

Dividends, Benefits, and Costs of Colombia's Peace Process

Working Paper elaborated by ANIF (think-tank of Colombia) *

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Summary

This paper was written with the objective of contributing in the analysis, from an economics perspective, of the Colombian Peace Agreement considering these three issues: i) peace dividends that may result from reducing budgetary allocations to the Colombian Armed Forces (= military expenditure + law enforcement expenditure, which is close to 3.5% of GDP); ii) benefits from reaching an accelerated growth rate of real GDP on account of an improvement in the business environment; and iii) additional budgetary costs resulting from the “short-term implementation” of the Agreement and costs related to the “economic sustainability” in the medium term of productive conditions in rural areas.

The following main conclusions can be drawn: i) there is little space for reducing budget allocations to the defense sector, therefore peace dividends are inexistent; ii) benefits resulting from guerrilla demobilization and a reduction in drug-trafficking could result in an estimated growth potential of 0.5% to 1% per year, during the next decade; iii) the implementation of the Peace Agreement will convey “immediate” budgetary costs of 2.23% of GDP per year during the next half-decade (2017-2022) and post conflict “sustainability” costs (tertiary roadwork, rural financing and education) will add another 3% of GDP per year, hence peace-budget costs will range from 2.23% of GDP to 5.23% per year throughout the following decade; and iv) additional fiscal pressure (apparently not taken into consideration by the government) will amount to 2.7% of GDP in 2018 and increase to 4.8% of GDP in 2020, where tax replenishment of 1.3% of GDP would help in reducing the fiscal shortfall to 3.5% of GDP in 2020.

JEL Classification: Conflict Resolution (F51), Budget deficit (H62).

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Introduction

After more than four years of negotiations (2012-2016) between the government and FARC guerrilla, on the 26th of September of 2016 the “final agreement to end conflict and construct a stable and lasting peace” was signed. The contents of the Peace Agreement were submitted to a plebiscite held on the 2nd of October 2016, but lacked the expected endorsement. Polls gave a promising margin to those favoring the agreement (YES), close to 55%-65%; nonetheless, the opposition (NO) obtained a half-percentage point advantage (equivalent to 60,000 votes, from a total of 12 million voters on that day). Despite the importance of this historic moment that would end a 52-year conflict, electoral participation was only 38% of voting potential, even surpassing Colombia’s “structural abstention” which has bordered 50%-60%.

The victory of those pledging NO has had important consequences from a judicial perspective, resulting in the paralysis of a series of constitutional and legal reforms, a situation that could have been avoided if instead the agreement had been approved by a “fast-track” through Congress. Furthermore, this failed endorsement has had profound implications in the social-political front, in reopening the debate on topics such as the demobilization of the FARC guerilla; a topic that transcends the scope of this paper.

This document was written with the objective of contributing in the analysis, from an economics perspective, of the Colombian Peace Agreement in these three issues: i) peace dividends that may result from reducing budgetary allocations to the Colombian Armed Forces (= military expenditure + law enforcement expenditure), where the debate hopes to determine whether or not Colombia can reduce these expenses (which are close to 3.5% of GDP) to levels similar to those in the region (1.5% of GDP); ii) benefits from reaching an accelerated growth rate of real GDP on account of an improvement in the business environment, drawing from the experiences of El Salvador, Guatemala and Peru; and iii) additional budget costs resulting from the “short-term implementation” of the Agreement and costs related to the “economic sustainability” in the medium term of productive conditions in rural areas (in topics such as farmland adequacy, education to promote productivity and

secondary and tertiary roadwork); “implementation” costs are those resulting from: a) land restitution; b) reparation to victims; c) maintenance of post conflict camps and demobilization; d) Special Peace Jurisdiction - *Jurisdicción Especial para la Paz* (JEP); and e) illicit crop substitution.

This document contains five chapters, in addition to this introduction. The first chapter is a recount of the de-escalation of conflict during the period 2002-2016, with special attention to the period involving peace talks during 2012-2016. Chapters two, three and four will take an in-depth look at dividends, benefits, and costs (as previously mentioned). The fifth chapter gives estimations on budgetary additions and analyzes the resulting fiscal pressure for the 2015-2025 period. Finally, the document concludes on the economic implications resulting from the Colombian Peace Agreement.

The following main conclusions can be drawn from our research: i) there is little space for reducing budget allocations to the defense sector, therefore peace dividends are inexistent, at least in the short-term (next two years); in fact, Colombia must prepare to strengthen its urban police force in order to face organized crime taking over FARC delinquent activities; ii) benefits resulting from guerrilla demobilization and a reduction in drug-trafficking could result in an estimated growth potential of 0.5% to 1% per year during the next decade; this will result in an annual growth rate of 4.5% for the period 2015-2020, and accounting for an increase in investment in infrastructure and export diversification, Colombia could reach real growth of 5.5% per year during 2020-2025; iii) the implementation of the Peace Agreement will convey “immediate” budgetary costs of 2.23% of GDP per year during the next half-decade (2017-2022) and post conflict “sustainability” costs (tertiary roadwork, rural financing and education) will add another 3% of GDP per year, hence peace-budget costs will range from 2.23% of GDP to 5.23% per year throughout the following decade; and iv) additional fiscal pressure (apparently not taken into consideration in the MFMP-2016) will amount to 2.7% of GDP in 2018 and increase to 4.8% of GDP in 2020, where tax replenishment of 1.3% of GDP (= 0.4%

restoring the financial transactions tax (4x1000) and 0.9% restoring the CREE surcharge) would help in reducing the fiscal shortfall to 3.5% of GDP in 2020.

I. De-escalation of Conflict with FARC during 2002-2016

a. Drug-trafficking setback?

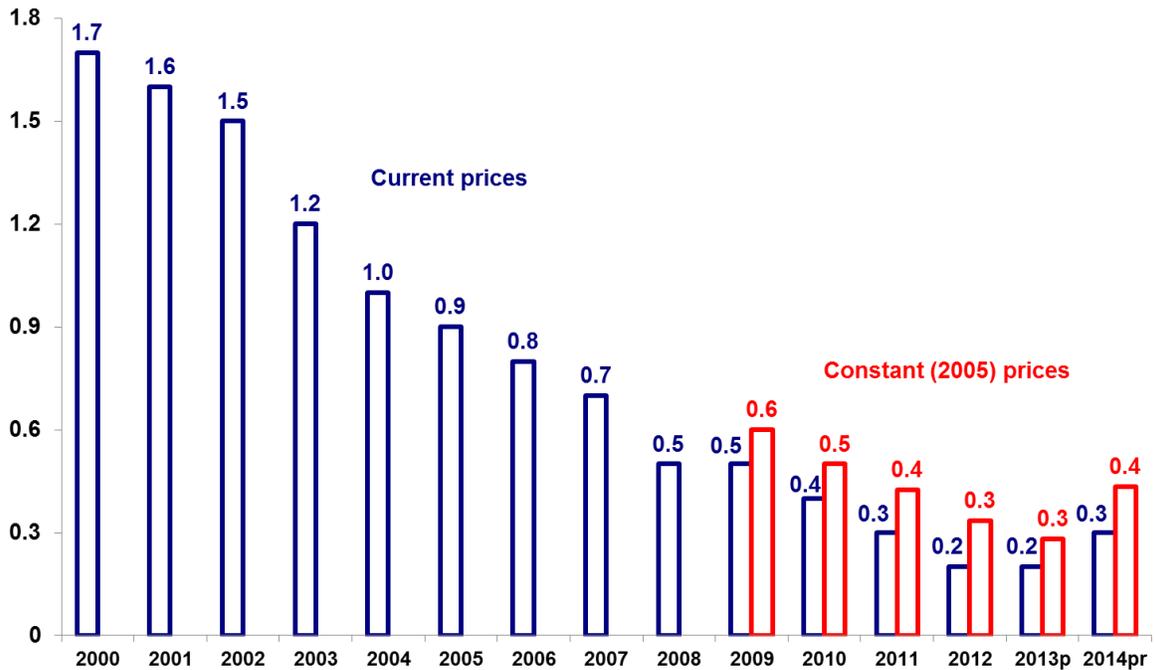
By looking at official data from the National Statistics Department (DANE) regarding Colombia's illegal economy, we observe a marked decreasing trend during the period 2000-2014. For example, these figures show that the presence of illicit crops in Colombia has gone from representing 1.7% of GDP in 2000 (in current pesos) to 0.3% of GDP in 2014 (see Graph 1).

Hence, this may lead to believe that the drug-trafficking economy has almost ceased to exist in Colombia and, foreign observers may conclude, that the Peace Agreement represents a victory in the fight against drug-trafficking and organized crime. In fact, these figures give the false impression that drug-trafficking has disappeared from the "face of Colombia", as was announced by the Minister of Interior Affairs in 2002, an ordeal he hoped to achieve in the first few months of his administration.

