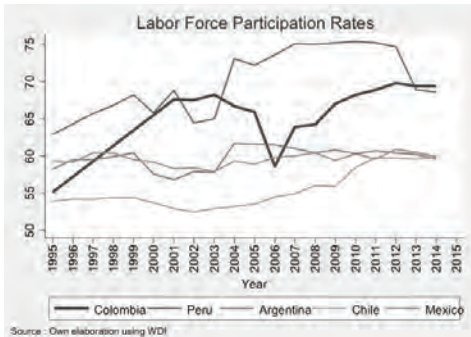
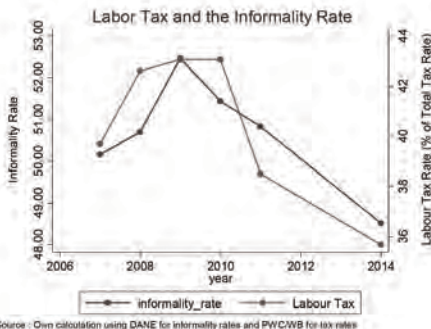


Figure 14



Source : Own elaboration using WDI

Figure 15



Source : Own calculation using DANE for informality rates and PWCWB for tax rates

Figure 16

rate and oil smuggling became more profitable and attracted more labor while exporting firms shut down after Venezuela and Colombia broke their commercial ties in 2008.

Poor Geography and Bad Infrastructure: A Speed Bump along the Way?

One of the most popular cited reasons of why Colombia is not developed is its geography. Poor road accessibility translates into twice the freight costs from the interior of the country to the coast (\$30 a ton) compared to freight costs from the coast to ports in Asia (\$15 a ton).¹⁰ Also, the rough geography and poor roads of Colombia place the country below the regional average of vehicles per km of roads (see Figure 18) and the second-fewest vehicles per person in South America.¹¹

However, poor roads have not deterred goods from being transported in good and bad times of GDP per capita growth (see Figure 19). Nor have they stopped GDP from growing when a natural shock—in this case, one of the largest floodings in 2008 in the last decades—deteriorated the road network significantly (see Figure 20). Even when correcting for committing variables and reverse causality, exports do not seem to be determined by transport costs in Colombia when compared to other countries.¹² So it does not appear to be the constraint at the national level.

When zoomed into Norte de Santander, neither the national average of infrastructure index nor the transport costs seem to be associated strongly with GDP (see Figure 21) or exports (see Figure 22) respectively. Moreover, primary and secondary roads (see Figure 23) are improving and expanding, specially to connect NdS to the Atlántico. This enhancement is translated into relatively fewer commuting time and mild transport costs from Norte de Santander to ports in the Atlantic compared to large cities like Bogotá (see Table 1).

This evidence leads us to believe that despite it being a challenge, geography and infrastructure seem not to be a binding constraint for Colombia and Norte de Santander. Despite losing ground when Venezuela broke relations with Colombia, some firms in NdS started to divert their goods through the Atlantic Ocean. This fact suggests that infrastructure while playing a role since firms now incur in transport costs not faced before, does not seem to bind.

Production and Exports: Will Colombia's Natural Resources Continue to Be a Base to Build Upon?

Colombia, as many of its Latin American peers, is recognized worldwide as a natural resource exporter. Oil has become its main export over time. In 1996, petroleum and related products

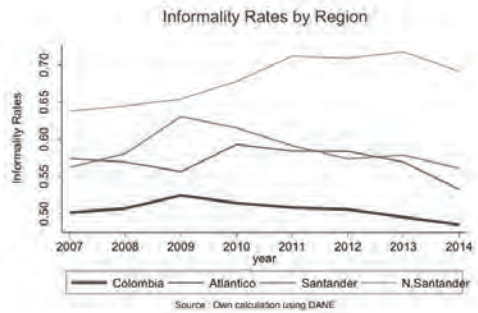


Figure 17

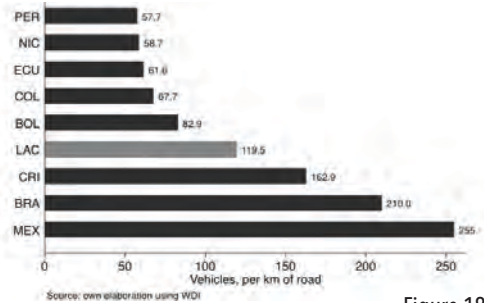


Figure 18

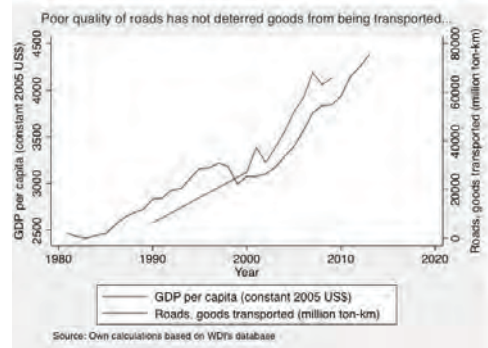


Figure 19

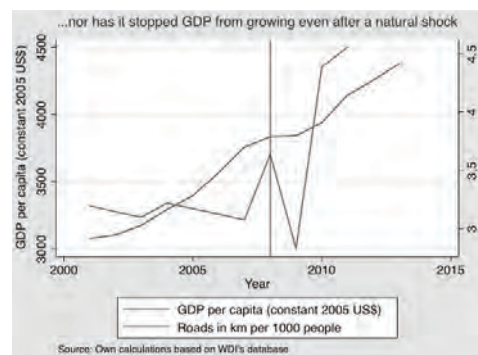


Figure 20

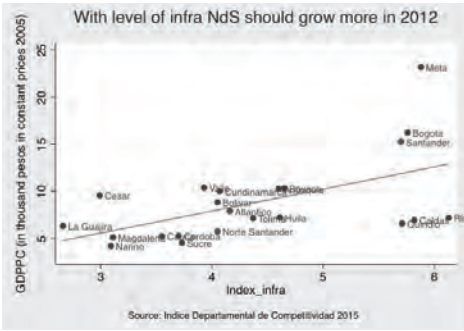


Figure 21

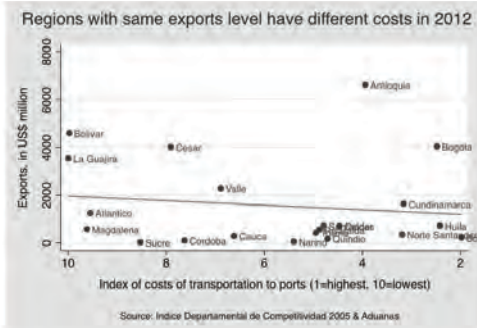


Figure 22

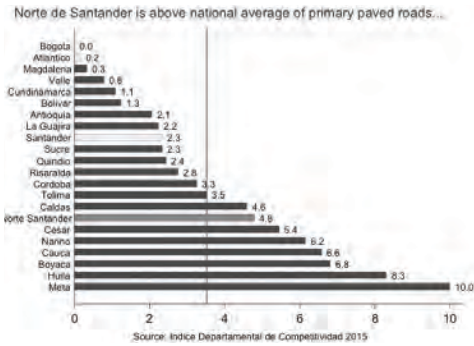


Figure 23

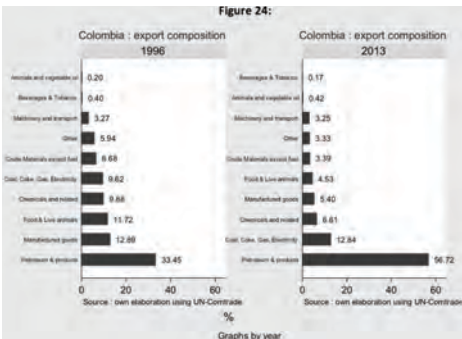


Figure 24

represented around 34 percent of total exports, neck-to-neck with other natural resources representing 28.22 percent of total exports.¹³ By 2013 petroleum and related products became 56 percent of total exports, while the rest of natural resources only 21.18 percent. Manufactures, on the other hand, have always been unimportant. In 1996, these represented 26.44 percent of total exports, while in 2013 they lost ground to become only 15.43 percent of total exports (see Figure 24).¹⁴

Although Colombia is deemed an exporter of natural resources, it trades relatively more complex products—textiles, cars, machinery and electrical equipment—to its neighbors. For example, in 2007 exports of machinery and electronics accounted for 3 percent of total exports, out of which around 40 percent were exported to Venezuela (see Figure 25 and Table 2). However, commercial tensions with neighbors such as Ecuador and Venezuela have been commonplace. In 2008 Colombia broke trade ties with Venezuela for political reasons, permanently affecting the export of relatively more complex products. Before 2008, Venezuela was the second most important trading partner of Colombia after the US (see Figure 26). It was a key destination for textiles (53 percent of total exports), cars (78 percent) and machinery and electrical equipment (40 percent). Not surprisingly, after 2008, exports of textiles

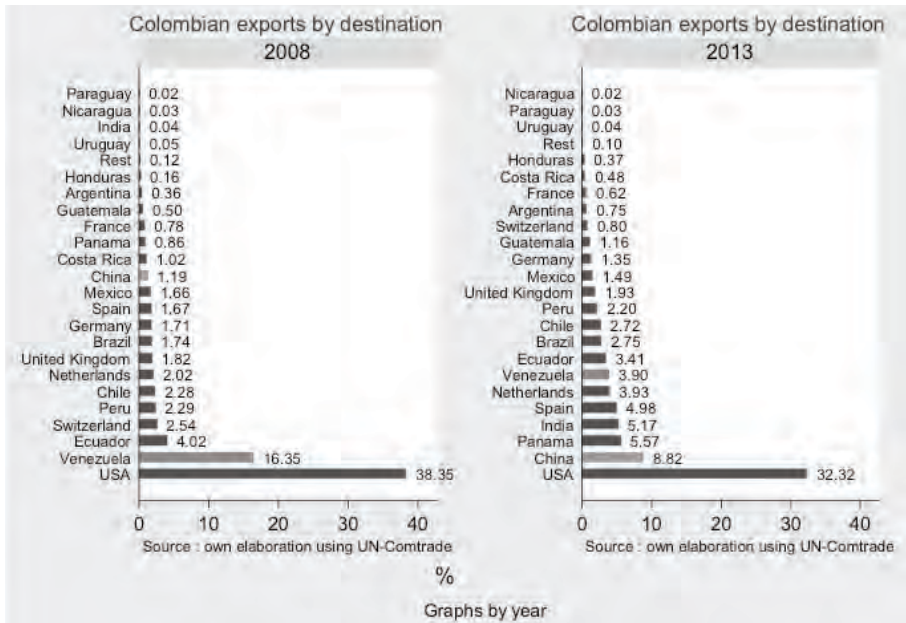


Figure 25

and cars shrunk to 61 percent and 50 percent of their pre-2008 values respectively (see Table 2).

In 2004, before the GDP of NdS started accelerating, the state was relatively competitive in footwear and textiles; not so much in skins. After commercial relations spiked with Venezuela, NdS became the country's largest footwear exporter, the second largest in skins the third largest in textiles. After relations between Colombia and Venezuela broke in 2008, however, NdS lost market relative to its closest competitors. In 2010, it was relegated in terms of export share of footwear and textiles and was not among the top exporting states in skins anymore. By 2013, it was no longer among the top exporters of textiles either and lost a position in footwear (see Figures 27-29).

The decline in exports was accompanied by a collapse in the number of exporting firms, which contracted considerably in NdS from 2,028 to 461 from 2008 to 2010 (see Figure 30). Exporting firms of textiles, footwear and skins were - unsurprisingly - affected, especially in the latter where firms almost disappeared (see Figure 31).

Concluding Remarks

On 11 December 2015, the price of WTI oil reached USD\$37.93/barrel, down nearly 40 percent from what it was a year ago.¹⁵ And it seems to be worsening. This situation poses a threat to the traditional source of export income and public expenditure of Colombia. In light of declining oil prices, the Colombian government has recently introduced important budget cuts.

Cúcuta	79,159	120,466	85,640	76,934	157,570
B/manga	70,868	106,987	79,580	68,690	153,208
Medellín	68,028	54,097	66,598	68,730	117,326
Bogotá	81,214	68,115	61,214	81,214	128,174
Cali	118,850	39,000	118,850	125,441	104,100

Table 1

This scenario, however, may serve as a unique opportunity for the country to increase its non-energy and mining related exports. Colombia has invested a lot on signing commercial agreements with the idea that the country will enter the global value chain of large companies. However, our hypothesis is that the binding constraint to sustained growth lies in the poor track record of the country in coordinating efforts to thread value chains internally.

