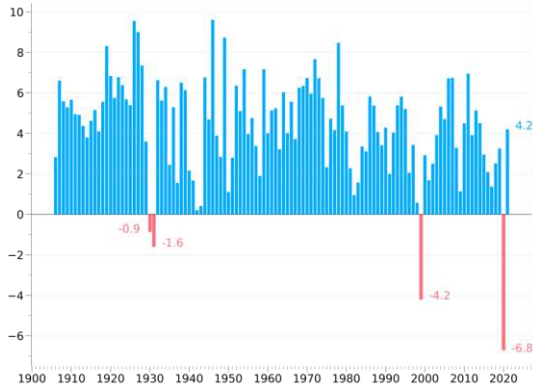
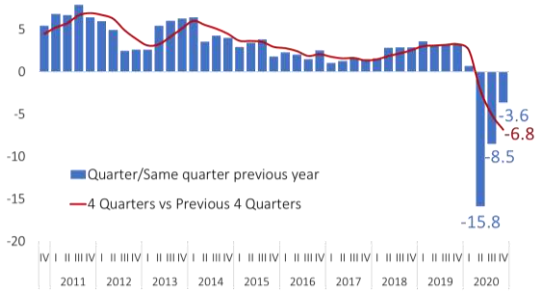
Economic Activity

Figure 1. Annual GDP growth 1906-2021(f) (%)



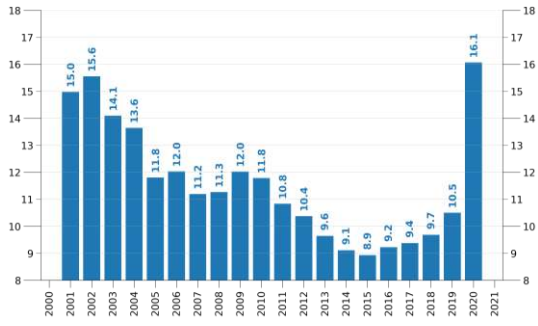
Source: Banco de la República, Dane, EConcept

Figure 2. Quarterly GDP Growth (Annual growth, %)



Source: DANE. Own Calculations.

Figure 3. Unemployment rate, annual average (%)



Note: Comparable data since 2001.

Source: DANE. Own Calculations.

Growth numbers for 2020 are finally in. Using the longest-standing series available (starting in 1906), the 6.8% overall contraction registered by the Colombian economy last year represents, not surprisingly, the worst economic downturn in the country's history. Incidentally, as Figure 1 shows, it is only the fourth year in more than a century in which the economy as a whole has posted negative results. That's a feature we consider quite salient about Colombia: the resilience of the economy was evident in the other two salient crises, in 2008-2010 and 2015-2017.

Growth dynamics throughout last year was all but even, as the intensity of the lockdowns and other restrictions imposed by national and local authorities was harshest during Q2, and gradually released during Q3 and Q4. Consequently, as Figure 2 shows, quarterly GDP annual growth hit rock bottom at -15.8% in Q2, then moved to -8.5% in Q3 and, finally, to -3.6% in Q4.

In line with economic activity, the labor market experienced the worst scenario since comparable data is available. The annual average unemployment rate stood at 16.1%, i.e. 5.6 percentage points higher than in 2019. It is important to keep in mind that the labor market had already deteriorated as a result of the downturn generated by the collapse in oil prices at the end of 2014 (Figure 3). Secondly, only 21.4 million people were employed at the end of the year (Figure 4). This level was not seen since 2012, and compared to 2019, job

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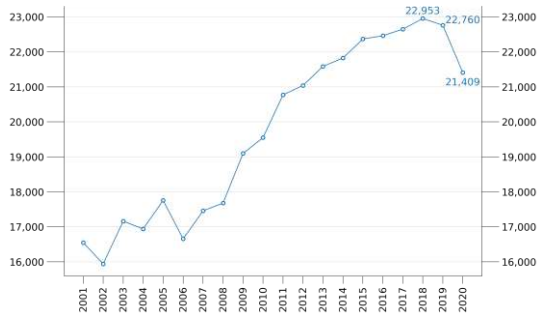
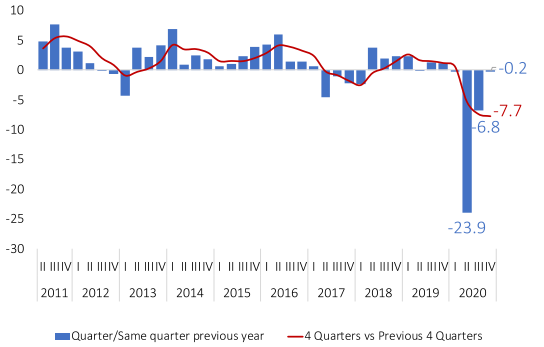
Figure 4. Number of employees at the end of the year (thousand)