Nonetheless, United Nations data on coca-leave crops in Colombia point to another reality. Graph 2 shows how, after more than a decade of decreasing hectares of coca-leave plantations, in reality these have doubled during 2012 and 2015, going from 48,000 in 2012 to 96,000 in 2015. The Santos Administration has acknowledged that this illicit crop expansion and associated drug-trafficking business has coincided with the beginning of peace talks with the FARC in La Habana and with the suspension of aerial aspersion of glyphosate, on behalf of the government acknowledging WHO findings on cancer risks and contamination to nearby crops. In this regard, it might not come as a surprise that the report on "Monitoring of land affected by illicit crops 2015" (2016), performed by the United

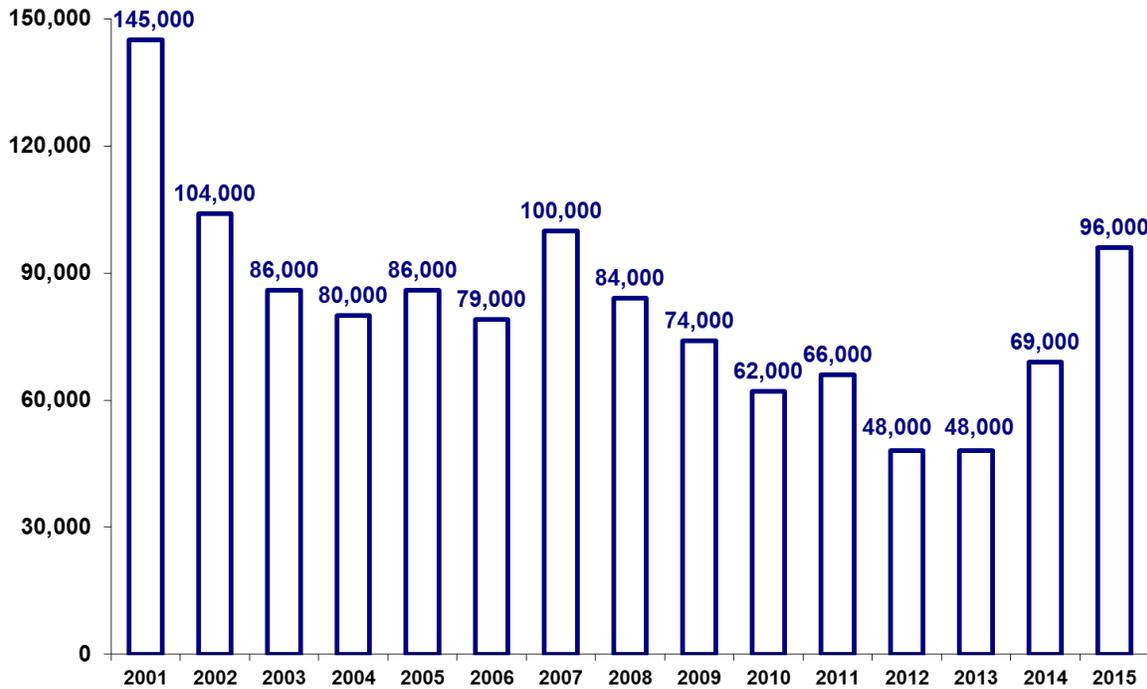
Nations, conveys that coca production has increased from 442 tons to 646 tons during 2014-2015.

**Graph 1. Size of the illegal economy: illicit crops
(% GDP)**



Source: Anif estimations based on Dane.

It is clear, that given the expansion of illegal crops, FARC demobilization and the abandonment of arms and drug-trafficking business will open a path for other organized crime springing from the Uraba Gulf, Catatumbo, Nariño-Cauca (possibly the ELN guerilla) to take over these activities. In other words, the country must be on guard to avoid the establishment of a dangerous system of “criminal franchises” maybe even promoted by FARC dissidents.

Graph 2. Number of hectares of coca-leave crops in Colombia

Source: Anif estimations based on United Nations Office on Drugs and Crime (UNODC).

In sum, signing a peace agreement with the FARC guerilla implies guaranteeing an effective strategy to reduce the influence of the illegal economy in Colombia. A successful strategy must combine a “firm hand” approach against repeat offenders and a sustainable substitution of illicit crop (this will be later discussed more in depth).

b. Accelerated growth of real GDP? Not during 2015-2020, but probably the case for 2020-2025

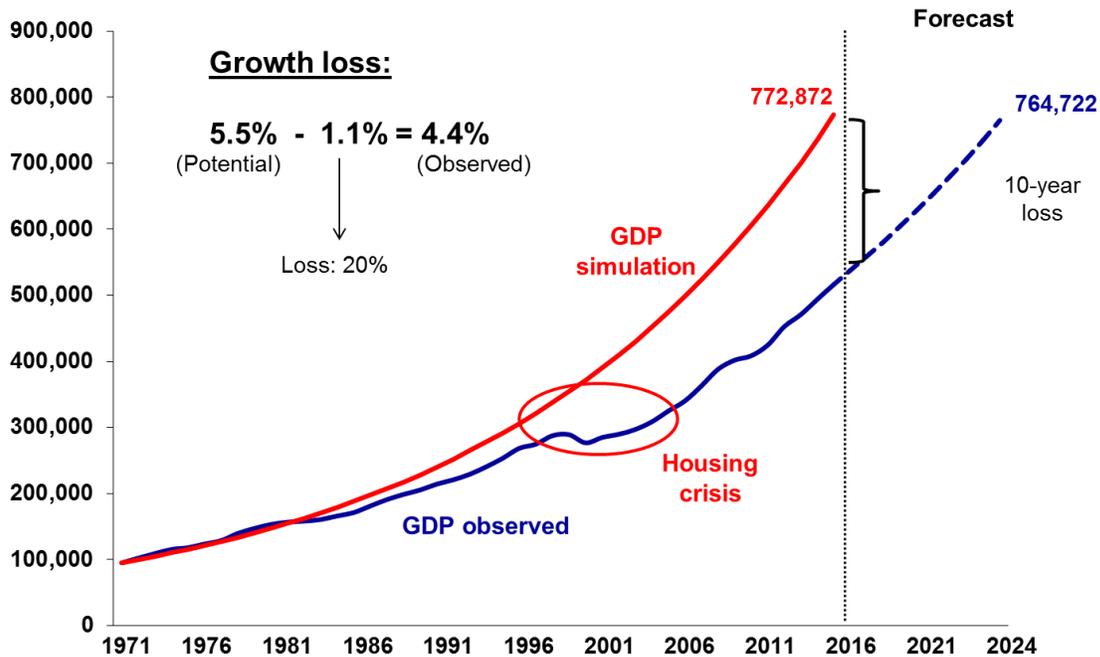
During 1970-2014, economic growth has been clearly decelerating, and there is evidence that long-run growth has gone from averaging 4.5% per year (in real terms) to ranging between 3%-3.5% (by half-decades) for the prospective period 2015-2020. Simulations performed in the light of Incremental Cost of Capital (ICOR), suggest that, between economic cycles and difficulties resulting from the armed conflict, the Colombian economy has lost close to 20% of its potential (see Anif 2012). This growth loss has led to an economic sacrifice worth 1.1% per year (in real

terms). In other words, potential investment would have resulted in an annual real growth rate of 5.5% as opposed to the 4.4% observed in recent history (see Graph 3).

One conjecture that springs from these findings is that, if the FARC guerilla ceases to exist, and drug-trafficking ultimately subsides in Colombia, this may result in an additional growth potential of 0.5%-1% per year during the next decade. Nonetheless, an underlying question remains: What is the “starting” growth rate to which apply this expected delta growth, on account of putting an end to the armed conflict? Taking into account the fact that the mining-energy boom has dwindled in Colombia, reducing growth potential to 3%-3.5% per year (in real terms), the economic benefits of accelerated growth in the post conflict era will probably lead the economy to expand at an annual real rate of 4.5% during the 2015-2020. However, there is a slight chance, that given higher investment in infrastructure and export diversification, Colombia could reach sustainable annual growth of close to 5.5% during 2020-2025, a situation that has only occurred in the “golden age” of import substitution and export promotion during 1968-1974.

Then again, it is worth noting that Colombia has already begun to reap some of the benefits that an eventual end of conflict might convey. In fact, in the last few years we have witnessed a de-escalation of conflict in Colombia and, this may in fact be the reason why the economy has expanded at a higher rate than other countries in the region (see Bank of America 2014).

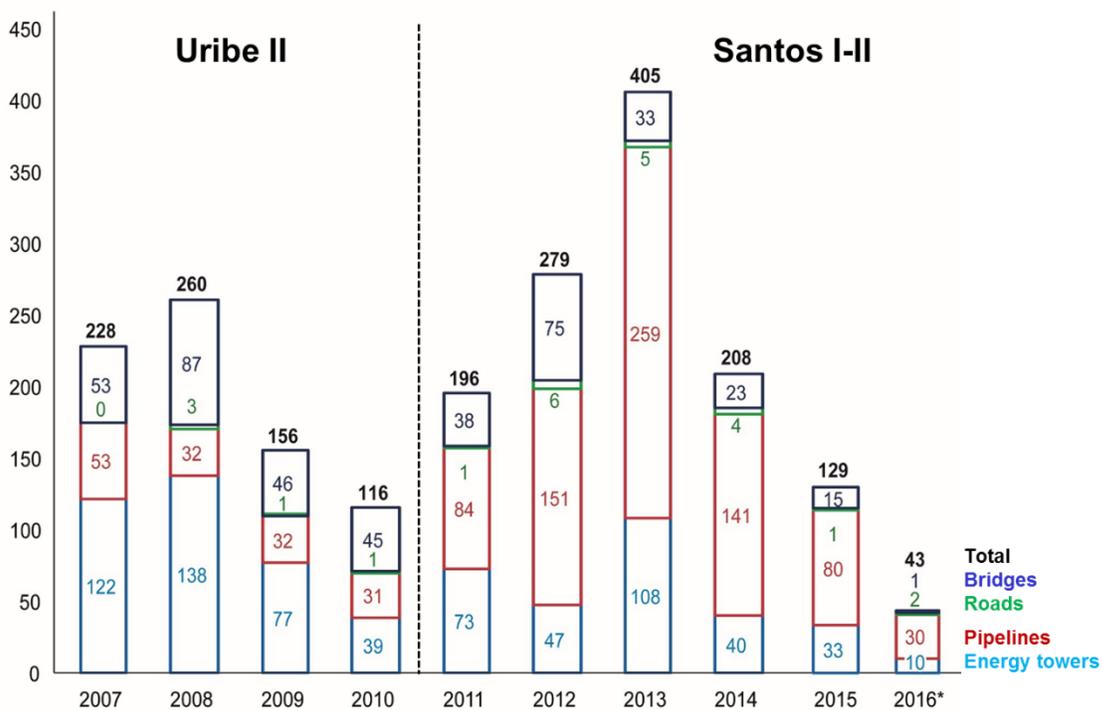
Graph 3. The lost years: economic growth
(\$ billion)



Source: Anif estimations based on Dane.

Under the Uribe II Administration we observed a significant reduction in the number of attacks to infrastructure (with the exception of 2008). On the contrary, during the first years of the Santos I Administration these attacks increased in a noticeable manner. In fact, the number of attacks increased from 196 in 2011 to 405 in 2013, more than double (see Graph 4). This is explained in part by the national strike that took place in Colombia during this period. However, since 2013 (even after undergoing peace negotiations in La Habana) the number of attacks to infrastructure has reduced significantly. It is worth noting that, during January-August 2016, there has only been reports of 43 attacks, against 120 observed during the same period in 2015.