It has been shown that a country's economic complexity index, is a strong predictor for future GDP per capita growth.¹⁶ Given that economic complexity index is driven by the relative complexity of a country's exports, Colombia's long-term growth strategy should focus on acting on new export opportunities and removing obstacles to success. Up to now, however, this does not seem to be the happening. First, Colombia's tax system is asym-

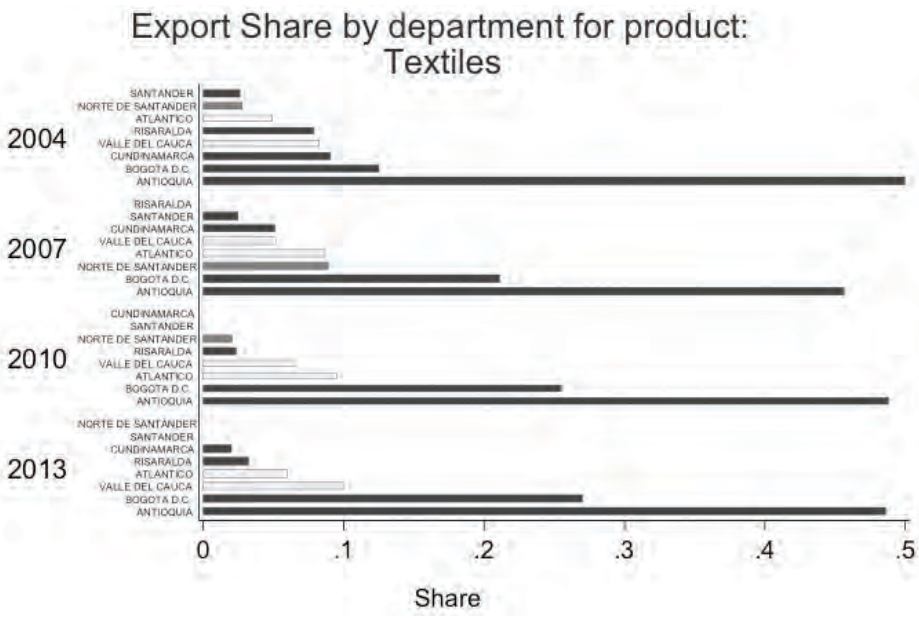


Figure 26

Export Share by department for product: Footwear

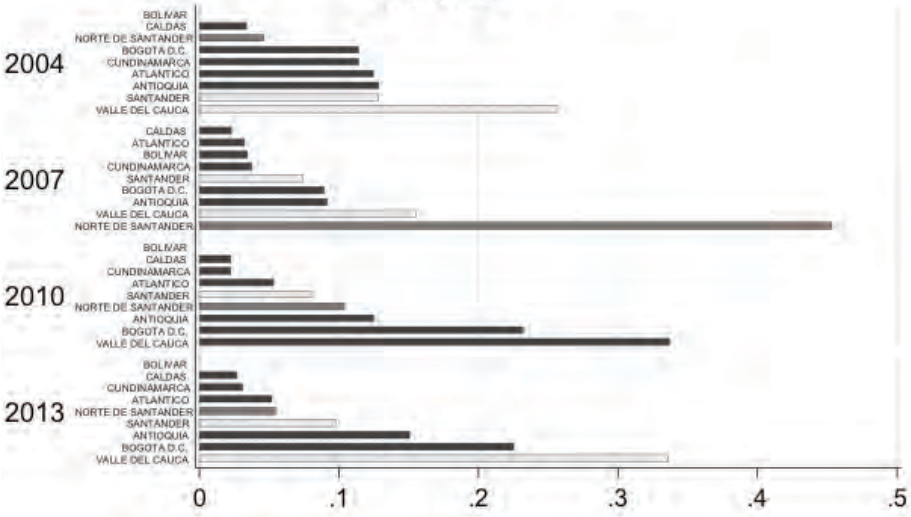


Figure 27

metric and burdensome, hindering production capabilities: according to Fedesarrollo, the manufacturing sector alone exhibits an effective tax rate that ranges between 61.9 percent and 72.3 percent while mining exhibits a tax rate ranging between 39.1 percent and 43.2 percent.¹⁷ The low-quality education system together with a high and unattended informality rate act as deterrents to skill investment and on-the-job training, essential pieces to build capabilities and drive economic complexity. Finally, Colombia has a subpar infrastructure system to tackle the geographical hurdles to producing and export.

At the institutional level, Colombia has introduced important efforts to create and foster government and non-government agencies that aim at coordinating and creating a vision for the production potential of the country. The Private Competitiveness Council

and the National System for Competitiveness and Innovation are clear examples. But the country lacks a clear value proposition internally. While countries as Mexico have built an aggressive policy to create partnerships with foreign firms to grow local industries, which are in line with the value proposition of the country, Colombia still navigates without a north. On one hand, Mexico has developed several aerospace clusters in various states emerging as spin-offs of its automotive industry and by joining forces with the US, Canadian and European firms. On the other hand, Colombia has a generic national competitiveness agenda, still heavily focused on non-strategic policies.

Following the national figures, Norte de Santander has also been limited by high national taxes on firms as well as difficult geography/infrastructure. In 2006, Nds levels of violence ranked way

Sector	Total Export Value		Exports as a % of Total Exports		Total Exports to Venezuela		Exports to Venezuela as % of total sector exports	
	2007	2012	2007	2012	2007	2012	2007	2012
Textiles	1.92B USD	1.18B	6%	2%	1.02B USD	283M USD	53%	24%
Cars and autoparts	1.22B USD	620M USD	4%	0.99%	950M USD	34M USD	78%	55%
Machinery & Electrical	1.02B USD	1.01B USD	3%	2%	404M USD	200M USD	40%	20%

Table 2

above the national average and close to the worst performing regions in the country. The situation has substantially improved, but it is still worse than the national trend. This intermittent constraint may be problematic if Norte de Santander wishes to attract investment, foster trade, and job creation.

Furthermore, after Colombia broke its trade ties with Venezuela, geography started being a constraint for Norte de Santander. The closing of the borders implied that Nds became landlocked, losing a huge part of its competitive

advantage (low transport costs to Venezuela). As explained before, some of her key exports (skins, textiles, and footwear) lost competitiveness to other states like Antioquia, Valle del Cauca and Bogota, which were closer to ports or main airports. There was a coordination failure because the capabilities of previously exporting firms were not integrated into national chains to export somewhere else. On the contrary, the exporting capacity of these firms was permanently lost to non-tradable sectors

Export Share by department for product: Raw Hides, Skins, Leather & Furs

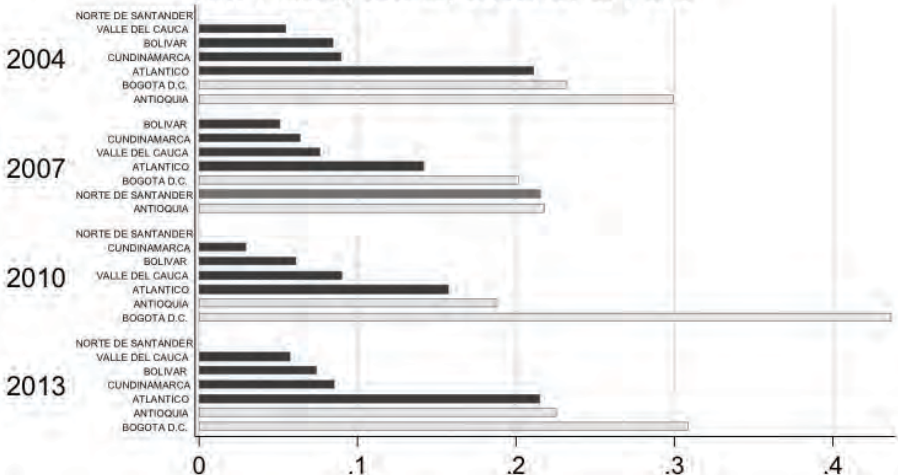


Figure 28

and/or informality while its production capacity was left unscathed.

While each of these constraints hinders the growth trajectory of NdS in its own way, the binding constraint, as we find it, is the coordination failure. Norte de Santander first failed to diversify its export partners when there was a boom and suffered the extreme consequences of the permanent loss of Venezuela as a trading partner. Secondly, it also failed to take advantage of lowering transportation costs to the Atlántico ports through the construction of connecting roads that diminished travel time. Finally, it did not take advantage of the increasing growth of the United States as an exports partners of the products where NdS had a competitive advantage vis-a-vis others states that had similar or worse export costs using the Atlántico ports.

Endnotes

- 1 Average GDP growth from 2004-2014, World Development Indicators (WDI). Retrieved from The World Bank: <http://www.worldbank.org/>
- 2 Poverty Rate at the National Poverty Line from 2001 to 2012, WDI.
- 3 Sanchez Jabba, Andres. 2014. Crisis en la frontera. Documento de trabajo sobre economia regional. Banco Central de la Republica. Centro de Estudios Economicos Regionales. ISSN 1692 3715. Bogota, Colombia.
- 4 Hausmann, Ricardo, Dani Rodrik and Andres Velasco. "Growth Diagnostics." 2004. Revised March 2005.
- 5 Portafolio. (2014, May 21). Las propuestas de Juan Manuel Santos en materia económica. Portafolio. Retrieved 12 17, 2014, from www.portafolio.co
- 6 Authors' own calculations using The National Household Survey for 2010.
- 7 2012 test results. Source: Organization for Economic Co-operation and Development (OECD).
- 8 Source: National Department of Statistics (DANE).
- 9 Source: National Department of Statistics (DANE).
- 10 The Financial Times. 2013. Colombian truckers face a long road. New York, U.S. Retrieved from: <http://www.ft.com/intl/cms/s/0/3bfl061a-9dfe-11e2-9ccc-00144feabdc0.html#axzz3LneMHh5Z>
- 11 The Economist. 2013. Infrastructure in Colombia: Taking the slow road. London, U.K. Retrieved from: <http://www.economist.com/news/americas/21580497-ambitious-plan-struggles-get-drawing-board-taking-slow-road>
- 12 Inter-American Development Bank (IADB). 2013. Too Far to Export: Domestic Transport Costs and Regional Export Disparities in Latin America and the Caribbean. Special report on integration and trade. IADB: Washington, D.C.
- 13 See Figure 23. For 1996, other natural resources are composed of animals and vegetable oils (0.20 percent), crude materials (except fuel) (6.68 percent), coal and coke (9.62 percent), food & live animals (11.72 percent).
- 14 In Figure 23, for 1996, manufactures are composed of beverages and tobacco (0.40 percent), machinery and transport (3.27 percent), chemicals and related (9.88 percent) and manufactured goods (12.89 percent).
- 15 Source: Bloomberg.
- 16 Hausmann, Ricardo, Cesar Hidalgo, Sebastian Bustos, Michele Coscia, Sarah Chung, Juan Jimenez, Alexander Simoes, Muhammed Yildirim. (2011). The Atlas of Economic Complexity. Puritan Press: Cambridge MA.
- 17 Fedesarrollo. (2014). La Reforma Tributaria y su impacto sobre la Tasa Efectiva de Tributación de las firmas en Colombia. Bogota: Fedesarrollo.

Reform Policies and Support Programs to the Agricultural Sector in Latin America: Trade Liberalization, Market Volatility, and Climate Change



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By Diego Arias

Abstract

Organization for Economic Co-operation and Development (OECD) countries are reducing total agricultural support, from price supports to fiscal support. Latin America and the Caribbean (LAC) is also making the same change of price supports fiscal support given to the free trade agreements signed (or signed) with the United States and other countries. These exogenous changes in the structure of support dictated by trade liberalization must be taken as an opportunity to introduce public policies and implement programs to support the transition to maximize the benefits of future integration of LAC agricultural sector to international markets. Reviewing and measuring the price supports and taxes, especially private property, should key for the actors involved in the design of public policies

to analyze and respond to the needs and opportunities of the sector element agriculture in the region facing an increase in trade liberalization of their products. Although the priority of public spending on agriculture is investment in public goods and services, the Government will always have the need to be able to support the most vulnerable population in response to catastrophic events or price shocks. This contingent response is increasingly common in a context of increased volatility in international prices and the number of natural disasters time. In LAC countries, such as Mexico and Brazil, have already several years of experience with agricultural risk management programs and recent reforms in that area. A reform in the agricultural public spending is more important than ever given the current context of trade liberalization, volatility of international food markets, and climate change.