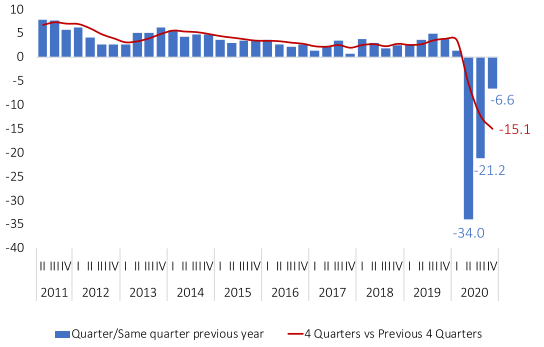
Source: DANE. Own Calculations.

Figure 5. Manufacturing Sector: 11.8% of GDP (annual growth, %)



Source: DANE. Own Calculations

Figure 6. Commerce Sector: 17.1% of GDP (annual growth %)



Source: DANE. Own Calculations

destruction was higher than 1.3 million. Lastly, the crisis led to higher levels of gender inequality and informality, and it weakened the access to the labor market for young employees.

On a monthly basis, in December the national unemployment rate stood at 13.4% while for major cities was 15.6%. Albeit the recovery has evolved faster than initially expected, there is still a long way to regain 2015 levels.

Supply GDP

Most sectors, especially manufacturing and commerce, followed a pattern similar to overall GDP. As Figure 5 shows, manufacturing reported a meager 0.2% decrease in Q4, in stark contrast with the 23.9% fall in Q2. Likewise, commerce presented a strong deterioration in Q2 (-34%) but in the last quarter of the year its contraction was already a one-digit decrease of -6.6% (Figure 6). It is worth noting that these sectors, that represent nearly 30% of the GDP, were the first allowed to resume operations as established by the National Government. As a result, they could see a modest and relatively fast recovery- albeit facing a diminished demand. Hence, their annual rates were both negative, -7.7% for manufacturing and -15.6 for commerce, but the recovery path leads to an optimistic prospect for 2021.

The impact on production across industrial subsectors was heterogeneous. Vehicles, clothing, and beverages contributed the most to the contraction of the manufacturing production. In

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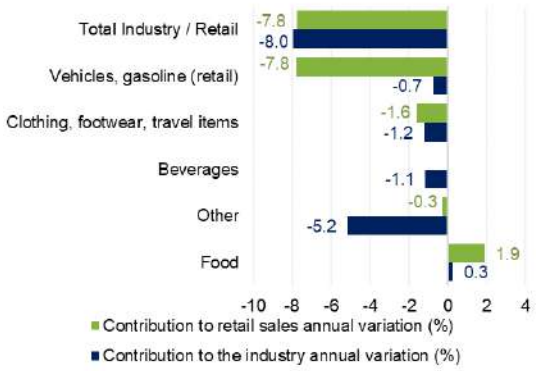
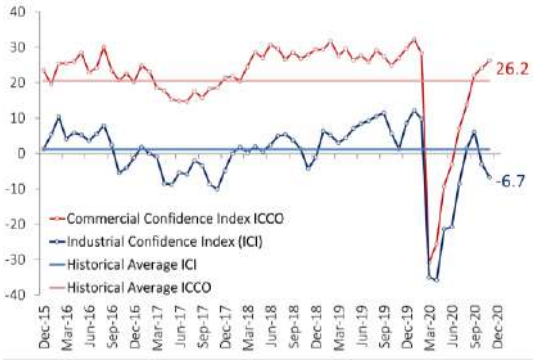
Figure 7. Manufacturing production and retail sales by subsectors (contribution to the overall annual variation, %)



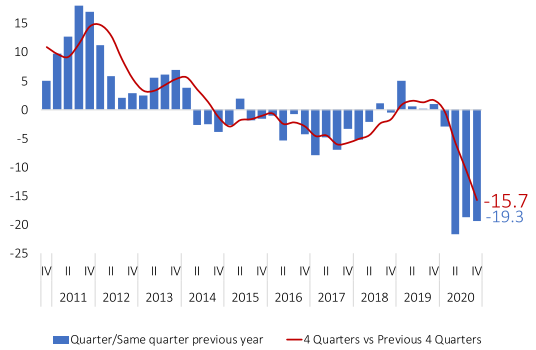
Source: DANE. Own Calculations.