**Graph 4. Terrorist attacks to infrastructure
(2007-2016; number of attacks)**



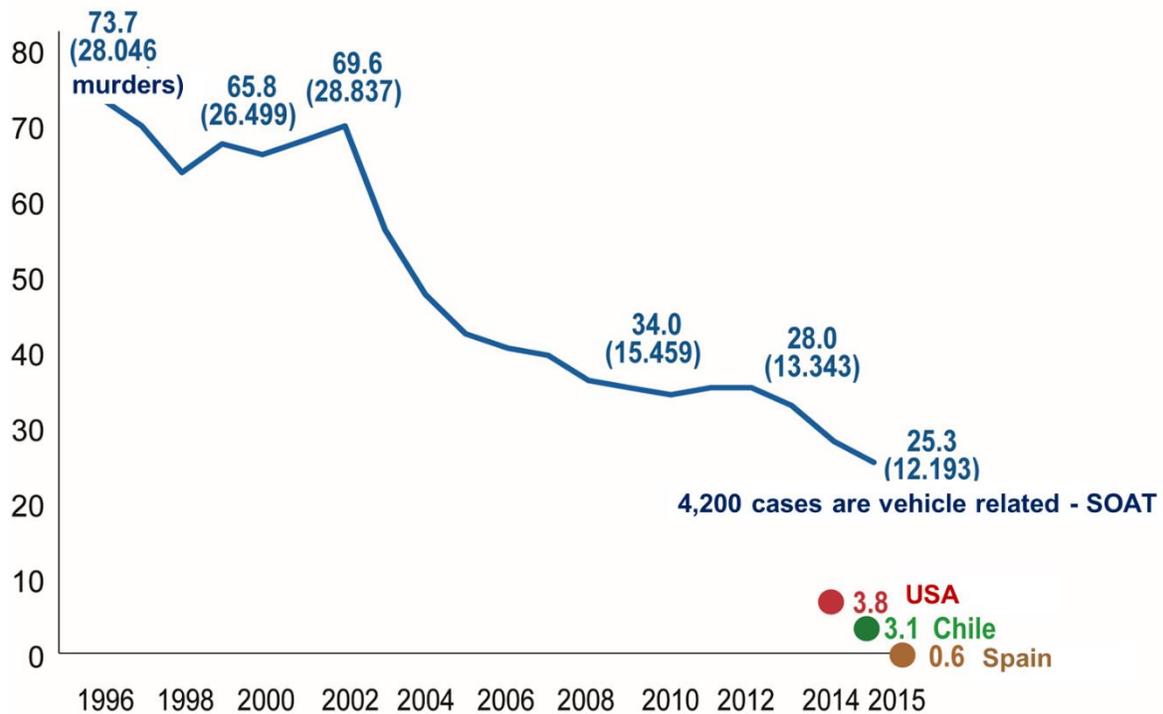
* figure as of August 2016.

Source: Anif based on Ministry of Defense.

Regarding homicides and kidnapping, significant reductions have also been reported. Colombia has gone from witnessing a homicide rate of 70 murders (per 100,000 people) in the year 2000 to “only” 25 homicides in the year 2015. Likewise, kidnapping has decreased from 9 cases to 0.4 (per 100,000 people) during the same period 2000-2015 (see Graph 5 and 6).

Another incentive to “support” the ongoing peace process is drawn from the recent demobilization experience the so-called *Autodefensas de Colombia* (AUC, paramilitary group). Let us remember that back in 2003, the demobilization of the AUC occurred (known as the *Santa Fe de Ralito* Agreement). From thereon and in compliance to what was defined by the Peace and Justice Law (Law 975 of 2005), over 53,000 people were demobilized during 2003-2015 (see Graph 7).

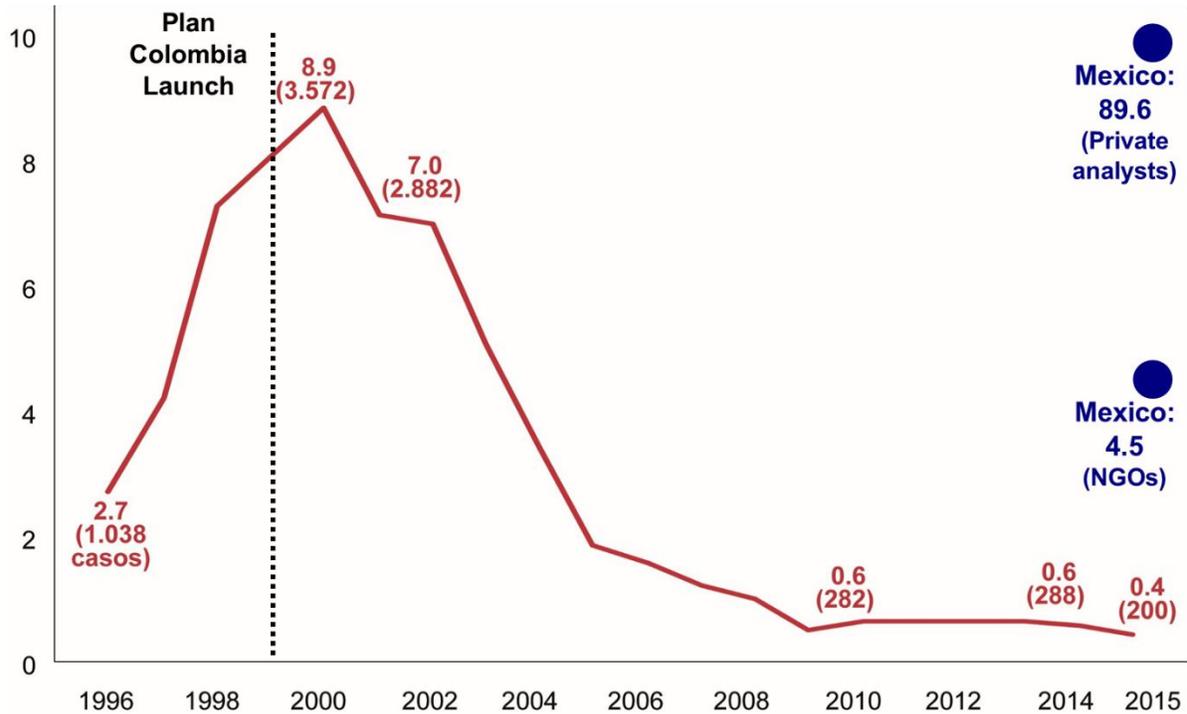
Graph 5. Homicide rate in Colombia
(rate per 100.000 people)



Source: Anif based on Ministry of Defense.

According to information reported by the *Agencia Colombiana para la Reintegración* (ACR), there is only data on 40% of those demobilized. There is data that shows that 4.6% of this population works for the financial services and entrepreneur sector, 1% in construction and 0.7% in manufacturing. There is evidence that in Colombia there is an immense challenge going forward in terms of the capacity to absorb human capital from demobilized guerrillas, as was the case of El Salvador.

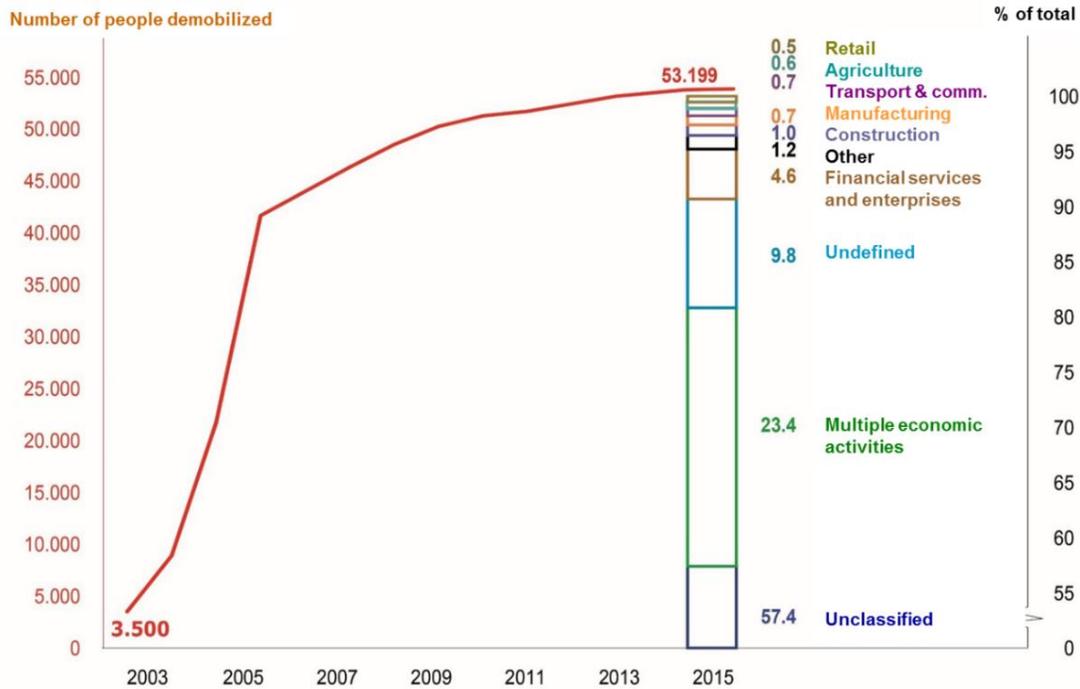
Graph 6. Kidnapping in Colombia
(rate per 100.000 people)



Source: Anif based on Ministry of Defense.