LAC's agricultural sector is an important source of economic growth and poverty reduction for the countries of the region. It is estimated that economic growth originating in agriculture is 2.7 times more effective in reducing poverty than growth in other sectors of LAC.¹ It is estimated that for every 1 percent growth in the natural resources

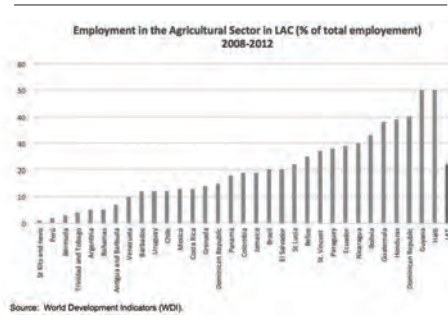


Chart 1

sector in rural areas of LAC, there is an increase of 0.22 percent of the national GDP and 0.28 percent of the income of the poorest families, representing more than double the expected increase 0.12 percent for the weight of the sector in GDP.²

LAC's agricultural sector is also an important source of income and employment in the region. Employment in the agricultural sector accounts for about 20 percent of total employment in the region, with significant proportions of up to 50 percent in countries with a relatively important agricultural sector for the economy as Haiti and Guyana (see Chart 1). Anderson and Valdés (2008) presented results of a global analysis where the 8 LAC countries in the global sample (Argentina, Brazil, Chile, Colombia, Dominican Republic, Ecuador, Mexico and Nicaragua) have a revealed comparative advantage in agricultural production 2.2 on average, compared to the world average of 1.0.³

LAC's potential to increase agricultural production relies heavily on its natural resources, particularly land and water. Of the 445.6 million hectares

of potential arable land worldwide, 28 percent they are in LAC; more than any region except Sub-Saharan Africa.⁴ Access conditions increase this potential for LAC, with 36 percent of the 262.9 million hectares located fewer than six hours from the nearest market. This potential is not limited to Brazil and the Southern Cone, but also to Central America and the Andean countries. The countries with the greatest potential for increasing agricultural production in relation to the percentage of cultivable area are Bolivia, Belize and Venezuela. The water resource is also abundant in the LAC region, with one-third of the 42,000 km³ available globally. LAC has the highest per capita renewable water in developing regions.⁵

Trade integration of the Agricultural Sector in LAC

Over the past two decades, global trade of food products has fallen as a percentage of total trade, but its value has increased. According to the UN Comtrade Database, LAC has been able to capture an increasing share of this growing market from 8 percent of international trade in the mid-1990s to 13 percent today. Agrofood exports represent 23 percent of LAC exports and 10 percent of international trade. One of the reasons for this expansion in the export of agrofood in LAC has been that several countries in the region have signed free trade agreements with

the United States, with the European Union, or are negotiating others at this moment. The agricultural and food products, for the most part, are included in those agreements.

Those who promote free trade agreements present argues that trade liberalization of agrofood products produced or will produce the expected benefits to consumers (obtaining lower prices) and farmers (by reaching signals international markets at the farm level) because these benefits are based on the assumption that the law of one price applies. Moreover, there is also already evidence that trade liberalization has not been a panacea in terms of reducing poverty.^{6, 7}

Tariffs on food product's import in LAC have declined over the last two decades and its value has increased (see chart 2). Comparing LAC with the rest of the world the simple average tariff is 15 percent (very close to the world average). The opening level of the agricultural sector (measured by the index of "marketability") has increased (see chart 3). This increase in the level of trade liberalization of the

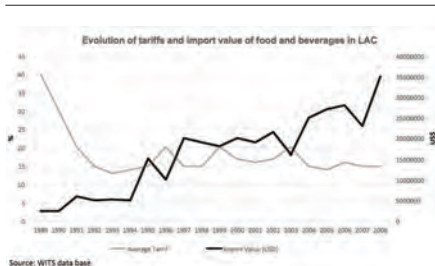


Chart 2

agrofood sector has been accompanied by a reduction in the anti-agricultural bias of public policies in LAC. The support of public policies and programs to the food sector compared to other sectors measured by the Ratio of Nominal Assistance (RNA) went from negative to positive from 1990 (see Chart 4).

Increased Market Volatility of the Agrofood

This greater trade integration in the agrofood sector and reducing anti-bias sectoral policies and public programs has brought benefits for LAC regarding exports; but greater trade openness also exposes domestic agrofood markets to price changes in international markets. This may have implications for LAC food consumers (particularly the poorest, who spend a greater percentage of their income on food) and for (particularly smaller with difficulty adapting to new market conditions) farmers. From 2007 to 2008 we have observed an increase in the volatility of international prices of agricultural and food products.

Looking at the evolution of the long-term price volatility of agrofood measured by standard statistics, we can see that there is no evidence (see chart 5) that volatility is increasing in real or nominal terms.⁸ Despite this, there is evidence that the volatility of the last decade has been greater than in the previous two decades (see Chart 6).

Finally, agrofood markets are by nature more volatile than others. The first reason is that the food supply responds with a lag (takes several months to a producer to change the use of their land to other crops or raise other animals). The second reason is that as the demand for food is quite stable in the short term, an unexpected shock in production can cause a wide variation in price. Finally, food production depends on the weather, and there is evidence that the number of natural disasters worldwide climatic events have increased in recent decades (see Chart 7).

Public Policies and Programs to Support the Agricultural Sector

Policies and programs support agriculture in Latin America have changed significantly in recent decades, from supporting producers through prices (border measures such as tariffs and nontariff barriers) to a support based on fiscal transfers (subsidies and direct support). Charts 8 and 9 present Colombia and Mexico as examples.

This change in the type of support mainly benefited low-income consumers as it cheapened the domestic price of food (the low-income families spend a higher percentage of their income on food in relation to higher-income families); but it has also had important consequences for farmers, since the sector is now more integrated with the international market, facing in-

ternational prices and their volatility. This has forced many producers to stop producing food and agricultural products that were not competitive, and transform its production to more competitive products. This reform has been clearly seen in countries like Mexico, Brazil, and in recent years in the Andean and Central American and Caribbean countries.

But the change in policy has not been cheap for governments as they went from a situation of income (through tariffs) to give this support through subsidies and direct support, which represents an expense. In other words, the support of taxpayers increased relative to the support of consumers. The efficiency and effectiveness of public expenditure in the agricultural sector has become more important, especially for countries with higher tax constraints (which are

the countries where the agricultural sector has a greater weight in the total economy). Currently Latin America faces a challenge of how to reform their public spending to the sector to make it more efficient and effective in a context of greater integration with international markets and in a context of increased volatility of production caused by climate change.

Policy Reforms and Public Programs Promoting Competitiveness in the Sector

Although LAC countries (according to estimates of the OECD) have a higher total support of public policies and programs for the agricultural sector as a percentage of total GDP than the average of OECD countries, the agricultural sector as a percentage of the GDP is lower in LAC than in OECD countries, which shows that

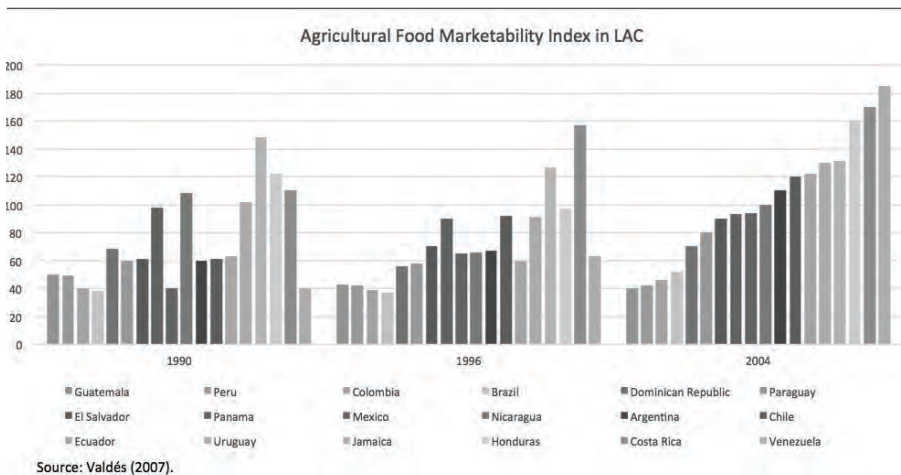


Chart 3

Chart 4. Ratio of Nominal Assistance (RNA) of Food Products in LAC

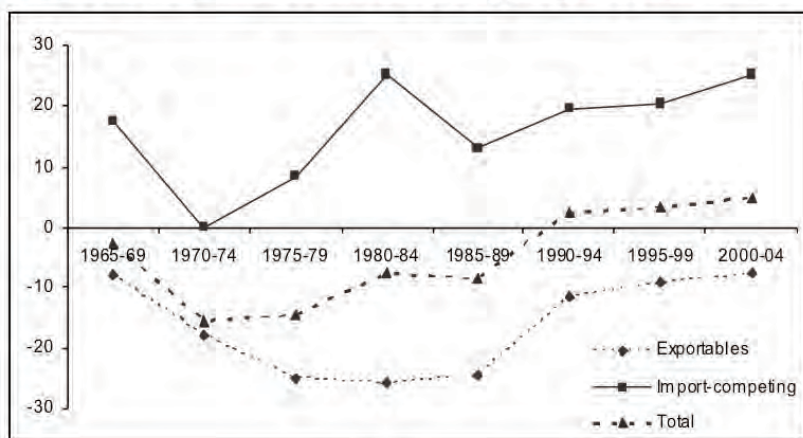


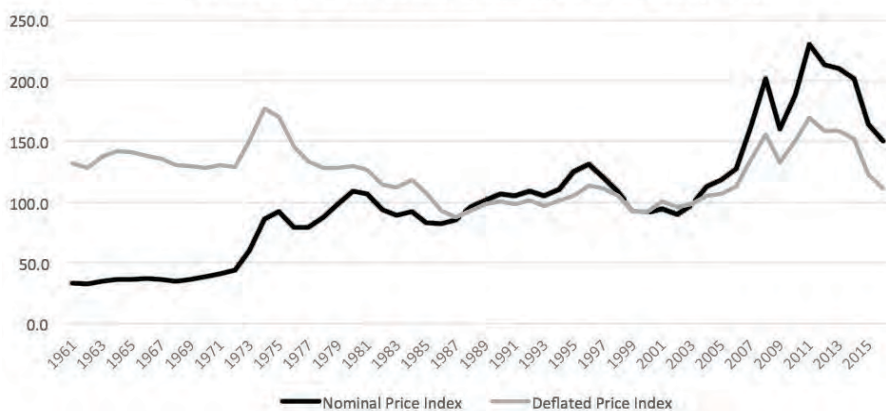
Chart 4

the agricultural sector in the region has a greater weight in the global economy of the countries than in OECD countries.

OECD countries are reducing total agricultural support, from price supports to fiscal support. LAC is also making the same change of price supports to fiscal support because of the free trade agreements signed (or signed) with the United States and other countries. These exogenous

changes in the structure of support dictated by trade liberalization must be taken as an opportunity to introduce public policies and implement programs to support the transition to maximize the benefits of future integration of LAC agricultural sector to international markets. Doing a review and measure the price supports and taxes, especially to private property, should be key for the actors involved

FAO FOOD PRICE INDEX, Nominal and Deflated (Real)



Source: FAO

Chart 5

Chart 6. Percentage Change of the FAO Price Index and Food inflation (IPAC)

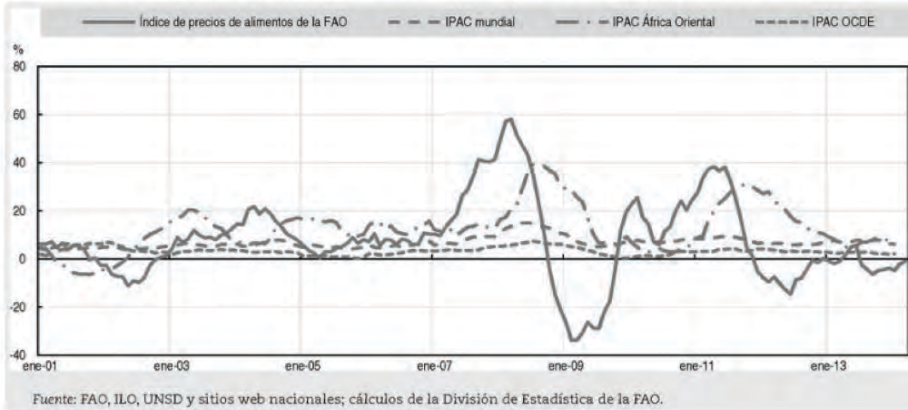


Chart 6

in the design of public policies to analyze and respond the needs and opportunities of the sector element agriculture in the region facing an increase in trade liberalization of their products.