Figure 8. Industrial and Commercial Confidence Index



Source: Fedesarrollo. Own Calculations.

Figure 9. Oil and Mining: 4.9% of GDP (annual grow



Source: DANE. Own Calculations.

contrast, food-related subsectors grew during the year (Figure 7). These results came as no surprise. Most sectors, excluding those considered essential such as food and pharmaceuticals, faced demand shortages and severe restrictions to operate for some months. As a whole, industrial production decreased 8% in 2020.

Regarding retail activities, sub-sector performance was similar to manufacturing. Sales of vehicles, gasoline, clothing and other products contributed -9.7 percentage points of the overall retail contraction. Meanwhile, food-related sales added 1.9 percentage points (Figure 7), which led to an overall retail-sales contraction of -7.8% thorough the year.

Confidence, measured by Fedesarrollo's Industrial and Commercial Confidence Index, reflects the aforementioned results. Since the worst period in March, both indices have already surpassed historical averages. Nevertheless, the industrial sector deteriorated its confidence in the last quarter of the year, moving away from its average and returning to negative territory (Figure 8).

Other supply sectors diverged from overall GDP. Oil and mining, as well as construction, did contract in 2020, just as total GDP did, but the depths of their respective contractions were still critical, namely in double-digit territory, even at the end of Q4 (Figure 9 and 10). On the one hand, the extractive sector is strongly related to world demand, which has not recovered yet. Oil was still contracting at 13.7% in the last quarter of 2020, while coal production posted a whopping

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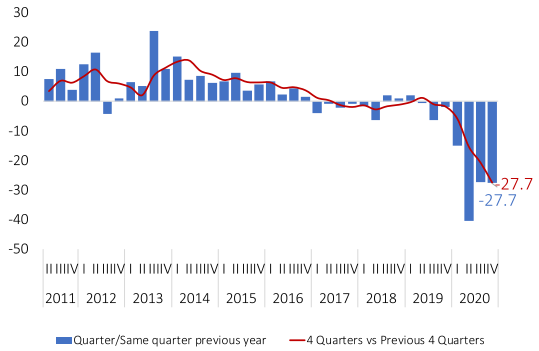
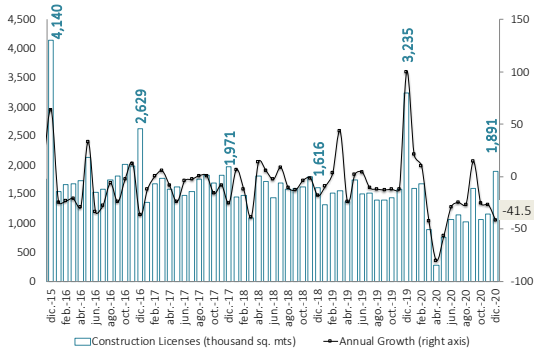
Figure 10. Construction: 6.5% of GDP (annual growth %)



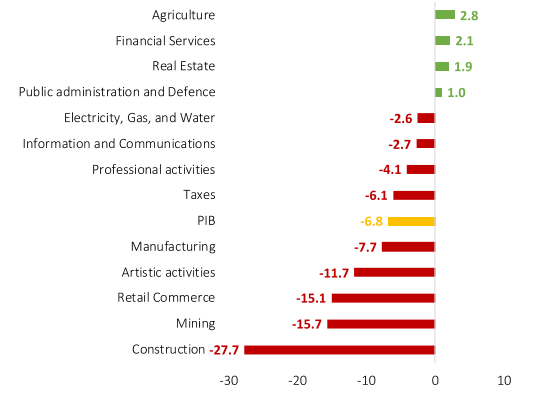
Source: DANE. Own Calculations.

Figure 11. Total Construction Licenses (Monthly data)



Source: DANE. Own Calculations.

Figure 12. GDP sectors (Annual growth, %)



Source: DANE. Own Calculations.