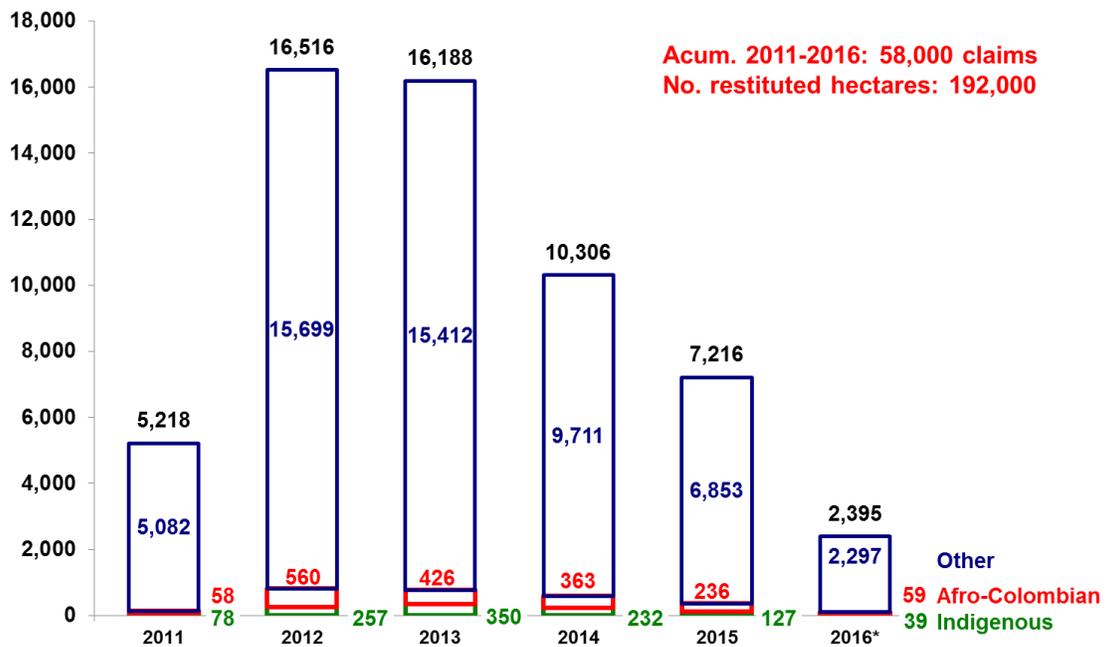
Meanwhile, those displaced as a result of violence have posted approximately 58,000 requests to enter the registry on restituted and forced abandonment of land during the period 2011-2016 (see Graph 8). This suggests that there will be close to 192,000 hectares assigned to victims from the Colombian armed conflict, which conveys bountiful costs (which will be later detailed).

Graph 7. Justice and Peace Law 975 of 2005: Demobilization by economic sector (accumulated 2003-2015)



Source: Anif estimations based on Colombian Reintegration Agency (ACR).

Graph 8. Requests to enter the registry on restituted and forced abandonment of land (Law 1448 of 2011)



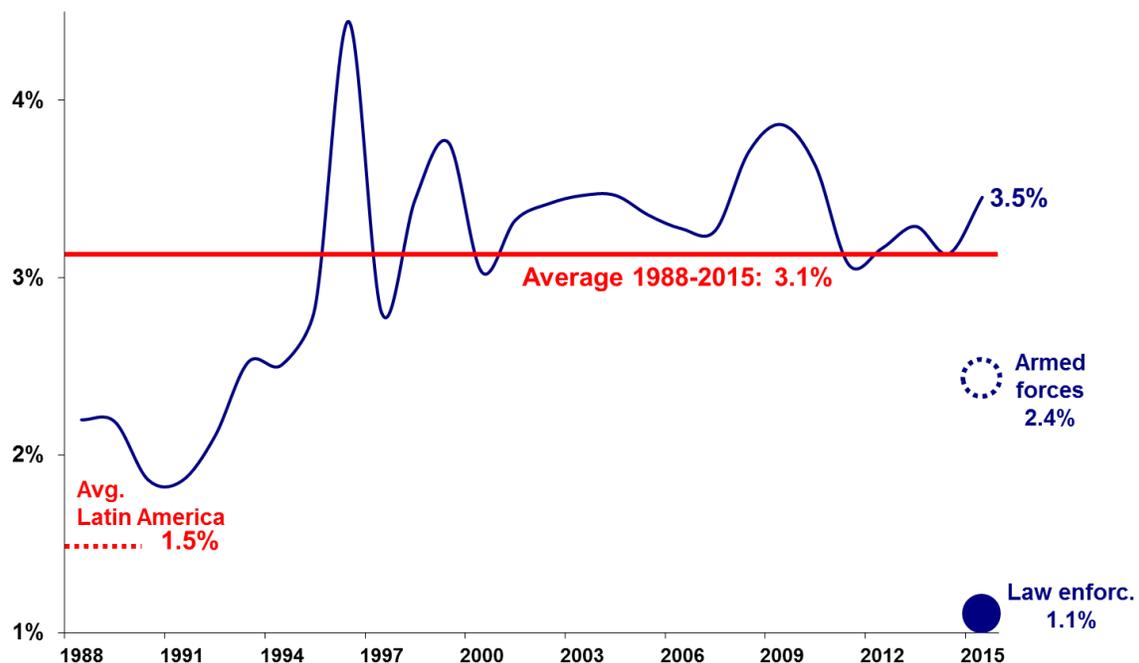
* figures as of June 2016

Source: Anif estimations based on the Department of Land Restitution (URT).

II. Peace Dividends

Colombia is the country in Latin America that spends the most in public defense (= military expenditure + law enforcement expenditure), which is close to 3.5% of GDP (= 2.4% military + 1.1% law enforcement), see Graph 9. This figure is even higher than the 3.3% of GDP that the United States spends, and substantially superior to a 1.5% of GDP average reported in the Latin American region.

**Graph 9. Colombia's defense sector expenditure
(1988-2015, % GDP)**



Source: Anif based on Stockholm International Peace Research Institute (SIPRI).

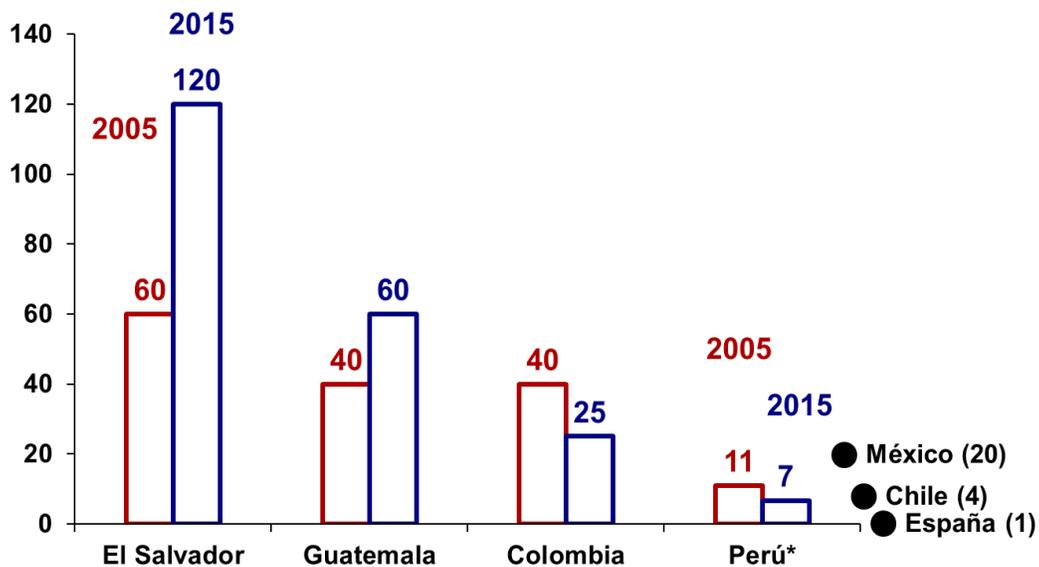
When we speak of peace dividends, we refer to the almost automatic fiscal savings that the country could obtain in the wake of an ending armed conflict and resulting reduction in defense expenditure. Based on the experiences from Central America (particularly El Salvador and Guatemala) and Peru, it can be concluded that these peace dividends are virtually inexistent, because there is little space to significantly reduce expenses in the defense sector.

In fact, a lack of adequate planning in the wake of the peace process in El Salvador

has carried negative consequences. The escalation of murders (rising from 60 to 120 per 100,000 people between 2005 and 2015) and a deterioration in the kidnapping rate (increasing from 0.1 to 0.3 per 100,000 people) suggests that delinquency has expanded profusely (see Graphs 10 and 11). For example, there are estimations that suggest that during the FMLN guerrilla era there were close to 30,000 armed men (including their supporting ring), but today figures show that organized crime at the hands of the Maras and Barrio 18 comes close to 70,000, with a supporting ring times seven (reaching almost half a million criminals in a country of only 6 million people).

Correspondingly, Guatemala reported a rebound of its homicide rate (from 40 to 60 per 100,000 people between 2005 and 2015), whereas Peru witnessed a relapse in the rate of kidnaps (from 1.8 to 2.3 every 100,000 people) and an escalation in the rate of assaults (from 53 to 211 per 100,000 people).

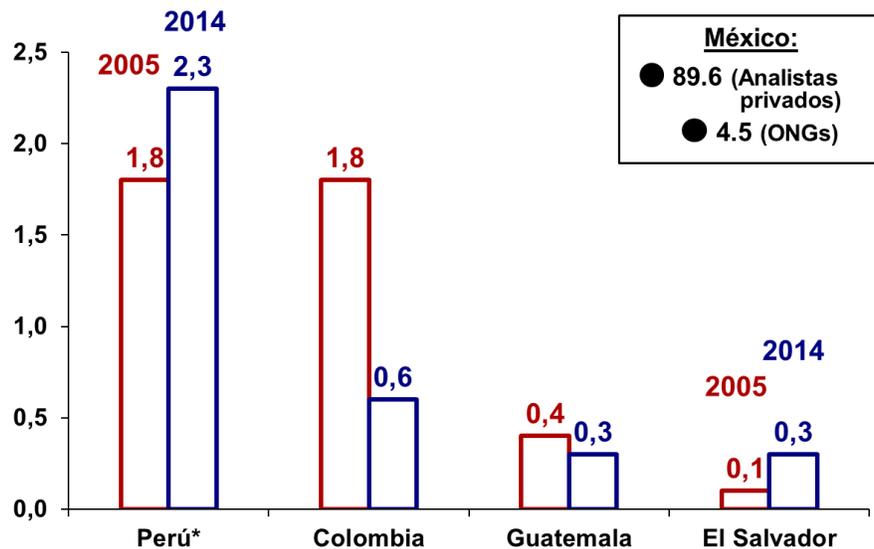
Graph 10. Homicide rate per country: 2005 vs. 2015
(Number of murders per 100,000 people)



* Figures as of 2014.