Policy Reforms and Public Programs for Risk Management

Although the priority of public spending on agriculture is investment in public goods and services, the Gov-

ernment will always have the need to support the most vulnerable population in response to catastrophic events or price shocks. This contingent response is increasingly common in a context of increased volatility in international prices and the number of natural disasters time. There are countries, such as Mexico and Brazil, who already have several years of experience with agricultural risk management programs

Number of Natural Disasters Events

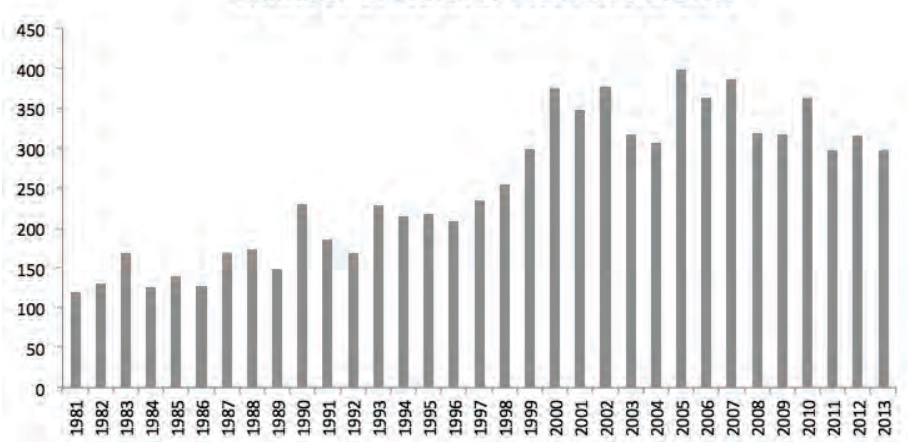


Chart 7

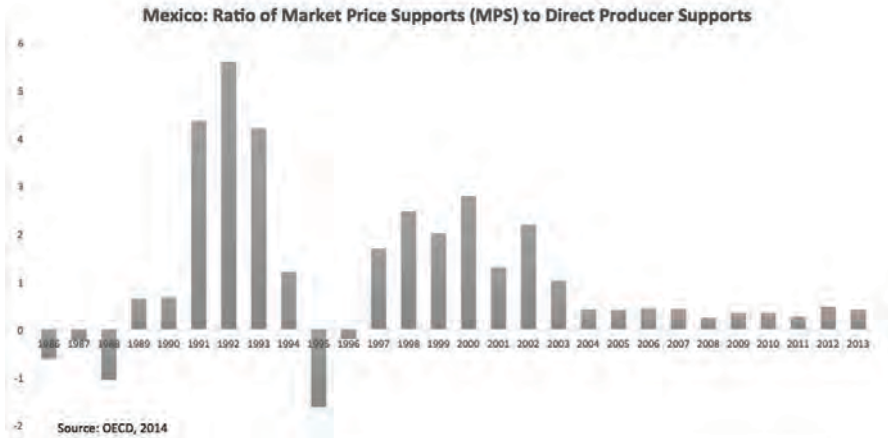


Chart 8

and relatively recent reforms in their agricultural policies and programs, have increased emphasis on risk management.

Mexico Case

The subsidy for agricultural insurance premium (excluding the care component to natural disasters, or CADENA) represented 1.2 percent in 2011 the Producer Support Estimate (PSE) in Mexico according to OECD estimates.⁹

The agricultural insurance market has benefited from 1950 to the present premium subsidy, which has been between 35 percent and 60 percent of the total cost of crops approved by the Government of Mexico.¹⁰ According to the OECD, in 2011 the PSE of Mexico were USD\$6.183 billion, of which USD\$72.4 million was the subsidy for agricultural insurance premium. Other programs agricultural risk management (such as hedging price

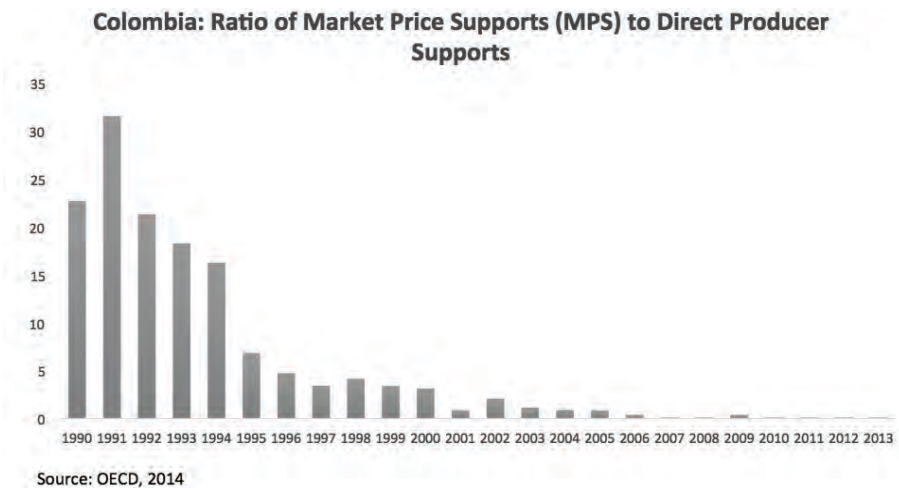


Chart 9

volatility of agricultural commodities) accounted for 16 percent of the PSE. Mexico has had a significant increase in support for agricultural programs risk management in recent years, both in relation to PSE and amount. This has been due to an explicit policy of the Government to move the program “reactive” management of ex post shocks to the agricultural sector, programs to ex ante management and risk transfer. This increase has also been seen globally since these types of support to risk management fall within the World Trade Organization green box.¹¹

Table 1 and Chart 10 show the importance of these subsidies in the PSE and in the Total Support Estimate (TSE). Mexico’s agricultural sector is highly vulnerable to exogenous shocks, such as the volatility of international market prices, weather events, and diseases and pests affecting animal and plant health. These risks have an impact on incentives to trade, investment, finance, and enter into contracts within the agricultural sector. In recent years the Government of Mexico has tried to move their programs from a situation from reaction to prevention and mitigation of shocks, using innovative instruments for transferring certain difficult to handle domestically catastrophic risks, such as international prices and climatic shocks. That is why there has been a reduction in traditional marketing support

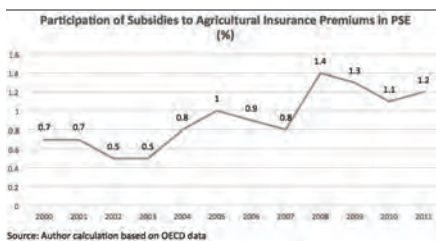


Chart 10

and agricultural production, and an increase in the subsidy of financial instruments such as the agricultural insurance and price hedging instruments (futures and options).

Brazil Case

Agricultural producers in Brazil have seen a general increase in the level of support received since 1995. Brazil went from taxing the agricultural sector to give support such sector. This was a shift from negative to positive support to the sector, with a marked increase in the volume produced based regarding subsidies based on input subsidies.

Also, the total level of support to the agricultural sector went from negative to positive in the last decade. This trend has been contrary to that of other OECD countries where a decrease is observed PSE. This trend in Brazil has been due largely by the very low level (negative) initial support compared to other countries.

Supports farmers are mainly linked to the use of inputs and outputs. The different types of subsidies and support to producers in Brazil are: (1) support for production (subsidies interest rate credit marketing, storage costs, etc.), which accounts for 6 percent of

Table 1: México Producer Support Estimate (2011)

Concept	(Million Dollars)	(As share of PSE)	(As share of TSE)
I. Producer Support Estimate (PSE)	6,182.5	100.0%	84.7%
I.1 Market Price Support (MPS)	1,238.5	20.0%	17.0%
I.2 Insurance Premium Subsidy (administered by Agroasemex)	72.4	1.2%	1.0%
I.3 Commodity Price hedging and contracting (administered by ASERCA) 1/	993.0	16.1%	13.6%
I.4 CADENA Program (Administered by SAGARPA) 2/	165.2	2.7%	2.3%
I.5 Other Budgetary Subsidies	3,713.4	60.0%	50.9%
II. General Support Services Estimate	848.8	-	11.6%
III. Transfers to consumers	266.5	-	3.7%
IV. Total Support Estimate (I + II + III)	7,297.7	-	100.0%

Source: Authors calculation based on OECD data

1/ Includes 11 agricultural products and 2 livestock products

2/ From which, 153.1 corresponded to SAGARPA and 12.2 to Agroasemex

total subsidies; (2) support the use of inputs (subsidy interest rate for loans to agricultural capital and investment, rural extension, agricultural insurance premiums, donations in kind, etc.), which represents 92 percent of the subsidies; and (3) support to the land (compensatory support Safra Warranty), which represents 2 percent of the subsidies. Subsidies are divided as shown in Chart 13 below.

Brazilian farmers have a relatively high level of support countercyclical compared with other developing countries and OECD. Policies and programs of compensation for price falls and natural disasters are more important in Brazil than in other countries. Only Japan, Russia and Canada have support countercyclical higher than Brazil.

Final Thoughts

Given the gradual reduction of support to the market prices of agricultural products, public spending takes in-

Table 1

creasingly important to support the sector. To maximize the economic return of the agricultural public spending, the evidence shows that the focus should be in investment in public goods and services. Despite this evidence, we can observe an increase in spending to respond to price shocks and weather events. Facing the food crisis of 2007 to 2008 and 2010, and the increased frequency and intensity of extreme weather events, several government try to stabilize the prices of agricultural food and incomes of the most vulnerable farmers. We can conclude that the power to respond quickly to the social impact of rising cost of food or a natural disaster depends on the fiscal resources available.

Policies and programs to offset income small producers by climatic events can have a positive impact on the welfare of beneficiary families. In the case of CADENA, launched in 2003 by the Government of Mexico,

Chart 11. Brazil PSE level and composition

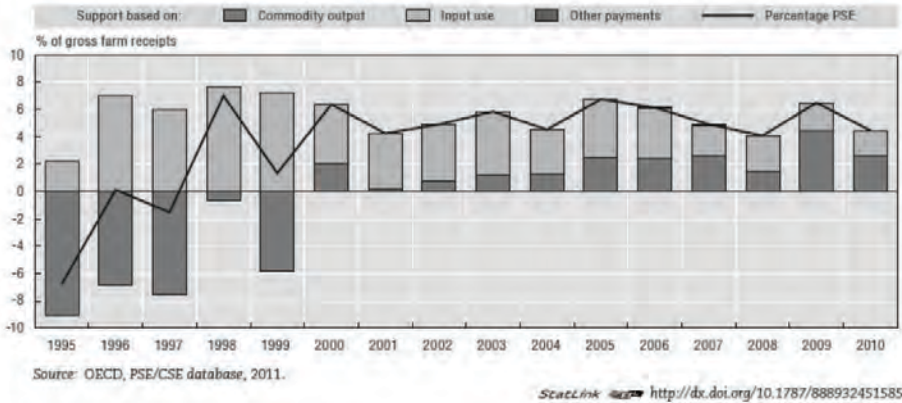


Chart 11

there is a positive impact on welfare, measured by the reduction in moderate poverty. It is important to note that although the situation of Mexico may not be similar to other countries, there are several programs weather contingencies for farmers using agricultural and weather insurance as an instrument to get sufficient resources in order to have an appropriate response. Brazil, Peru, and Argentina are among

the countries in the region that have similar programs. But despite the wide coverage and penetration of CADENA, program sustainability depends on the Government's commitment to this policy. Finally, despite the increase in fiscal cost of the CADENA program, the mechanism of catastrophic insurance is an alternative cost-effective compared to the traditional way of

Chart 12. PSE (as a % of GDP)

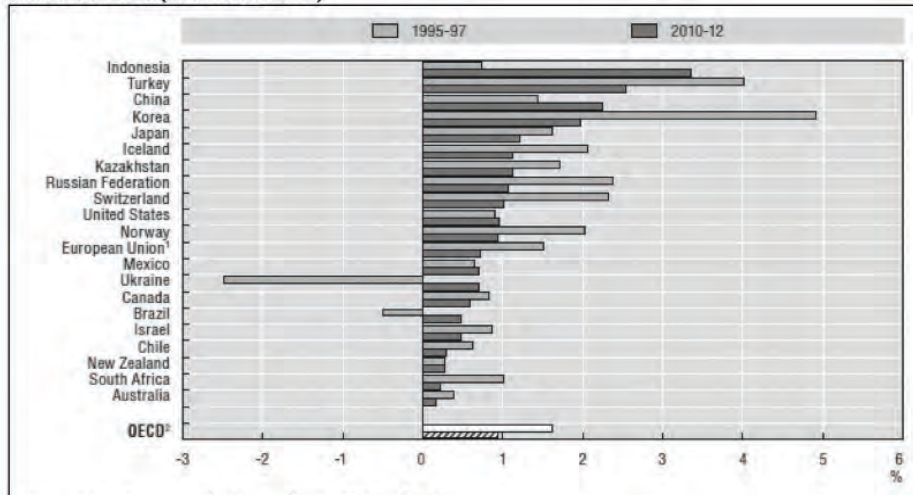


Chart 12

Subsidies to Input Use in Brazil (2010)

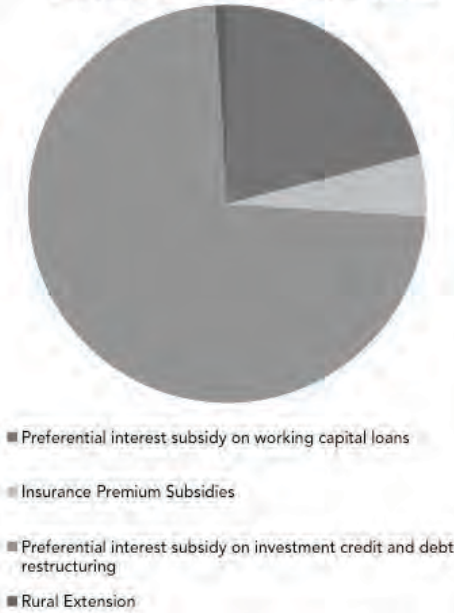


Chart 13

responding to natural disasters (direct support).