Figure 13. Government Consumption: 16.1% of

57.1% contraction even in Q4.

In the case of construction, good news was nowhere to be found. Residential and non-residential construction was still contracting at 26.5% in Q4, while public works finished the year with a dismal -29.6%. Despite all efforts of the Government, including 200,000 subsidies for Social Interest and Non-Social Interest housing, the sector did not gain momentum in 2020. We remain skeptical that 2021 will be a good year for the sector as construction licenses keep decreasing for the time being (Figure 11).

Some sectors were clear outliers, turning in positive growth rates for the year (Figure 12). Agricultural GDP had the highest growth of 2.8%, followed by financial services (2.1%) and real estate services (1.9%).

Demand GDP

On the demand side, government consumption grew 3.7% for the year, trying its best to keep the economy from contracting even more (Figure 13). This result comes in stark contrast to what happened in 2015, when government consumption contracted 4.8% in the Q4. However, fiscal efforts could not offset the collapse in private demand this time around: household consumption shrunk 5.8% last year and investment contracted by more than 20%.

In spite of the 5.8% contraction for the year, household consumption improved its momentum as 2020 entered into its

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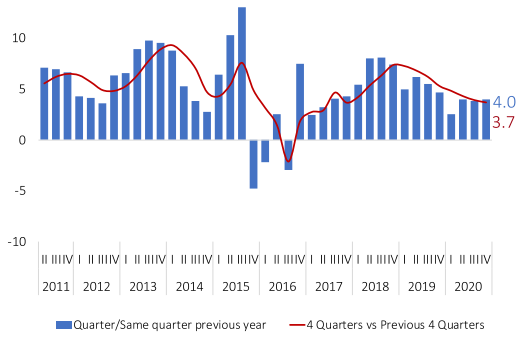
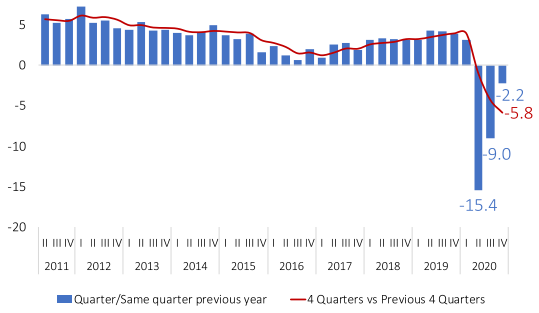
GDP (annual growth, %)



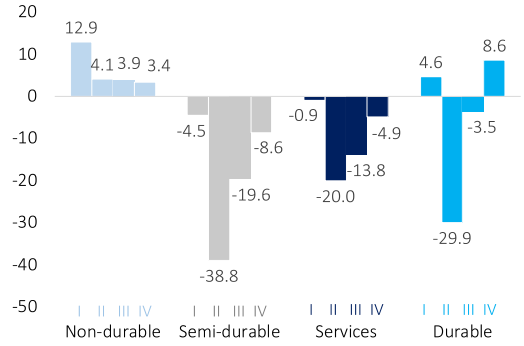
Source: DANE. Own Calculations

Figure 14. Household Consumption: 69.5% of GDP (Annual growth, %)



Source: DANE. Own Calculations

Figure 15. Household consumption by type (Quarterly, annual growth, %)



Source: DANE. Own Calculations

Figure 16. Gross Fixed Capital Formation: 22.1% of GDP (annual growth, %)

second half. Comparing Q2 with Q4, household demand went from -15.4% to -2.2% (Figure 14).

Taking an even closer look at household demand, as Figure 15 shows, the consumption of non-durables did not contract at any point in time, not even in Q2, a testament to the positive impact of government transfers to families in need. The consumption of services and semi-durable goods took a hit, though, as a lot of households could only use their meager incomes to get by from one day to the next; the mains spending areas affected were clothing, transportation and restaurants and hotels.

Finally, the consumption of durables posted somewhat puzzling results. After a dramatic 29.9% contraction in Q2, followed by a less dire -3.5% in Q3, the last quarter of the year registered a surprising 8.6% growth over the last quarter of 2019. Non-VAT days could have been to some extent a driver behind this result, but there is not enough information yet to give a clear-cut explanation of what happened there, taking into account indirect evidence coming from consumer sentiment surveys, which did not suggest a willingness to buy durable goods at the end of last year.