Source: Anif based on The Economist, World Bank and UNODC.

**Graph 11. Kidnapping rate per country: 2005 vs. 2014
(Number of kidnaps per 100,000 people)**



* New kidnapping definition.

Source: Anif based on Ministry of Defense and UNODC.

Colombia has the tendency towards this “bee-hive effect” observed in El Salvador and Guatemala, despite a favorable turnaround in variables denoting social stress. For example, the homicide rate has decreased from 40 to 25 per 100,000 people during the last decade, and the rate of kidnaps has fallen from 1.8 to 0.6 every 100,000 people.

Therefore, Colombia must be prepared to boost its expenditure in urban law-enforcement, in hopes to avoid the social deterioration witnessed in Central American countries, during the next five years in Colombia (see Anif 2016a). Even if the entire FARC becomes demobilized as a result of the peace agreement, Colombia must face other forms of organized crime (paramilitary groups and the so-called “*bacrim*”), which will probably look to occupy geographical areas and illegal activities related to the drug-trafficking business. Hence, although reducing defense expenditure in Colombia towards the 1.5% of GDP average observed for Latin America seems desirable, drug-trafficking and general crime make this virtually impossible (and detrimental), at least not during the next half decade.

III. Peace Benefits

Now that we have identified the economic benefits for countries like Colombia, that have struggled to end domestic conflict, we find that El Salvador, Guatemala and Peru have experienced accelerated real GDP growth and also a reduction in growth volatility in the aftermath of peace agreements. For example, Guatemala has gone from average growth of 3% per year during 1976-1995 towards an annual rate of 3.5% for the period 1996-2015 (and with a standard deviation that decreases from 3% to 1.2% for these timeframes). El Salvador has gone from expanding at a 1.1% yearly rate during 1972-1991 to 3% per year from 1992-2015 (and lowering volatility from 5.3% to 2.3%). Likewise, Peru has gone from growth rates of 1.5% per year during 1972-1991 to 4.9% for the 1992-2015 period (volatility dropped from 6.4% to 3.2%).

As was mentioned previously, some analysts have claimed that Colombia is already experiencing some of the post conflict benefits, due to a withering conflict during the period in which the government and FARC began peace talks (2012-2016). Nonetheless, what we have observed in Colombia is a loss of growth potential of about 1% per year, associated to what Anif has called the “end of the mining-energy boom” (which has reduced the historical growth rate from 4.5% per year to 3.5% observed today), see Anif 2014.

Despite this, growth trends have maintained positive for Colombia and Peru, but more pessimistic for El Salvador and Guatemala, in a contradicting view to initial growth gains. This is just one view that underscores the multiple factors that play a role in determining economic growth, where in fact what may be weighing more in Colombia and Peru’s expansion is a commodities boom and has little to do (until now) with ending an armed conflict in Peru or the post conflict period in Colombia.

In the case of Colombia, there are a number of estimations that relate growth acceleration to an ending conflict, mainly: i) Bank of America (2014) claims growth acceleration in Colombia of only 0.3% per year (because of the “anticipated” effect that has been observed since 2012 and because this conflict has been “less

intense”); ii) Deutsche Bank (2016) estimated an accelerated growth of 0.5%; and iii) DNP (2015) has “extrapolated” additional growth for Colombia in the range 1.1%-1.9% per year (because more than 30 “similar” conflicts will also cease to exist, see Table 1).

In regards to the latter estimation, several analysts have expressed some reservation and have considered that this view is vastly optimistic because it is based on precarious assumptions. Furthermore, in their analysis, the DNP assumes that growth acceleration is of a permanent nature, which might result difficult to sustain and overlooks the importance of the economic cycle in this analysis. Finally, the PNUD-CERAC (2014) study claims growth gains for Colombia worth over 4pp (equivalent to 8% real annual growth).

In contrast, Anif simulations (based on ICOR modelling) are a bit more conservative and suggest economic peace benefits within the 0.5%-1% range of additional growth per year during 2017-2022. It is worth mentioning that these values should be applied to a downturn cycle that is currently the juncture in our country (taking us from a current 3.5% annual growth to 4.5% for the 2017-2022 period), a result comparable to that of Hofstetter (2016).

Table 1. Peace benefits from an economics perspective

Institution	Effect	Methodology
Bank of America (2014)	0.28% - 0.33%	Econometrics – Instrumental variables with Fixed Effects (GDP by departments)
Deutsche Bank (2016)	0.5% - 1%	Analysis by sectors and investment levels
Anif (2015)	0.5% - 1%	Mixed effect: structural reforms and peace agreement (positive) with end of mining-energy boom (negative)
DNP (2015)	1.1% - 1.9%	Comparison against countries that suffered similar conflict.
PNUD-CERAC (2014)	4pp (upto 8%)	Disappearing urban-rural gap.

Source: Anif.

IV. Peace (Budgetary) Costs

In this study, we have divided peace budgetary costs in two main groups, according to the timeframe: “immediate” costs and “sustainability” costs of the post conflict.

The former group takes into account the following costs: i) land restitution; ii) reparation to victims; iii) maintenance of post conflict camps and demobilization; iv) implementation of a Special Peace Jurisdiction - *Jurisdicción Especial para la Paz* (JEP); and iv) illicit crop substitution.

The bulk of “sustainability” costs are related to enhancing overall competitiveness of rural areas, especially to improve second and tertiary roads, and additional resources are also needed for education and for the disbursement of rural loans (topics included in the *Informe Misión para la Transformación del Campo*, 2015). This amounts to about 3% of GDP per year during the next half-decade and, almost certainly, these costs have not been included in the Medium-Term Budgetary Framework - *Marco Fiscal de Mediano Plazo 2016* (MFMP-2016). In fact, 30% of future fiscal allocations that have been pressuring the fiscal budget will be funding 4th generation infrastructure work and other publicly controversial investments such as the Bogotá subway (see Anif 2016b).

Let’s begin by analyzing “immediate” costs of the post conflict.

a. Land Restitution

According to information published by the Agency for Land Restitution (*Unidad de Restitución de Tierras*), as of September 2016 there were close to 192,000 hectares of land to be restituted (equivalent to 2.7% of land intended for agriculture use in Colombia, which is approximately 7 million). This implies that 192,000 hectares must be returned to farmers that were removed by force from these territories.

The National Land Agency (*Agencia Nacional de Tierras*), has stated that 60,000 hectares have been recovered from illegal armed groups. In other words, local authorities have managed to recover only 32% of hectares destined towards

restitution. Only time will tell how difficult it may prove to recover the other 68% and in this manner compensate the situation of the displaced population.

Evidently, the land restitution process carries costs to be assumed by the government in the medium term. The Mission for Rural Transformation (*Misión para la Transformación del Campo*), headed by the Planning Department (DNP), has set a public policy framework to help guide the following 20 years with the objective of promoting agriculture-rural development. Based on these guidelines, Anif has estimated the costs that will result from restituting land to victims of the Colombian armed conflict. It is worth mentioning that these costs cover what we consider to be direct costs from the post conflict, many of which are yet to be included in the Medium-Term Budgetary Framework (MFPM).

This being said, there are two important topics to be funded: i) social and productive inclusion; and ii) property planning. The former carries a cost of 0.04% of GDP (pesos of 2015) per year, to be assumed over the course of the next 15 years (see Table 2). This is divided between expenses associated to attend the afflicted population (0.02% of GDP of 2015) and to support producers (0.02%).

Table 2. Land restitution – Rural Mission: unaccounted costs

Strategy	Accum. 2016-2030 \$ trill. (2015)	Annual	
		\$ trill. (2015)	% GDP
1. Social and productive inclusion	4.4	0.3	0.04%
Vulnerable population	2.1	0.1	0.02%
Attention to producers	2.4	0.2	0.02%
2. Private property system	10.2	0.7	0.09%
Legalization of land (judicial process)	1.2	0.1	0.01%
Purchase of land	9.1	0.6	0.08%
TOTAL (1. + 2.)	14.7	1.0	0.12%

Source: Anif based on *Misión para la Transformación del Campo*.

The latter item, property planning represents 0.085% of GDP of 2015 per year for the same period, which includes: i) formalization of land and judicial process (0.01% of GDP); and land purchases (0.076%).

Therefore, the total immediate cost associated to land restitution amount to 0.12% of GDP of 2015 per year for the period 2016-2030. Hence, our estimations suggest that these costs are not significantly burdensome for the government.

b. Victim Reparation

Estimating the number of victims to be repaired in Colombia is not a trivial task. In order to reach some form of approximation, there must be some way to account for Colombians living abroad (that have migrated because of the armed conflict) and the displaced population that remains in the country. In the former case, approximations appoint towards a range between 3.3 million people (calculated by Cepal) to close to 5 million people (*Conferencia Episcopal de Colombia*), suggesting that between 7%-14% of the country's total population resides abroad, a figure similar to countries with a civil war such as Iraq (12%). One possibility may be that many Colombians living abroad have migrated due to alternate reasons (education, work, etc.), which is why we will assume that half of the population resulting from the lowest estimation (1.7 million) will be considered as the population of victims that have migrated as result of conflict (see Table 3).

In the latter case, there are estimations that suggest that up to 6.9 million people have been relocated internally. If we base our analysis on the assumption that half of these victims are no longer displaced, we reach a net figure of 3.5 million people. Therefore, according to these calculations, in a conservative scenario there are close to 5 million conflict victims to be repaired.

Table 3. Estimation of victims of forced displacement

	Gross estimation	Net estimation (50% of gross)
	(in million people)	
1. Colombians Abroad		
a. Cepal	3,3	1,7
b. Episcopal Confederation	5,0	
c. Ministry of Foreign Affairs	4,7	
2. Displaced (ACNUR)	6,9	3,5
3. TOTAL (1.a + 2)	10,2	5,1

Source: Anif.