LAC countries are focusing and increasing the number and coverage of public policies and programs regarding agricultural risk management to reduce the volatility of the sector. Several LAC countries, such as Mexico and Brazil, already have several years of experience with public policies and programs of agricultural risk management and also with recent changes in the structure of their agricultural support, increasing the emphasis on risk management. In order to remain competitive and increase their competitive position even further, the LAC countries are

Chart 14. Subsidies to farmers based on variable payments (counter-cyclical) - (% of producers' income excluding market price support)

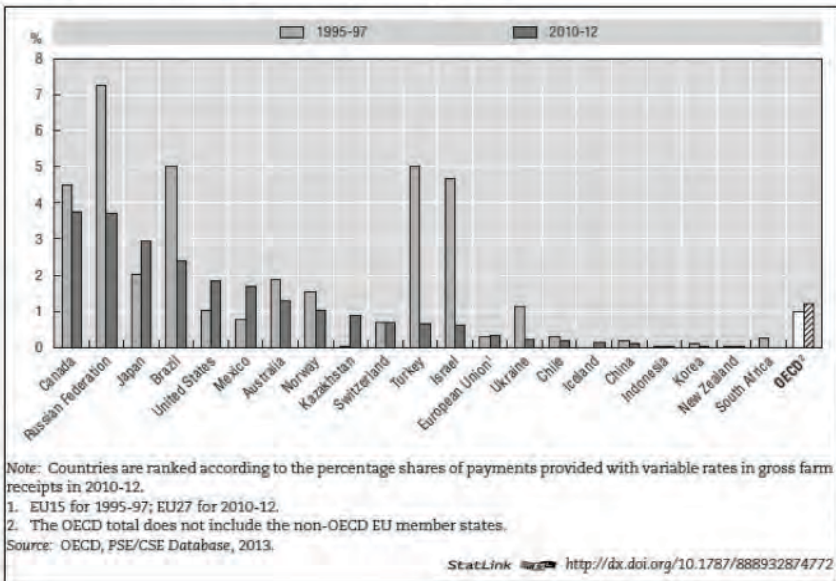


Chart 14

being forced to increase the level of support in risk management. It is important to learn from the experiences of LAC, for the best design of public policies and programs that allow the farmer to stabilize their incomes and the industry maintain its position in the global agrofood market.

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- 9 Agency created by the Mexican Government with the goal of risks prevention to small and medium producers on the agriculture sector.
- 10 Official Journal of the Federation. Reviewed on December 24th of 2011.
- 11 WTO agreement in Agriculture considers the application of a 30 percent deductible a prerequisite for insurance subsidies to be eligible for the Green Box

Endnotes

- 1 World Bank (2008). World Development Report. Agriculture for Development.
- 2 World Bank (2005). Beyond the City: The Rural Contribution to Development.
- 3 Anderson y Valdés (2008). Distortions to Agricultural Incentives in America. Washington, DC. World Bank
- 4 Deininger, K., D. Byerlee, with J. Lindsay, A. Norton, H. Selod, and M. Stickler (2011). Rising global Interest in Farmland: Can It Yield Sustainable and Equitable Benefits? World Bank.
- 5 Bruinsma, J. (2009). "The Resource Outlook to 2050: By How Much Do Land, Water, and Crop Yields Need to Increase by 2050?" Expert Meeting on How to Feed the World in 2050. Food and Agriculture Organization of the United Nations Economic and Social Development Department
- 6 Winters, Paul; et al (2008). Rural Income Generating Activities: A Cross Country Comparison. Background Paper. World Development Report. World Bank.
- 7 Giordano, Paolo; et al (2008). Agriculture in the Doha Development Agenda: An Opportunity for Latin America? GTAP Tenth Anniversary Conference "Assessing the Foundations of Global Economic Analysis," Purdue University, West Lafayette, IN, USA in June 7-9, 2007
- 8 OECD-FAO (2010). Agricultural Outlook 2010-19. <http://www.oecd.org/tad/ocde-fao-per->

Between Dialogue and Killing: A Reading on the Process of “Truce” in El Salvador from Anthropological Categories

By **Luís Enrique Amaya** and
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Abstract

In this article, the core events that allowed the “truce” in El Salvador are described and briefly explained. There are three stages in this process: “pre-truce”, “truce” and “post-truce”. The stage of “truce” began in March 2012 with the government’s decision of moving thirty gang leaders to lower security level prisons. The “truce” process opened opportunities, as homicides were reduced. The stage of “post-truce” has not yet been completed. After an abrupt closing of the process there was a “boomerang effect” with more violence. This situation would force the social actors to search for other policy options to address this social and criminal phenomenon.

Introduction

At the beginning of the 1990s, an exodus of people deported from the United States to El Salvador began to develop. At that time, the country was characterized by the end of the civil war, the presence of a highly fragmented society, and the existence of a weak state (or a state in re-composition), among other critical factors.¹

From the perspective of security, an important element was added to that complex situation: the arrival of massive waves of deported gang, or maras, members. Those gangs were (1) the Mara Salvatrucha 13 (MS-13), which originated in Los Angeles, California, in the late 1970s by young Salvadorans, many of them undocumented immigrants, and 2) Barrio 18, with a Chicano tradition, or Mexican origin, based in the same city since the early 1940s. Both groups flourished in the post-war El Salvador, adding young members of small local (neighborhood and student) gangs and even veterans of the past armed conflict.

This mixture with local groups transformed the original bands of deported gang members, making it a different organization. While they maintained the same name as their LA version, they started generating autochthonous or criollos values, norms, and characteristic. Both the MS-13 and Barrio 18 have exhibited different developmental, educational, and expansionist processes, which have resulted in both gangs becoming nationwide structures today. The state, meanwhile, has also changed its way of understanding and confronting the maras phenomenon. As important facts, the state approach has moved from ignorance or problem underestimation (and consequently neglecting) at its beginning, through the strongly repressive combat (through the “strong

hand” policies of the early 2000s), to the formalization of the “truce” filed in March 2012.² In general, we can identify three phases: “pre-truce,” “truce,” and “post-truce.”

In this article, the core events that led to this “truce” are described and briefly explained based on document reviews and conducting interviews with key informants.

The Stage of “Pre-truce”

Since the beginning of the 2000s, Barrio 18 has transitioned towards a long process of rupture and internal separation into two major factions or subgroups: “Southerners” and “Revolutionaries.”³ On 20 June 2010, gang members of the Revolutionaries, the most fractious and violent faction in recent years, were mourning a dead comrade who was nicknamed “Crayola.” MS-13 had killed him a day before, in front of his family at his house in the Colonia Jardín, a territory of the municipality of Mejicanos controlled by Barrio 18, within the Metropolitan Area of San Salvador.

Gang members who attended the funeral decided to take revenge that day. They knew that the murderers of Crayola must have come from the area of Montreal, a poor and populous settlement where an MS-13 cell or *clica* called “Guanacos Criminals Salvatrucha” dominates. Reaching the “enemy” territory would be difficult for the Revolutionaries because it

was placed in a hill of difficult access. Instead, they decided to take revenge by attacking the families of rival gang members. They stopped a public transport microbus that was heading to Montreal, assuming that family members of MS-13 members were traveling there. They threatened the driver and forced him to go towards Barrio 18 territory, where they set fire to the vehicle and prevented people from coming out of it. Seventeen people were killed, and several others were seriously injured. This landmark event was considered a “terrorist” act and began a sort of conflict, or pulse, between the Government of El Salvador (GOES) and *maras*.⁴

Months later, in September 2010, the state saw a coup effect and enacted the Law on Prohibition of *Maras*, Gangs, Groups, Associations, and Organizations of Criminal Nature, after being approved by the president of the Republic of the time, Mauricio Funes.⁵

At this point, it appears that the state itself was entering, once again, in the scheme of violence or gangs. This had already happened in the past when in October 2003 the Congress endorsed and approved the Anti-Gang Law, proposed by the then-president of the Republic, Francisco Flores.⁶ In fact, six months later, in April 2004, the Constitutional Chamber of the Supreme Court declared unconstitutional certain provisions of that law.

With this background, according

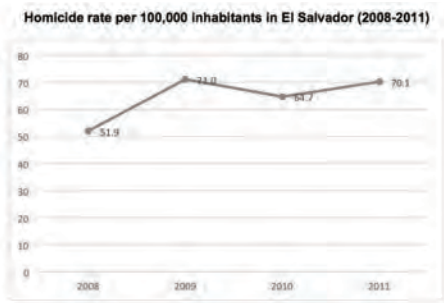


Figure 1

to Roberto Valencia, who used the crime statistics of the Policía Nacional Civil and population estimates of the Department of Statistics and Census of the Ministry of Economy, 2011 closed with one of the highest homicide rate per 100,000 inhabitants to date (see Figure 1).⁷

The Stage of “Truce”

From a historical point of view, the “truce” in fact did not bear on March 2012. In fact, years ago there had been attempts of communication talks between the maras in El Salvador, largely motivated by the widespread perception among their members that the state was becoming “the new enemy.” It was raising some kind of psychosocial dynamics linked to the “construction of the enemy,” a common and shared conviction.⁸

That conviction led to certain symbolic activities that were carried out in a relatively consensual manner. On 3 March 2010 there were two marches, one composed of people close to the MS-13 and the other by supporters of Barrio 18.⁹ The marches were organized by relatives of gang members detained in prisons and

were accompanied by their social base. Both demonstrations were heading to the Legislative Assembly and its main demands were related to the improvement of prison conditions, compliance with the Prisons Act, and the withdrawal of the military as custodians of the prisons.

Interviewed sources close to the truce process, point out that there was “no progress,” that they were deadlocked in late 2011. This makes sense. Both maras and the state were showing their forces. The clearest expressions of this pulse are linked to the attacks on the prison system operators. On 6 September 2011, two custodians of the Penal Center of San Francisco Gotera were murdered. On the thirteenth of the same month, the Director of the Quezaltepeque prison was gunned down. And on 3 December 2011, custodian of the Zacatecoluca Maximum Security Criminal Center was assassinated.¹⁰ The process of the truce began in March of the following year.

The accepted version says that the truce began formally on 8 March 2012 by the decision of GOES to execute the transfer of gang leaders from a guarded prison in the Zacatecoluca Criminal Center, the only maximum security facility operating in the country.¹¹ In total, thirty gang members were moved to prisons with lower levels of security.¹² Indeed, that was the “banderillazo” to start the truce.

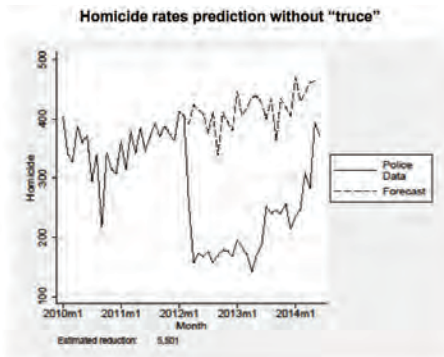


Figure 2

An important byproduct of this process was verticalization of the gang dynamics. Since its first steps, although the maras attracted many young people, they never constituted perfectly articulated or monolithic structures. Each of the cells (*clicas* or *canchas*) had shared the same story, claimed almost the same value system, and practiced a very strong antagonism against the rival gang. Additionally, cells' members used and reproduced the same system of symbols, slang, and codes of conduct and dress that allowed them to identify with other members. However, they did not seem to have a vertical structure—a committee that would unite and orientate actions of the gang as a whole and, therefore, would mark a collective agenda to develop. In this sense, as T.W. Ward pointed out, most gangs are “highly disorganized.”¹³

That is why, in March 2012, one of the most sensitive aspects for dialogue with spokesmen for such heterogeneous organizations was the issue about the “gang control.” The state, with the help of mediators, had to make a

valid gang group of representatives in order to make viable the agreement talks. That would help avoid having to talk to all gangs as a whole. This facilitated (1) the “political dialogue,” which occurred at a high level between historical gang spokespersons, mediators, government representatives, and international officials, and (2) the “operating dialogue,” which happened at the municipal and community scales between local gang leaders and municipality representatives, among others.

Thus, as a sort of second phase of the truce, the initiatives of the “sanctuaries municipalities” was implemented, which then were renamed as “free of violence municipalities.”¹⁴ To do this, initially eleven municipalities were selected whose city halls would promote programs and projects in order to help the process to materialize in each locality. However, eventually this stagnated.