Based on these numbers, we proceed in the estimation of the cost that the government will face in repairing these victims. For this two factors are considered: the number of victims and the duration of the compensation. For both variables, two different scenarios are considered. In the first case, estimations are based on a victim population of 5 million and a maximum of 10 million (highly unlikely). In regards to the duration, we consider a compensation timeframe of 3 and 6 years.

Table 4 shows the resulting estimations considering a compensation worth 50% of the Least Minimum monthly Wage (LMW) for each victim. Our calculations suggest onerous costs in the reparation of victims. Even in the more conservative scenario (5 million victims to be compensated during 3 years) costs amount to almost 1.9% of GDP per year. In terms of Net Present Value (NPV), in pesos of 2015, the cost reaches close to 7% of GDP of 2015. Notice that these figures seem high, especially considering a Central Government fiscal deficit of 4.2% of GDP forecast for 2016.

These costs were also calculated assuming a 100% LMW compensation. As is expected, total costs more than double aforementioned results. In the case of 3 year compensation to a population of 5 million victims, the average cost per year rises to 3.9% of GDP. Correspondingly, the NPV reaches 14.1% of GDP of 2015. These results are presented in more detail in Appendix 1.

**Table 4. Victim reparation: 50% LMW
(% GDP)**

Population	Costs	
	3 Years Year avg. // NPV	6 Years Year avg. // NPV
5 mill.	1.9% // 7.0%	1.8% // 13.6%
10 mill.	3.9% // 14.1%	3.6% // 27.3%

Source: Anif.

As we will see, the cost that the government must assume in repairing victims is the most burdensome according to this study. However, it is worth noting that the government has included in its budget close to 1% of GDP per year for the 2012-2021 period (according to what is enclosed in the Victims Law 1448 of 2011). Meaning that the total (unaccounted) cost amounts to 0.9% of GDP per year in the most benevolent case.

Furthermore, these figures are alarming considering the fiscal shortfall that the government currently faces of 4% of GDP (according to MFMP-2016) and the fact that a much “anticipated” structural tax reform will only bring in additional revenue of just 2% of GDP.

Finally, some analysts disagree on the number of victims used in this analysis. They mention that this cost could well be contained if the displaced population decreases. For example, if the number of victims was instead 2.5 million (half the number in our analysis) costs would decrease accordingly. In fact, the average yearly cost would be only 1% of GDP and a NPV of 3.5% of GDP of 2015, in the scenario of victims with a 50% LMW compensation lasting 3 years. If this were the case, the cost of victim reparation would be entirely covered by the government budget enclosed in the Victims Law (Law 1448 of 2011). Nevertheless, some may argue that a 50% LMW compensation is too low and claim 100% (considering this is the “minimum” subsistence determined by the Constitutional Court). In this case, considering only

2.5 million victims, the cost increases to almost 1.9% of GDP (equivalent to our conservative scenario).

c. Post conflict camps and demobilization

As it is widely known, the peace agreement between FARC and the government that was signed on the 26th of September of 2016, states that members from the guerilla will temporarily concentrate in 23 “normalization” zones and 8 camps. This will serve as a transition while they return to civilian life.

Maintaining almost 18.000 insurgents during 6 months within these delimited areas (6,000 soldiers plus two aides per guerilla member) will, nonetheless, convey a heavy cost to the government. We have estimated that maintenance costs per camp for a 6-month duration will amount to almost \$1.3 million pesos per month (2 LMW) per rebel. Be aware that this value doesn't include the amount that each insurgent will receive, but only what we believe is the cost of supporting these transitional camps (food, water, etc.).

Hence, the transitional zones and rural camp where the FARC will concentrate will end up costing the government close to 0.017% of GDP of 2015 (\$139.200 million per year), on account of maintain 18,000 insurgents during 6 months which will cost \$1.3 million per month per rebel. In sum, these costs are not overwhelming, and could easily be financed by the fiscal budget.

In regards to demobilization, in addition to camp up keeping expenses, the government will have to guarantee additional resources during the process of returning to civilian life. In this sense, there are mainly the following types of assistance: i) economic support through productive and sustainable programs-projects; ii) basic monthly allowance; and iii) allowance for normalization.

The economic support that each ex-combatant will receive in the demobilization and reintegration process, for the development and execution of productive and

sustainable programs, amounts to \$8 million. This will be a one-time payment on account of their right as demobilized guerilla members.

In addition, each FARC member that agrees to demobilization will receive, once the concentration of transitional zones and camps is finalized, a basic monthly allowance of 90% of the LMW (approximately \$580,000 with a LMW in 2015 or \$620,000 in 2016). This allowance will be given to those ex-combatants that have not yet settled formal contracts that guarantee some form of revenue, and will be disbursed for a maximum duration of 24 months.

On the other hand, the normalization allowance (a one-time payment) is equivalent to \$2 million. This money will be given to each ex-FARC member once they are concentrated in the designated transitional zones and camps.

Making use of this information, we have calculated the total cost that the government will face in supporting close to 18,000 demobilized insurgents. Hence, economic government aid amounts to 0.054% of GDP of 2015 (close to \$430,000 million per year).

In sum, the total annual cost that the government must undertake on account of the demobilization process (concentration and maintenance thereafter) equals 0.071% of GDP of 2015. As we mentioned, these expenses are not as burdensome as others.

d. Special Peace Jurisdiction - Jurisdicción Especial para la Paz (JEP)

One characteristic of the peace agreement signed by the government and the FARC is the fact that the victims were placed at center stage in the negotiation process. Hence, the agreement regarding victims is composed of key points. One such issue is the so called JEP, a special jurisdiction that once in play will serve as an autonomous entity to act upon violations of Human Rights or the International Humanitarian Law.

In order to comply with its functions, the JEP must be setup accordingly:

- 3 courtrooms:
 - Identification of judicial cases
 - Recognition of truth, responsibility and defining facts and conducts
 - Amnesty or pardon
- Research and Prosecution Agency
- Peace Courts (4 sections)
 - Sentence appeals
 - Cases of acknowledgment of truth and responsibility (first round)
 - Cases lacking acknowledgment of truth and responsibility (first round)
 - Sentence revision

To calculate the total cost of the JEP we formulate some assumptions regarding the number of employees to fulfill the duties of each section of the jurisdiction and their corresponding salary. Details on these assumptions are included in Appendix 2 of this document.

Our estimations imply that the JEP would have an average annual cost of \$1,611 million during the next 3 years (which represents 0.0005% of GDP per year), see Table 5. In NPV this gives an approximate value of \$4.000 million in pesos of 2015 (0.0005% of GDP of 2015).

If instead the JEP were to last 5 years, the average annual cost amounts to \$1,587 million (equivalent to 0.0008% of GDP per year). In terms of pesos of 2015, the NPV value would then rise to \$6.300 million (0.0008% of GDP of 2015).

**Table 5. JEP Costs
(\$ million)**

	Year 1	Year 2	Year 3	Year 4	Year 5
U. Research-Prosecution	67	67	67	67	67
Courts/sections	1.483	1.483	1.483	1.483	1.483
Technological infrastruc.	182	-	-	-	-
TOTAL	1.732	1.550	1.550	1.550	1.550

NPV (\$ million 2015)

Total 3 years: \$4,071 (0.0005% GDP 2015)

Total 5 years: \$6,322 (0.0008% GDP 2015)

Average annual cost (\$ million)

Total 3 years: \$1,611 (0.0005% GDP)

Total 5 years: \$1,587 (0.0008% GDP)

Source: Anif estimations.

e. Illicit Crop Substitution

The substitution of illicit crops implies that the government must assume the following costs to be financed through its budget: i) planting alternate produce; and ii) compensation and support to coca producers for the period until when alternate licit crops grow.

Based on cost estimations of alternate crops published by Fedesarollo (2012), we calculate how much the Colombian government must undertake in the substitution of 96,000 hectares of coca crops currently planted in our country.

According to statements made by the United States Department of Agriculture (USDA), cacao is the best product to use in the substitution of coca crops. This is a product with large exporting potential, mainly commercialized by the Ivory Coast (37% of world market), Ghana (24%) and Nigeria (6.6%).

Consequently, if 96,000 hectares of coca crops were to be replaced by cacao (at a cost per hectare of \$3.3 million (pesos of 2015)), the annual cost would amount to \$0.3 trillion, approximately 0.04% of GDP of 2015 (see Table 6). Hence, the accumulated 5-year cost would ascend to 0.2% of GDP of 2015.

Table 6. Costs of planting alternate produce

Alternate crop	Cost per hectare or ton. (\$ million 2015)	Costs (\$ trillion 2015)	
		Annual	Accum. 5 years
Palm	0.5	0.04 (0.01% GDP 2015)	0.2 (0.03%)
Cacao	3.3	0.3 (0.04%)	1.6 (0.2%)
Corn	6.2	0.6 (0.07%)	3.0 (0.4%)
Coffee	10.9	1.1 (0.13%)	5.3 (0.7%)

Source: Fedesarrollo (2012).

If instead illicit crop substitution was done using coffee, the cost would rise slightly. If we consider that planting a hectare of coffee costs almost \$11 million (pesos of 2015), a 5-year accumulated cost would amount to 0.7% of GDP of 2015 (0.13% per year).

In regards to the compensation and support to coca producers for the period until when alternate licit crops give fruit, we assume the government will give economic aid worth 2 LMW per month during 5 years (average time that a crop would take from planting to harvesting), and that each farmer has an average of 2 hectares. This means that the government will give compensation to more than 48,000 farmers (given the fact that there are close to 96,000 hectares of coca crops).

This gives an annual cost of 0.1% of GDP of 2015 (\$0.8 trillion per year), see Table 7. Hence, the accumulated 5-year cost would amount to 0.5% of GDP (\$4 trillion).

**Table 7. Coca farmer compensation
(48,000 farmers; 2 LMW during 5 years)**

	Annual cost	Accum. 5 years
\$ trillion 2015	0,8	4,0
% GDP	0,1	0,5

Source: Anif estimations.

In sum, the total (per year) cost of substituting coca crops in Colombia amounts to 0.14% of GDP (= 0.04% new cacao crops + 0.1% compensation to farmers). Consequently, the substitution of illicit crops in Colombia represents an elevated cost to the National budget.

V. Fiscal Peace Effects

Now that we have estimated the costs underlining the implementation of a peace accord between the government and the FARC guerrilla, we move on to analyze the resulting fiscal pressure to the National Budget.

As was mentioned previously, the budgetary costs of a peace agreement are subdivided in two groups, according to its time dimension: “immediate” costs and “sustainability” costs of the post conflict.

In the first group (following from our previous chapter) peace costs are those derived from: i) land restitution; ii) reparation to victims; iii) maintenance of post conflict camps and demobilization; iv) implementation of a Special Peace Jurisdiction - *Jurisdicción Especial para la Paz* (JEP); and iv) illicit crop substitution. The second group looks at expenses related to rural loans, tertiary roadwork and education.

Table 8 shows the sum of these costs during the next half decade (2017-2022), which amount to 2.23% of GDP per year. As was previously mentioned, the bulk of the cost comes from repairing victims (1.9% of GDP per year). On the other hand,

the allocation to other budgetary items is far less demanding (0.33% of GDP): illicit crop substitution (0.14% of GDP); programs aimed at developing and transforming rural areas (0.12% of GDP, following guidelines given by the DNP's Mission for Rural Transformation); concentration camps and allowance to demobilized guerilla members (0.07% of GDP); and the JEP (close to \$1.600 million in average yearly cost).

Surprisingly, only 1% of GDP of these “immediate” costs is currently accounted for in the 2017 budget (according to what is defined by the Victims Law – Law 1448 of 2011). Nevertheless, we are unaware how these additional expenses are explicitly being incorporated to the fiscal framework MFMP-2016 (see Anif 2016c).

**Table 8. Post conflict costs during the next 5 years
(% GDP)**

a. Immediate costs		
<i>Misión para Transformación del Campo</i>		0,12%
Victims		1,9% (Law 1448/2011)
<i>Jurisdicción Especial para la Paz (JEP)</i>		0,0008%
Camps and allowance to demobilized		0,07%
Illicit crop substitution		0,14%
Total Immediate Costs		2,23% per year
b. Maintenance and post-conflict		
Rural loans	}	3%
Tertiary roadwork (\$50 trill.)		
Education		
TOTAL (a. + b.)		5,23% per year

Source: Anif estimations.

The second group of costs under the “sustainability” category is comprised by costs related to secondary and tertiary roadwork, as well as resources for education and rural loans (included by the Mission for Rural Transformation), which amount to 3% of GDP per year during the next half decade. Most certainly, these costs have not been accounted for by the MFMP-2016.

Hence, taking into account both the “immediate” and “sustainability” costs of the post conflict, Colombia will face fiscal pressure ranging from 2.23% to 5.23% of GDP per year during 2017-2022, of which only 1% of GDP will be covered by budget additions.

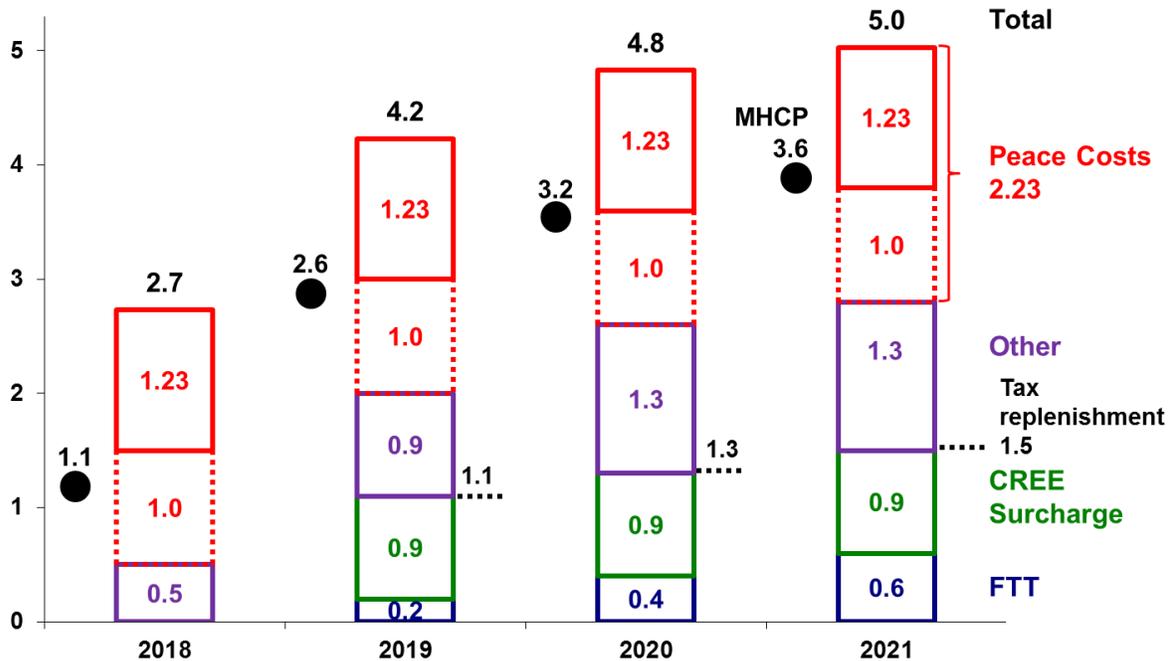
Certainly, these additional costs must be added to already existent fiscal shortfalls. The government, in its MFMP-2016, has stated that in order to comply with the existing Fiscal Rule, fiscal shortfalls will increase in the subsequent years. In 2017, there will be no shortfall (if a cut in investment worth 0.7% of GDP is carried out, considering that the historical average is 1.8% of GDP). For 2018, the shortfall will ascend to 1.1% of GDP (or even 1.5% if investment cuts are avoided altogether). In 2019, this figure will amount to 3% of GDP (without investment cuts) and 3.6% of GDP in 2020.

If we assume that the trend in fiscal shortfalls only takes into account “immediate” peace expenses worth 1% of GDP, we must add at least another 1.23% of GDP per year. Hence, the fiscal gap will rise at least 2.7% of GDP in 2018 until it reaches a 4.8% of GDP shortfall in 2020 (see Graph 12). Keep in mind that these figures assume no additional fiscal pressure from the so-called “sustainability” items, for which seems unfeasible (given the current tax structure).

Finally, notice that even under the optimistic scenario where fiscal revenues are restored (the case in which the financial transactions tax “4x1000” and CREE surcharge are maintained), the fiscal gap amounts to 3.5% of GDP by 2020 considering only “immediate” peace costs. This figure of 3.5% of GDP comes from taking a total shortfall of 4.8% of GDP (which includes “immediate” peace costs) and subtracting a 1.3% tax replenishment (= 0.4% from the “4x1000” and 0.9% from the CREE surcharge).

Before concluding, we compare these results to estimations performed by other analysts that have carried out similar exercises (see Graph 13). The government, for example, has assigned only 1% of its budget for victim reparation, in accordance with Law 1448 of 2011. This figure lies on the lower end of cost estimations.

Graph 12. Fiscal shortfall according to Anif (vs. MHCP) including post conflict (2018-2021, % GDP)

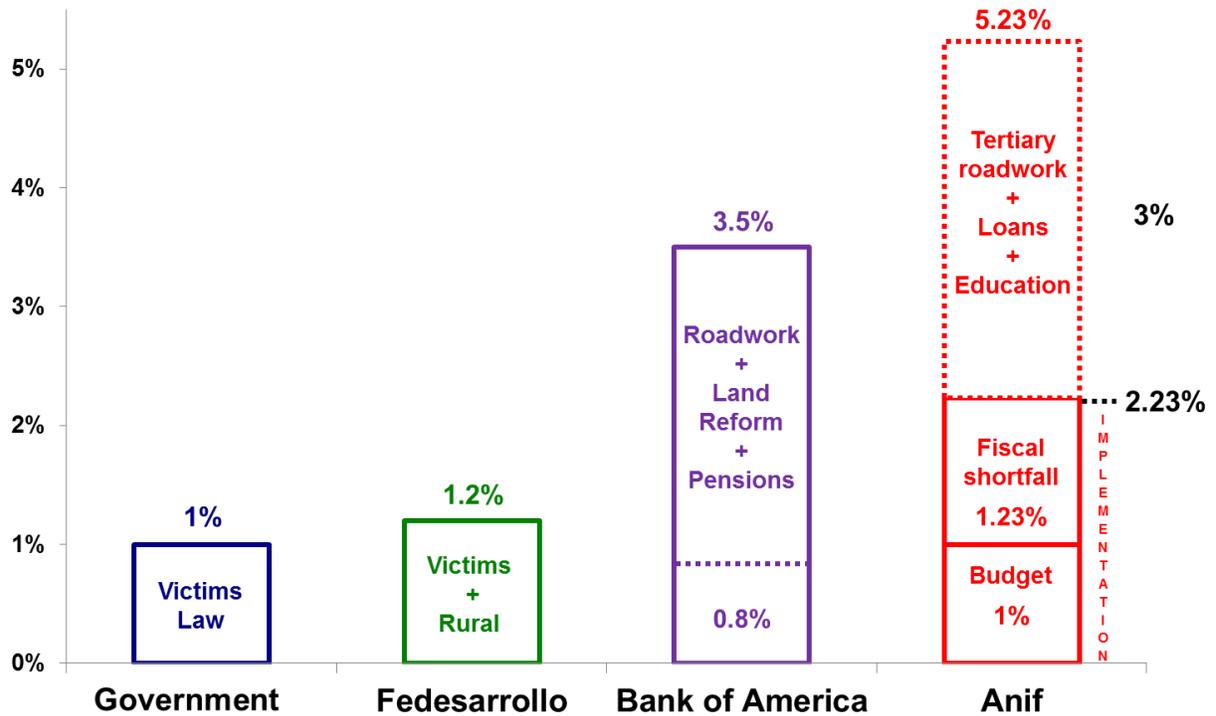


Source: Anif estimations based on MHCP.