In the opinion of the mayors of those municipalities, the problem laid in that they did not get on their own, nor did the GOES transfer to them, the funds required to ensure the sustainability of their violence-prevention projects, which resulted in them having to deal with expressions of dissatisfaction from maras members.¹⁵ Nevertheless, even the then general secretary of the Organization of American States, José Miguel Insulza, reiterated its support for the truce in July 2013.¹⁶

However, the truce process opened opportunities for society, as the number of violent crimes, especially homicides, declined (see Figure 2).¹⁷

As shown, the projection of homicides behavior was interrupted as a result of the truce. That ought to have led to a window for the GOES to recover its territorial presence through social programs in areas that were inaccessible.¹⁸ However, it appears that this opportunity was not seized as it should have been done.

It is important to note that not all gang members and not all cells agreed with the truce. For example, MS-13 clica “Seven Eleven Locos Salvatrucha” was opposed to the process and, therefore, its members were hardly pressed in the prison system. In the words of a member of the MS-13 during an interview with the authors in the city of Mejicanos:

The truce gives us a f*ck. We accept it because you have to accept it, but as long as we can we will continue doing business as usual. [...] Making deals and peace agreements with the chavalas [Barrio 18 gang members] does not make any sense at all.

The Stage of “Post-truce”

The “post-truce” has not yet been completed. It started deteriorating in the early months of 2013 when the Constitutional Chamber of the Supreme Court of Justice issued a ruling

which would have forced the president of the Republic, Mauricio Funes, to appoint a civilian for replacing the Minister of Justice and Public Security, Major General David Munguía Payés.¹⁹ Munguía Payés acknowledged his authorship on the strategy of the truce.²⁰ Instead, in May 2013, Funes appointed Ricardo Perdomo as Minister; Perdomo had served as director of the State Intelligence Agency.

With Munguía Payés’ substitution, the teams that kept working the truce agreements began to weaken and, thus, global conditions that had made the strategy viable were undermined. For example, the new minister replaced the general director of prisons of the time, Nelson Rauda, for allowing the departure of two gang recognized members to attend a religious event on 29 May 2015. Then Perdomo banned prison mediators from entering the prisons, which was a blow to the process since communication between the spokesmen of the maras and their counterparts in the street became slow and un-operational.

The abrupt closure of the truce heightened the confrontation with the state. In 2015, sixty-four police officers died.²¹ The state’s reaction included the Constitutional Chamber of the Supreme Court of Justice declaring illegal the “negotiation” with gangs and named them as “terrorists” groups.²²

By definition, gangs shape their identity through the maintenance of

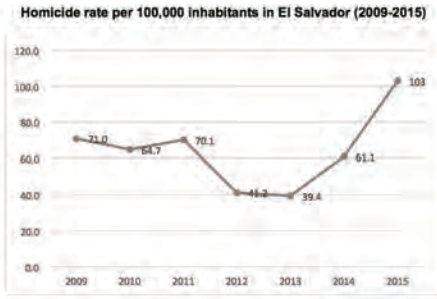


Figure 3

a system of reciprocal assaults against rival groups with similar characteristics. Paraphrasing Wim Savenije, at least in El Salvador, the day when a gang actually defeats the other, it will be immersed in a serious identity crisis.²³ However, with the repressive events of the post-truce, the state, mainly through instances of law enforcement, became a “legitimate” target for gang members. The circumstantial verticalization that caused the truce broke, which expanded the use of violence.

In conclusion, according to estimates of Valencia,²⁴ supplemented by Edwin Segura,²⁵ the “boomerang effect” predicted by Charles Max Katz and Luís Enrique Amayais already a reality: in 2015 the homicide rate per 100,000 inhabitants was the highest in the recent history of El Salvador (see Figure 3).²⁶

As a prospective analysis, threats can be expected from two angles: (1) from the perspective of the maras—more confrontation with the state, increment of “horizontality” in relations within these groups, violence extension, and probably a “natural” reduction of homicidal violence in the long term; and (2) from the perspective of the

state—basically, a possible radicalization of repressive measures. In short, they would be putting together the pieces of a puzzle to avoid the restoration of dialogue or recovery of the truce as an alternative solution of the violence problem caused by gangs. Therefore, the state will be forced to look for other policy options to address this social and criminal phenomenon.

Endnotes

- 1 Amaya, Luís Enrique and Juan José Martínez. (2013). “Los sistemas de poder, violencia e identidad al interior de la Mara Salvatrucha 13: Una aproximación desde el sistema penitenciario” in *Anuario de investigaciones 2011*. Instituto de Ciencia, Tecnología e Innovación, Universidad Francisco Gavidia. Retrieved on March 28th, 2016 from: http://www.ufg.edu.sv/icti/doc/ANUARIO_2011.pdf
- 2 Aguilar, Jeannette. (2014). *La situación de la seguridad y la justicia 2009-2014: entre expectativas de cambio, mano dura militar y treguas pandilleras*. Retrieved on March 28th, 2016 from: http://www.uca.edu.sv/iudop/wp-content/uploads/libro_la_situaci%C3%B3n_de_la_seguridad.pdf
- 3 Amaya, Luís Enrique and Martínez, Juan José (2015). *Escisión al interior de la pandilla Barrio 18 en El Salvador: Una mirada antropológica*. *Revista Policía y Seguridad Pública*. Year 5, Vol. 1 Pag. 149-178. Page 151. Retrieved on March 28th, 2016 from: <http://132.248.9.34/hevila/Revistapoliciayseguridadpublica/2015/vol1/4.pdf>
- 4 Martínez, Carlos. (2013). *Nosotros ardimos en la buseta*. *El Faro*. Retrieved on March 28th, 2016 from: <http://www.salanegra.elfaro.net/es/201310/cronicas/13785/Nosotros-ardimos-en-la-buseta.htm>
- 5 Membreño, Tania and Liliana Fuentes. (2010). *Ley de Proscripción de Pandillas entra en vigor*

- desde hoy. La Prensa Gráfica. Retrieved on March 28th, 2016 from: <http://www.laprensagrafica.com/el-salvador/judicial/142340-ley-de-proscripcion-de-pandillas-entra-en-vigor-desde-hoy.html>
- 6 Bonilla, Alexandra and Lauri García. (2003). *Ley Antimaras aprobada*. El Salvador.com. Retrieved on March 28th, 2016 from: <http://archivo.elsalvador.com/noticias/2003/10/10/nacional/naci018.html>
 - 7 Valencia, Roberto. (2015). *La Tregua redefinió el mapa de asesinatos de El Salvador*. El Faro. Retrieved on March 28th, 2016 from: <http://www.salanegra.elfaro.net/es/201503/cronicas/16490/La-Tregua-redefini%C3%B3-el-mapa-de-asesinatos-de-El-Salvador.htm>
 - 8 Martín-Baró, Ignacio. (1989). *Sistema, Grupo y Poder: Psicología Social desde Centroamérica (II)*. El Salvador. UCA Editores. (<http://es.scribd.com/doc/218519029/Ignacio-Martin-Baro-Sistema-grupo-y-poder-Psicologia-social-desde-centroamerica-II#scribd>)
 - 9 Arias, Mauro. (2010). *Marcha de familiares y pandilleros*. El Faro. Retrieved on March 28th, 2016 from: <http://www.elfaro.net/es/201003/fotos/1283/Marcha-de-familiares-y-pandilleros.htm>
 - 10 Amaya, Luís Enrique and Juan José Martínez. (2013). “Los sistemas de poder, violencia e identidad al interior de la Mara Salvatrucha 13: Una aproximación desde el sistema penitenciario” in *Anuario de investigaciones 2011*. Instituto de Ciencia, Tecnología e Innovación, Universidad Francisco Gavidia. Retrieved on March 28th, 2016 from: http://www.ufg.edu.sv/icti/doc/ANUARIO_2011.pdf
 - 11 Martínez, Óscar, Carlos Martínez, Sergio Arauz and Efren Lemus. (2012). *Gobierno negoció con pandillas reducción de homicidios*. EL Faro. Retrieved on March 28th, 2016 from: <http://www.elfaro.net/es/201203/noticias/7985/>
 - 12 Ibid.
 - 13 Ward, T. W. (2012). *Gangsters without borders: An ethnography of a Salvadoran street gang*. UK: Oxford University Press.
 - 14 Arbaiza, Gerardo. (2012). “Municipios santuario”, siguiente paso en la Tregua. Retrieved on March 28th, 2016 from: <http://www.contrapunto.com.sv/gobierno/municipios-santuario-siguiente-paso-en-la-tregua>
 - 15 Santos, Jessel and Cristian Meléndez. (2013). *Alcaldes: municipios “santuarios” estancados*. Retrieved on March 28th, 2016 from: <http://www.laprensagrafica.com/2013/11/01/alcaldes-municipios-santuarios-estancados>
 - 16 Rodríguez, Carmen. (2013). *OEA reitera apoyo a tregua entre pandillas*. La Página. Retrieved on March 28th, 2016 from: <http://www.lapagina.com.sv/nacionales/84759/2013/07/26/OEA-reitera-apoyo-a-tregua-entre-pandillas>
 - 17 Katz, Charles Max and Luís Enrique Amaya. (2015). *La tregua entre pandillas como una forma de intervención sobre la violencia: implicaciones en políticas y prácticas*. Fundación Nacional para el Desarrollo, San Salvador, El Salvador. Retrieved on March 28th, 2016 from: <http://www.repo.funde.org/1042/>
 - 18 Amaya, Luís Enrique. (2012). *Oportunidades y amenazas de la “tregua”*. El Faro. Retrieved on March 28th, 2016 from: <https://www.elfaro.net/es/201211/opinion/10313/Oportunidades-y-amenazas-de-la-tregua.htm>
 - 19 Arauz, Sergio, Carlos Martínez, and José Luís Sanz. (2013). *Sala de lo Constitucional ordena salida de los generales que dirigen Seguridad y la Policía*. El Faro. Retrieved on March 28th, 2016 from: <http://www.elfaro.net/es/201305/noticias/12113/Sala-de-lo-Constitucional-ordena-salida-de-los-generales-que-dirigen-Seguridad-y-la-Polic%C3%ADa.htm>
 - 20 Martínez, Carlos and José Luís Sanz. (2012). *La nueva verdad sobre la Tregua entre pandillas*. El Faro. Retrieved on March 28th, 2016 from: <http://www.salanegra.elfaro.net/es/201209/cronicas/9612/La-nueva-verdad-sobre-la-Tregua-entre-pandillas.htm>
 - 21 *ContraPunto*. (2016). *Policías asesinados en La Libertad y Ahuachapán*. Retrieved on March 28th, 2016 from: <http://www.>

- contrapunto.com.sv/sociedad/violencia/
policias-asesinados-en-la-libertad-y-ahuachapan
- 22 Rauda Zablah, Nelson. (2015). Sala de lo Constitucional declara ilegal negociación con pandillas y las nombra grupos terroristas. *El Faro*. Retrieved on March 28th, 2016 from: <http://www.elfaro.net/es/201508/noticias/17307/Sala-de-lo-Constitucional-declara-ilegal-negociaci%C3%B3n-con-pandillas-y-las-nombra-grupos-terroristas.htm>
- 23 Savenije, Wim. (2009). *Maras y Barras. Pandillas y Violencia Juvenil en los Barrios Marginales de Centroamérica. El Salvador*. FLACSO El Salvador. (<http://insumisos.com/LecturasGratis/maras%20y%20barras%20pandillas%20y%20violencia%20juvenil%20en%20barrios%20marginales%20de%20el%20salvador.pdf>)
- 24 Valencia, Roberto. (2015). La Tregua redefinió el mapa de asesinatos de El Salvador. *El Faro*. Retrieved on March 28th, 2016 from: <http://www.salanegra.elfaro.net/es/201503/cronicas/16490/La-Tregua-redefini%C3%B3-el-mapa-de-asesinatos-de-El-Salvador.htm>
- 25 Segura, Edwin. (2016). *El Salvador con más homicidios en C. A.* La Prensa Gráfica. Retrieved on March 28th, 2016 from: <http://www.laprensagrafica.com/2016/01/03/el-salvador-con-mas-homicidios-en-c-a>
- 26 Katz, Charles Max and Luís Enrique Amaya. (2015). *La tregua entre pandillas como una forma de intervención sobre la violencia: implicaciones en políticas y prácticas*. Fundación Nacional para el Desarrollo, San Salvador, El Salvador. Retrieved on March 28th, 2016 from: <http://www.repo.funde.org/1042/>

Political Rewards from *Progres-a-Oportunidades*: Only Gratitude?



Arthur Bauer

As an MPA-ID student at the John F. Kennedy School of Government at Harvard University (HKS), Arthur Bauer nurtured

a deep interest in Mexico's political-economy through regular interactions with his classmates and more globally with the unique environment offered by HKS. He specialized on the nowadays famous Mexican conditional cash transfer and benefited from the experience of his classmates who had been working for the Mexican Ministry of Human Development (SEDESOL).