Fedesarollo (2016), for example, in addition to victim reparation costs adds resources required to finance rural programs (Mission for Rural Transformation), resulting in post conflict costs worth 1.2% of GDP per year.

Finally, Bank of America (2014) estimations come closer to what Anif is here claiming. According to their study, the total cost of the post conflict could fall somewhere between 0.8% of GDP and 3.5% of GDP per year, depending on the “scope” of programs executed. According to Bank of America, considering road construction work, land reform and pension payments to rural low-income population would raise the cost from 0.8% of GDP per year to 3.5% of GDP.

**Graph 13. Peace Cost Estimations
(2016-2022, % GDP per year)**



Source: Anif.

VI. Conclusions

Throughout this document we have analyzed the importance underlining the recently signed peace agreement between the Colombian government and the FARC guerilla. Mainly we draw attention to: i) the positive impact that this will have on the reduction of illicit crops; and ii) the potential economic growth that has been lost on account of the ongoing conflict.

In fact, this peace agreement with the FARC, will greatly diminish the influence of the illegal economy in Colombia if an adequate strategy to enable illicit crop substitution is implemented. Likewise, the ending conflict will result in higher economic growth by: i) boosting investment; ii) reducing the number of attacks to infrastructure; and iii) a generalized cutback of “violence”.

By drawing from these issues, this paper analyzes the likely outcomes resulting from Colombia's post conflict. These have been categorized as follows: i) "peace" dividends; ii) economic "peace" benefits; and iii) additional budgetary "peace" costs.

Peace Dividends

- These are defined as the almost automatic fiscal savings that the country could obtain in the wake of an ending armed conflict and resulting reduction in defense expenditure (= military and law enforcement).
- Bank of America (2014) has estimated that an ending conflict in Colombia could result in a 1% of GDP reduction in public defense expenditure (see Table 9). In turn, these resources could be redirected towards much-needed sectors such as education and infrastructure.
- On the other hand, Anif has instead argued that peace dividends are virtually inexistent, at least in the short run. The country must prepare to boost expenditure in urban law enforcement. Even if the entire FARC guerilla becomes demobilized as a result of the peace agreement, Colombia must face other forms of organized crime (paramilitary groups and the so-called "bacrim"), which will probably look to occupy geographical areas and illegal activities related to the drug-trafficking business.
- Although in an ideal scenario Colombia could be capable of reducing its defense expenditure to Latin America's average of 1.5% of GDP (from its current 3.5%), the drug-trafficking business and generalized violence make this unlikely (and not advisable), at least during the next half decade.

Peace Benefits

- These are the result of accelerated economic growth during the post conflict.

- In the case of Colombia, there are some calculations. The more *optimistic* forecasts suggest growth acceleration of close to 4 percentage points (see PNUD-CERAC 2014).
- The Colombian government-DNP has “extrapolated” additional growth for Colombia in the range 1.1%-1.9% per year (arguing that more than 30 “similar” conflicts will also cease to exist).
- On the other hand, more realistic estimations suggest moderate growth. Bank of America (2014) claims growth acceleration in Colombia of only 0.3% per year (because of the “anticipated” effect that has been observed since 2012 and because this conflict has been “less intense”). Similarly, Deutsche Bank (2016) estimated an accelerated growth of 0.5%;
- Anif simulations (based on ICOR modelling) are a bit more conservative and suggest economic peace benefits within the 0.5%-1% range of additional growth per year during 2017-2022. It is worth mentioning that these values should be applied to a downturn cycle that is currently the juncture in our country (taking us from a current 3.5% annual growth to 4.5% for the 2017-2022 period).

Peace (Budgetary) Costs

- Our estimations suggest that the implementation of the peace agreement will imply “immediate” costs to the government of at least 2.23% of GDP per year during the next half decade (2017-2022). The bulk of the costs related to repairing victims (1.9% of GDP per year).
- In contrast, the burden resulting from other costs seems more manageable (0.33% of GDP): illicit crop substitution (0.14% of GDP); programs for rural transformation (0.12% of GDP, according to guidelines from the Mission for

Rural Transformation); post conflict camps and demobilization (0.07% of GDP); and JEP (costing on average of \$1,600 million per year).

- If we then add to these “immediate“ costs what we have called costs of “sustainability” of the post conflict (which account for tertiary roadwork, credit loans and education programs) we obtain an additional 3% of GDP. Hence, Anif estimates that this peace agreement entails budgetary costs in the 2.23% of GDP and 5.23% range.
- Other analysts have made their own estimations of post conflict costs. The government being one of them has assigned only 1% of its budget for victim reparation, in accordance with Law 1448 of 2011.
- Fedesarollo (2016), for example, in addition to victim reparation costs adds resources required to finance rural programs (Mission for Rural Transformation), resulting in post conflict costs worth 1.2% of GDP per year.
- Finally, Bank of America (2014) estimations come closer to what Anif is claiming. According to their study, the total cost of the post conflict could fall somewhere between 0.8% of GDP and 3.5% of GDP per year, depending on the “scope” of programs executed.

**Table 9. Peace: Benefits, Dividends and Costs
(2016-2022, per year)**

	<u>Benefits</u> Real GDP acceleration	<u>Dividends</u> Reduction in Law Enforcement (% GDP)	<u>Costs</u> Budget additions (% GDP)
Bank of America (2014)	0,28 - 0,33	1,0	0,8 - 3,5
Anif (2016)	0,5 - 1,0	0,0	2,23 - 5,23
Deutsche Bank (2016)	0,5 - 1,0		
Gobierno - DNP	1,1 - 1,9		1,0
PNUD-CERAC (2014)	4pp (up to 8%)		
Fedesarrollo (2016)	?		1,2

Source: Anif.

Peace Fiscal Effects

- These additional costs must be added to already existent fiscal shortfalls. The government, in its MFMP-2016, has stated that in order to comply with the existing Fiscal Rule, fiscal shortfalls will increase in the subsequent years. In 2017, there will be no shortfall (if a cut in investment worth 0.7% of GDP is carried out, considering that the historical average is 1.8% of GDP). For 2018, the shortfall will ascend to 1.1% of GDP (or even 1.5% if investment cuts are avoided altogether). In 2019, this figure will amount to 3% of GDP (without investment cuts) and 3.6% of GDP in 2020.
- If we assume that the trend in fiscal shortfalls only takes into account “immediate” peace expenses worth 1% of GDP, we must add at least another 1.23% of GDP per year. Hence, the fiscal gap will rise at least 2.7% of GDP in 2018 until it reaches a 4.8% of GDP shortfall in 2020 (see Graph 12). Keep in mind that these figures assume no additional fiscal pressure from the so-called “sustainability” items, for which seems unfeasible (given the current tax structure).

All of this shows that Colombia must now face a social reality (which implies reaching and complying with peace agreements) and a fiscal reality that are both quite fragile. Therefore, this exercise of estimating dividends, benefits and peace costs leads us to ask some difficult questions:

- 1) What is the effective tax rate that businesses and households in Colombia can absorb, without collapsing the economy's real growth?

Probably an addition of no more than 2% of GDP per year during the next half decade. Perhaps, this target may only be reached by 2020, even considering that a much anticipated structural tax reform becomes a reality.

- 2) What can be done in terms of the current Fiscal Rule, which has given the false impression that expenditure is shrinking, where in reality it is far more relaxed than what an "investment grade" may otherwise suggest?

If the Fiscal Rule gets dropped (as has been suggested by some audacious government representatives and well-renowned ex-ministers of Hacienda), Colombia will very likely lose its investment grade before the end of 2018.

- 3) Instead, why not adopt a stricter Fiscal Rule that sets a maximum public debt threshold, à la Maastricht, that forbids debt beyond 60% of GDP, instead of actual levels of close to 50% of GDP and forces to comply with a "primary deficit" that will guarantee such a target during 2020-2025?

This strategy would suggest that the "fiscal anchor" in place is underperforming (see Anif 2016d), but at the same time would enable some fiscal margin that may serve the double purpose of culminating infrastructure work (sowing peace benefits and accelerating real GDP in the near future) as well as bolstering social peace (which has remained elusive during the past half century).

Appendix 1. Victim Reparation: 100% LMW (% GDP)

Population	Costs	
	3 Years Year avg. // NPV	6 Years Year avg. // NPV
5 mill.	3.9% // 14.1%	3.6% // 27.3%
10 mill.	7.7% // 28.1%	7.3% // 54.6%

Source: Anif estimations.

Appendix 2. *Jurisdicción Especial de Paz (JEP)*

1. Court distribution

Name of Court	No. Courts	Employees/courtroom	Total Employees
JEP	3	13	39
Peace Court	4	15	60
U.Research-Prosecution	1	23	23

Source: Anif.

2. Monthly costs of JEP

- Labor (\$ million)

Court	Employee	Employees per courtroom	Wage	Total per courtroom	Total
JEP (3 court-rooms)	Magistrado	6	26,7	160,5	481,5
	Juez auxiliar	1	7,0	7,0	21,0
	Secretario	1	5,1	5,1	15,4
	Auxiliares	4	2,0	8,0	24,0
	Notificador	1	0,7	0,7	2,1
TOTAL		13		181,3	543,9
Peace Court (4 sections)	Magistrado	8	26,7	214,0	856,0
	Juez auxiliar	1	7,0	7,0	28,0
	Secretario	1	5,1	5,1	20,5
	Auxiliares	4	2,0	8,0	32,0
	Notificador	1	0,7	0,7	2,8
TOTAL		15		234,8	939,2
U.Research - Prosec. (1 agency)	Director/Fiscal	1	11,2	11,2	11,2
	Secretario	1	5,1	5,1	5,1
	Investigador	20	2,5	50,0	50,0
	Mensajero	1	0,7	0,7	0,7
TOTAL		23		67,0	67,0

Source: Anif.

- Technological (\$ million)

Infraestructura tecnológica	Cantidad	Valor unitario	Total
Computadores	121	1,5	181,5

Source: Anif.

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