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Arthur also conducted research during his first year under the supervision of Professor Rohini Pande and continued working on this topic for his Second Year Policy Analysis (SYPA) with Professor Michael Walton.

Before joining HKS, Arthur was an undergraduate student at Ecole Polytechnique and ENSAE Paris in France and worked remotely as a consultant for the Poverty Reduction and Economic Management unit at the World Bank.

Upon graduation, he will be working at INSEE (the French institute of statistics in France) and in close collaboration with the French Agency of Development (AFD) on education in Sub-Saharan Africa.

Abstract

Despite innovative safeguards to reduce political interference in the nowadays famous Mexican conditional cash transfer, local politicians received important electoral rewards from its implementation. We ask whether true reciprocity and gratitude only motivated those rewards. Leveraging a natural experiment: the interaction between the rotating structure of local elections and the timing of Progresa-Oportunidades' implementation we show how exogenous political incentives determined the enrollment rate of beneficiaries. After the implementation of blindaje electoral, we use a close-election regression discontinuity design to show how local incumbent's alignment with the PAN causally impacted enrollment rate's responsiveness to political incentives.

Introduction

Understanding what incentives shape the implementation of redistributive programs by politicians and possibly bureaucrats is a question at the core of the political economy. In particular, in low-income countries where state redistribution of resources may be an important means of poverty reduction and economic mobility, failures of the state to implement effective redistributive systems raise fairness and equity questions.

The Mexican Conditional Cash Transfer, Progresa-Oportunidades is an interesting case in point as it explicitly sought to reduce opportunities for political interference. A federal and autonomous agency was made responsible for implementation and operations at the local level. Besides, Oportunidades' National Coordinator, Mr. Rogelio Gómez Hermosillo identified mechanisms to reduce further political interference with the program. These mechanisms were blindaje electoral and aimed, as of 2001, at limiting enrollment during election years both at the national and local level.

Despite significant efforts to reduce political interference, studies had highlighted the recurrent existence of electoral rewards from Progresa and Oportunidades before and after Mr. Gómez Hermosillo's reform.² However, these studies leave unanswered the mechanisms that had generated those political returns.

In this paper, we ask whether reciprocity, as suggested by Marco Manacorda, Edward Miguel, and Andrea Vigorito, is the sole explanation for electoral rewards from conditional cash transfer or whether political incentives have impacted Progresa-Oportunidades' implementation and shaped electoral rewards.³

Our empirical test leverages a quasi-experiment: the interaction of the timing of expansion and the rotating structure of municipal elections in

Mexico shaped an exogenous variation in local political incentives. We analyze how these political incentives affected the rate of enrollment of Progres-Oportunidades beneficiaries.

We show that local elections have boosted the implementation of Progres-Oportunidades before blindaje electoral in rural areas, in particular when they were more disputed. We identify Promotoras as the key actors who within the de-jure rules of operations and consistently with qualitative studies may have responded to political incentives and created this political interference.

We further show that political determinants were particularly salient in municipalities governed by the national incumbent, after blindaje electoral. We alleviate concerns of endogeneity and omitted variables bias by focusing on municipalities where PAN had lost shortly and those where it gained power through a disputed election.

Political Interference in Progres-Oportunidades

Literature Review

Despite attempts to reduce political interference with Progres-Oportunidades at the local and state level, Mr. Gómez Hermosillo “recognized electoral abuses of the program” before his mandate.⁴ In the academic literature, Alberto Díaz-Cayeros, Federico Estévez and Beatriz Magaloni mention a possible political ex-ante determination of

Progres-Oportunidades’ roll-out,⁵ Takahashi Yuriko revealed “electoral geographic targeting before the 2000 elections.”⁶ However, their work doesn’t identify any causal relation between political determinant and program implementation.

Jonathan Fox documents the mechanisms through which this political interference may have occurred. Municipal governments and local officials may have played a role in this abuse, as “most complaints about politicization involved abuses by leaders of local program committees and municipal officials.”⁷ Their role in the implementation and administration of the conditional cash transfer was certainly not negligible. Municipal governments provided a central logistical support, through a “Municipal Liaison officer” (Enlace), responsible for identifying geographical limits, helping with registering and re-certifying beneficiaries.⁸ Enlaces were municipal bureaucrats and, given the long tradition of patronage in Mexico, arguably responsive to political incentives and/or pressures. They delegated power to Promotoras, who de-facto were not elected but appointed by higher level of the administration.⁹ Promotoras were in charge of ensuring beneficiary compliance with program requirement and sometimes built clientelistic relations with the community.¹⁰ Felipe Hevia de la Jara further reports how they “imposed unpaid work tasks, asked for money

and used the program for political campaigning.”¹¹

Channels for Political Interferences and Their Evolution with Blindaje Electoral

As suggested in the previous paragraph, we expect political determinants to be particularly salient for the implementation of the program when local governments get involved in its implementation or when there is evidence for political involvement of program’s officials. Involvement of program’s officials such as Promotoras, who have been shown to respond to political incentives, may well work as a channel for political interference in program implementation. Their role is central throughout program’s operations.

To reduce political interference, former President Vincente Fox (2000–2006) mandated Mr. Gómez Hermosillo, former founder and director of Civic Alliance. This NGO’s research had come to the conclusion that in “close elections [. . .], bought or conditioned votes could produce a margin of victory of those parties already in control of local government.”¹² As a result, under his term, Oportunidades strengthened institutional mechanisms to limit political interference. Blindaje electoral changed the institutions that regulate the operations; in particular, the selection and appointment process of key officials. A small group of elected

spokeswomen (vocales) replaced each promotora, who de-facto used to be appointed by higher administrative levels. As a result, if political interference were occurring through this channel before blindaje electoral, political interference should reduce after blindaje electoral implementation.

Empirical strategy

Leveraging the Rotating Structure of Municipal Elections

An extensive literature has documented the impact of elections on economic and social outcomes in Mexico. Given the role of municipal and local officials in program’s implementation and the particular appeal of social programs for patronage systems, we analyze the impact of political determinants at the municipal levels on program’s implementation.

Each year in Mexico one-third of the municipalities holds elections. Hence, for one-third of them the 1997 expansion, following the 1996 pilot happened before municipal elections; for one third, it happened during local elections; and for the remaining third, it happened the year after. This rotating structure of municipal elections created an exogenous variation in the political incentives for the implementation of the program.

The rotating structure of elections allows us to analyze the dynamics of the implementation. For each year

of the 1998 to 2000 period, we can compare municipalities with elections and municipalities without election, separating political impacts of elections from potential year-specific shocks. Since the number of beneficiaries at one point in time in a specific municipality is the result of a cumulative process of past enrollments, we must rely on longitudinal datasets to analyze this period.

Another concern we can alleviate with longitudinal data is the potential difference between municipalities where initial implementation happened during elections years and municipalities where initial implementation happened after or before elections. The former group of municipalities might simply be poorer inducing a spurious correlation between the political incentives and the enrollment level. Following municipalities across time enables us to see how Progres-Oportunidades' rate of enrollment varies within a municipality when it holds local elections, while controlling for all municipalities invariant characteristics by including municipality-fixed-effects.

Data and Specification

We combine data on the number of beneficiary households per locality under Vicente Fox's and Ernesto Zedillo's presidencies (1998–2004), obtained from the Secretaría de Desarrollo Social, or Ministry of human development (SEDESOL) with elec-

toral results contained in the CIDAC database, completed with data from Instituto Federal Electoral. We study separately rural and semi-urban areas. To account for time-varying policies regulating Progres-Oportunidades' distribution, we analyze two periods separately. As of 2001, blindaje electoral indeed affected expansion in municipalities holding municipal elections, limiting the period over which the impact of municipal elections is most likely to be observed to 1997 to 2000.

We adopt a first difference approach. In particular, we are interested in capturing the relative increase in the number of beneficiaries, because the number of recipients observed in a specific year is the result of a cumulative process. If the enrollment process was linear and only constrained by local capacity, the first year after implementation, the number of beneficiaries should increase by 100 percent, the year after by 50 percent more, then by 33 percent and so on such that the enrollment rate of beneficiaries wouldn't be linear. Hence, the relative drop in the growth rate matters more than the actual number of percentage points it drops by. The easiest way to deal with this nonlinearity is to focus on the log of the growth rate as the dependent variable.

We analyze how the enrollment rate of beneficiaries varies during election years. Our dependent variable (Y_{mt}) is simply the log of the ratio of number

of beneficiaries over two consecutive years (i.e., the growth rate plus one). To prevent division by zero, we add one to the denominator, so that this ratio in the first year the program was implemented in the municipality simply converges towards the number of beneficiaries plus one. All in all we estimate the following equation:

$$Y_{mt} = \beta X_{mt} + \gamma^0 \text{Election}_{mt} + \delta_m^1 + \delta_t^2 + \varepsilon_{mt}$$

Where, X_{mt} is a vector including the constant and a control for time-varying characteristics of municipality m , here the population of municipality m in year t . Election_{mt} is an indicator (resp. a vector of indicators) indicating whether year t was an election year (resp. preceding or following an election) in municipality m . and account for time-invariant municipal characteristics and year-specific shocks. Standard errors are clustered at the year and state level.

One might be concerned that the date at which the program started would impact the subsequent ratio. Indeed, in a given year, the municipalities where the program has been implemented for the longest time, even if the enrollment process was very regular and the amount of eligible household unlimited, would have a lower growth rate of beneficiaries. However, the date at which the program starts being implemented in a

given municipality is invariant constant characteristic of this municipality and is therefore captured by the fixed effects.

One might also be concerned that the dependent variable is much larger the year of the program's implementation. However, this should not bias the results since we treat all the municipalities the same way and are simply concerned with the variation of this variable, within a municipality, during election years.

Heterogeneous Effects

The analysis of heterogeneous effect allows us to better characterize political determinants.

By Level of Competition

First, we test whether political competition amplifies the impact of local elections. Indeed, disputed elections should create even stronger political incentives. We estimate equation (1) on various sub-samples of municipalities with different levels of political competition. We compare municipalities where past elections were disputed and those where margins of the past elections were large. We conduct the analysis focusing first on municipal elections and then on state elections to facilitate comparison with the descriptive work of Takahashi Yuriko.¹³

By Party Affiliation

Second, we analyze how alignment with the federal incumbent

facilitated political interference, making political incentives more salient. To empirically test this channel, and account for the potential endogenous differences between

municipalities run by the national incumbent and the other ones, we adopt a close regression discontinuity design and estimate the following equation:

$$Y_{mt} = \beta X_{mt} + \gamma^0 Election_{mt} + \delta_m^1 + \delta_t^2 + \varepsilon_{mt} + \gamma^1 Election_{mt} \cdot Close(\alpha)_{mt} + \gamma^2 Election_{mt} \cdot Incumbent_{mt} + \gamma^3 \cdot Close(\alpha)_{mt} \cdot Incumbent_{mt} + \gamma^4 \cdot Close(\alpha)_{mt} \cdot Incumbent_{mt} \cdot Election_{mt}$$

Where $Incumbent_{mt}$ is a dummy indicating whether the mayor is aligned with the federal incumbent, i.e., belongs to the PRI before 2000 or belongs to the PAN after 2000. Given that Vicente Fox took power only as of 1 December 2000, we consider that PRI mayors in 2000 were still aligned. $Close(\alpha)_{mt}$ is a dummy indicating that the previous election was close in municipality m and that one of the two main candidates was affiliated with the same party as the federal incumbent.¹⁴

election years weren't systematically associated with higher enrollment rate.

As a robustness check, we exclude municipalities that didn't hold any elections neither in 1999 nor in 2000 (which are the two years for which we have observations on the growth rate of beneficiaries, since we have no disaggregated data on enrollment level before 1998). Results, reported in columns (4) to (6) confirm the positive impact of elections on enrollment years.

Results

Before and after Blindaje Electoral

We first estimate equation (1) both at early stage of Progresá's expansion in rural areas (1998–2000) and during Oportunidades' expansion (2001–2004).

Table 1 shows how the growth rate of enrollment was systematically larger on election years in rural areas before *blindaje electoral*. On the contrary in both rural and semi-urban areas, after *blindaje electoral* was implemented,

Heterogeneous Impact of the Elections

By Level of Political Competition

Panel estimates reported in the previous sections may, however, be driven by year-group of municipalities specific shocks. To alleviate this possibility, we investigate heterogeneous impact of elections. In particular, if we are identifying a political effect, it should be magnified in municipalities where incentives are larger, namely where elections are more disputed in the year of reference.

Table 2 reports results from estimating equation (1) on different sub-samples of municipalities that vary along their levels of electoral competition.

We can see that the level of political competition in state elections aggregated at the state level doesn't seem to be a determinant of implementation's effectiveness. We don't see any differential impact of local elections in more disputed elections (with margin in past elections lower than 5 percent) and in less disputed elections (with margin in past elections larger than 20 percent).

On the contrary, the differential impact of local elections on the enrollment rate is more important when we consider margins in municipal elections at the municipal level. More specifically, local elections are stronger incentives when political competition is more important. Equivalently, local elections matter more for the efficiency of program's implementation when they are disputed than when they are not. Columns (4) to (9) shows that this result doesn't really depend on the threshold we consider to define an election as disputed.

By Party Affiliation

In this paragraph we report differential impact by alignment of the mayors with the national incumbent. As often in the literature, we consider alignment of mayors with the national incumbent

in disputed constituencies as randomly determined. Table 3 presents results with various thresholds to classify an election as disputed.

First, results confirm that before *blindaje electoral* alignment of the mayor and the national incumbent, namely the PRI, didn't drive the impact of political determinant in the program's expansion. Second, in the post-*blindaje* period, municipalities where elections were contested and the PAN won narrowly, political incentives were more important for Oportunidades' implementation than those where it narrowly lost.

The latter suggests that alignment with the incumbent did matter for Oportunidades's implementation during the post-*blindaje* period. This also suggests that the *blindaje electoral* strategy was not completely successful in preventing all political interference in program's operation.

Conclusion

Acknowledging that innovative safeguards limited political interference, this paper identifies actors whose behavior responded to political incentives and at the same time affected the implementation of the program.

Leveraging the rotating structure of municipal elections, it relies on a quasi-experiment that created exogenous political incentives for local actors. We show that enrollment of

new beneficiaries was significantly higher during elections before the *blindaje electoral* reform in 2001 that increased barriers to political interference. Consistently with qualitative studies and anecdotal evidence this pattern was larger in more disputed municipalities, confirming the analysis does identify political determinants of the implementation.

After 2001, we also find that alignment with the national incumbent led to a larger impact of elections on enrollment efficiency, suggesting that the *blindaje electoral* reform could not remove all political interference.

All in all, our results suggest that beyond pure reciprocity or sole gratitude, ex-ante political determinants in Progres-Oportunidades' distribution may have driven voters' decision to reward the incumbent. While there is no evidence for vote-buying, there is anecdotal evidence of threat by Mayors, despite their limited influence on the program as well as evidence of the politicization of some program officials before the *blindaje electoral* reform. Given the historical context of patronage in Mexico, fear to lose access to the program may have therefore also motivated beneficiaries' decision to reward the incumbent, in addition to their gratitude. More research should, however, be carried to pin down more precisely

the mechanisms that left political interference possible after *blindaje electoral*, and to help consolidate the Mexican democracy where allegations of vote-buying still surround some elections.

Table 1: Before and after blindaje electoral

	Before <i>blindaje electoral</i>	After <i>blindaje electoral</i>		Before <i>blindaje electoral</i>		
	(1)	(2)	(3)	(4)	(5)	(6)
	rural areas	rural areas	semi-urban areas	rural areas	rural areas	rural areas
Log. Rural pop.	1.015*** (0.158)	-0.262** (0.120)		2.020* (1.188)	2.020* (1.188)	2.020* (1.188)
Election year	0.596*** (0.188)	-0.048 (0.077)	5.939 (4.181)	0.375*** (0.121)		
Log. Semi-urban pop				-3.901 (19.153)		
One year before election					-0.750*** (0.241)	
One year after election						-0.750*** (0.241)
Constante	-8.698*** (1.683)	3.648*** (1.236)	148.236 (175.270)	-19.084* (10.853)	-18.709* (10.939)	-18.709* (10.939)
R-squared	0.560	0.291	0.271	0.518	0.518	0.518
Observations	3899	6903	4547	1966	1966	1966

Note: Dependent variable is the logarithm of the ratio over two consecutive years of the number of beneficiaries per municipality. There is one observation per municipalities for each of the 1999 and 2000 years in columns (1) and (4) to (6) and for each of the 2002, 2003 and 2004 years in columns (2) and (3). Columns (4) to (6) exclude municipalities that didn't hold elections neither in 1999 nor in 2000. Source: Administrative data obtained from SEDESOL dataset merged with "Base de datos electoral CIDAC", and census 1995, 2000 and 2005. Municipalities and year fixed-effects. Baselines are year 1999 for columns (1) and (4) to (6) and year 2002 for columns (2) and (3). Standard errors clustered at the state and year levels in parenthesis.

* p < 0.1, ** p < 0.05, *** p < 0.01.

Source: Own calculations.

Table 2: Differential effects for different levels of political competition

	Margin state elections	Margin municipal elections		Before <i>blindaje electoral</i>					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	<5%	>20%	>25%	<10%	<5%	<4%	<6%	>20%	>15%
Log. Rural pop	4.354*** (0.174)	0.864*** (0.047)	0.894*** (0.056)	0.792*** (0.052)	3.315*** (0.430)	3.332*** (0.441)	3.322*** (0.418)	3.611*** (1.356)	2.475* (1.265)
Election year	0.352*** (0.054)	0.604*** (0.192)	-0.199 (0.296)	0.624*** (0.184)	0.564*** (0.155)	0.480*** (0.161)	0.567*** (0.169)	-0.085 (0.128)	0.122 (0.155)
Constante	-40.470*** (1.597)	-9.151*** (0.411)	-9.150*** (0.448)	-6.346*** (0.513)	-27.041*** (3.416)	-27.153*** (3.496)	-33.325*** (4.448)	-35.268*** (13.163)	-24.028** (12.049)
R-squared	0.587	0.521	0.597	0.593	0.639	0.619	0.632	0.628	0.619
Observations	496	1329	700	1504	790	653	928	1459	1893

Note: Please see Table 1 "Margin state elections" refers to the state-wide margin in past elections of state governors. "Margin municipal elections" refers to the municipal-wide margin in past municipal elections.

Table 3: Differential impact by party affiliation

	Before <i>blindaje electoral</i>			After <i>blindaje electoral</i>		
	(1)	(2)	(3)	(4)	(5)	(6)
	<5%	<10%	<15%	<5%	<10%	<15%
Log. Rural pop	1.007*** (0.154)	1.003*** (0.151)	1.001*** (0.150)			
Election year	0.778*** (0.280)	0.656** (0.311)	0.451 (0.304)	0.097 (0.123)	0.112 (0.123)	0.099 (0.118)
Alignment	0.415** (0.170)	0.388** (0.182)	0.186 (0.173)	0.123 (0.112)	-0.041 (0.156)	-0.059 (0.076)
Close margin	0.197 (0.148)	0.114 (0.233)	-0.371* (0.197)	0.106 (0.081)	-0.108 (0.158)	0.042 (0.129)
Election year * alignment	-0.317** (0.161)	-0.237 (0.187)	-0.089 (0.174)	-0.355* (0.206)	-0.309 (0.234)	-0.252 (0.266)
Election year * close margin	-0.060 (0.282)	0.282 (0.322)	0.590* (0.333)	-0.047 (0.204)	-0.105 (0.130)	-0.023 (0.125)
Alignment * close margin	-0.447* (0.254)	-0.202 (0.266)	0.177 (0.216)	-0.484* (0.253)	0.094 (0.274)	0.031 (0.159)
Election year * alignment * close margin	0.415 (0.261)	-0.000 (0.258)	-0.289 (0.230)	0.920** (0.360)	0.467** (0.231)	0.259 (0.268)
Log. Semi-urban pop.				-0.233 (0.464)	-0.224 (0.464)	-0.220 (0.461)
Constante	-8.614*** (1.635)	-8.569*** (1.602)	-8.543*** (1.596)	3.658 (5.564)	3.571 (5.601)	3.532 (5.574)
R-squared		0.562	0.562	0.335	0.334	0.334
Observations		3890	3890	3890	3285	3285

Note: For dependent variable and source please see Table 1. Municipalities and year fixed effects, standard errors clustered at the state and year level in parenthesis.

Endnotes

- 1 I am indebted to Professors Rohini Pande and Michael Walton for their guidance as well as to Florencia Leyson for numerous conversations and her help accessing the data. I would like to thank Soledad Artiz Prillaman, and Professors Filipe Campante and Michael Kremer for helpful discussions.
- 2 Rodríguez-Chamussy, L., 2015. Local electoral rewards from centralized social programs: Are Mayors Getting Credit?. IDB WORKING PAPER SERIES No. WP-550.
- 3 Manacorda, Marco, Edward Miguel, and Andrea Vigorito. 2011. "Government Transfers and Political Support." *American Economic Journal: Applied Economics*, 3(3): 1-28.
- 4 Paniagua, Fernando (2001). 'Reconocen manipulación con el Progreso', *Reforma*, October 6. as quoted in page 268 of Fox, Jonathan, 2008. *Accountability Politics: Power and Voice in Rural Mexico*. Oxford UK: Oxford Scholarship Online.
- 5 Díaz-Cayeros, Alberto, Federico Estévez and Beatriz Magaloni. 2012. «Strategies of Vote Buying: Democracy, Clientelism and Poverty Relief in Mexico.» Retrieved on March 27th, 2016, from <http://web.stanford.edu/~magaloni/dox/2012strategiesvotebuying.pdf>.
- 6 Takahashi, Yuriko. 2007. "The Political Economy of Poverty Alleviation: The Case of PROGRESA in Mexico." *Journal of International Cooperation Studies* 14.3: 109-137 as quoted in page 268 of Fox, Jonathan, 2008. *Accountability Politics: Power and Voice in Rural Mexico*. Oxford UK: Oxford Scholarship Online.
- 7 Fox, Jonathan, 2008. *Accountability Politics: Power and Voice in Rural Mexico*. Oxford UK: Oxford Scholarship Online.
- 8 Hevia de la Jara, Felipe. (2010). *Uso político de programas sociales y nuevos intermediarios institucionales: el Programa Progreso/Oportunidades en el sur de Veracruz*. *Desacatos*, (34), 119-132. Retrieved on March 27th, 2016, from http://www.scielo.org.mx/scielo.php?script=s-ci_arttext&pid=S1405-92742010000300008&lng=es&tlng=es.
- 9 Fox, Jonathan, 2008. *Accountability Politics: Power and Voice in Rural Mexico*. Oxford UK: Oxford Scholarship Online, page 273.
- 10 Escobar Latapí, A. & González de la Rocha, M., 2005. *Evaluación cualitativa de mediano plazo del Programa Oportunidades en zonas rurales*. Dans: I. N. d. S. Publica/Ciesas, éd. *Evaluación externa de impacto del Programa Oportunidades: Aspectos Economicos y Sociales*. Cuernavaca: s.n. Quoted by Jonatahn Fox (2008).
- 11 Hevia de la Jara, Felipe (2007). 'El Programa Oportunidades y la construcción de ciudadanía. Relaciones sociedad-Estado, participación ciudadana y contraloría social', (p.387) *Centro de Investigación y Estudios Superiores en Antropología Social*, Ph.D. thesis as quoted in page 274 of Fox, Jonathan, 2008. *Accountability Politics: Power and Voice in Rural Mexico*. Oxford UK: Oxford Scholarship Online.
- 12 Global Exchange. 2006. Page 4. *Electoral observations in Mexico 2006*. Retrieved on March 27th, 2016, from http://www.ine.mx/docs/Internet/IFE_Internacional_CAI/Informes_presentados_por_Visitantes_Extranjeros/Reporte_final_Global_Exchange__7_Punto_11.pdf.
- 13 Takahashi, Yuriko. 2007. "The Political Economy of Poverty Alleviation: The Case of PROGRESA in Mexico." *Journal of International Cooperation Studies* 14.3: 109-137 Retrieved on March 27th, 2016, from <http://www.lib.kobe-u.ac.jp/repository/00520274.pdf>.
- 14 As a time-varying municipal characteristics, it is included in the vector X_{mt} in addition to the constant and the logarithm of population in municipality m and year t .

Galapagos Islands, Ecuador

By Juan Carlos Paredes (Juank Paredes) www.JuankParedes.com



Galapagos Sea Lion



Baby Sea Turtle



Iguana taking a bath in the sun



Lagartija de Lava



Galapagos Zayapa



Sunset in Galapagos
(Photographer: Juan Carlos Paredes, JuankParedes.com)

Latin America photo session

By Claudia Carbajal Morelos, Tansaya Kunaratskul and Sandro Parodi



El Chalten, Mt. Fitz Roy, Patagonia,
Argentina (Photographer: Tansaya
Kunaratskul)



Perito Moreno, Patagonia, Argentina (Photographer: Tansaya Kunaratskul)



Barahona, Dominican Republic (Photographer: Sandro Parodi)



Boca Chica, Santo Domingo, Dominican Republic (Photographer: Sandro Parodi)



Picture taken from the appliance department of a nearby Sears store.
Palacio de Bellas Artes, Mexico City, Mexico. (Photographer: Claudia Carbajal Morelos)



Machu Pichu, Peru (Photographer: Tansaya Kunaratskul)



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