Investment contracted 39.6% in Q2, 20% in Q3 and, lastly, 16.1% in Q4 (Figure 16). This dismal behavior was driven, in no small measure, by the very negative results on the construction front. Housing and non-housing construction, which represents 59% of the gross fixed capital formation, decreased 28.2% and 29.1% in 2020, respectively.

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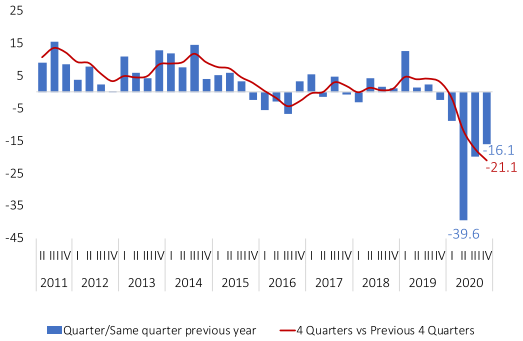
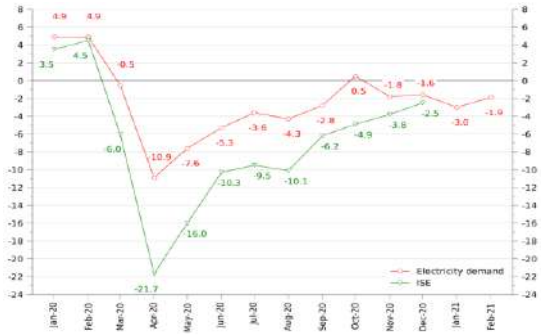


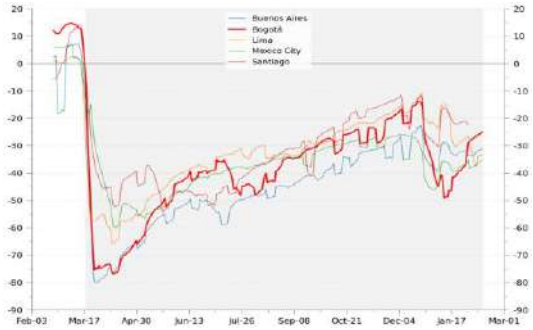
Source: DANE. Own calculations.

Figure 17. Economy Tracking Indicator and electricity demand, (Annual growth, %)



Source: DANE. Own calculations.

Figure 18. Changes in mobility to workplaces (% compared to baseline)



Source: Google. Own Calculations

Figure 19. National unemployment rate (%)

Lastly, on the international trade front, no important recoveries were seen during the year, as exports contracted 17.1% and imports decreased 18%.

Outlook

Monthly economic activity, shown here through the Economic Tracking Indicator produced by Dane (ISE) in Figure 17, shows the contraction receding gradually during Q4; this evolution was mirrored by the growth in electricity demand. The latter, with data as of mid-February[1] of this year, shows a slightly larger contraction during this quarter vis-à-vis January and February of 2020, to be expected as the first two months of last year evidenced a good momentum for the economy right before the pandemic hit our shores and still some sectors aren't back to normal yet.

Even though the gap relative to pre-pandemic economic activity continues to narrow, Figure 18 shows that the way people work remains affected to a larger degree. Mobility to the workplace in Bogotá, with data as of mid-February 2021, is still 25% below pre-COVID levels. The fact that activity is recovering faster than mobility underlines, yet again, the difficult situation of the transportation sector; public transportation could be facing structural changes in demand going further.

[1] Monthly electricity demand corresponds to the monthly average (data as of Feb. 15th). Monthly economic activity measured through the Economic Tracking Indicator (ISE for its acronym in Spanish) computed by DANE.

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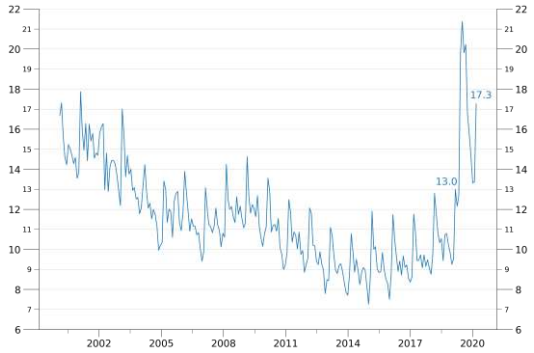
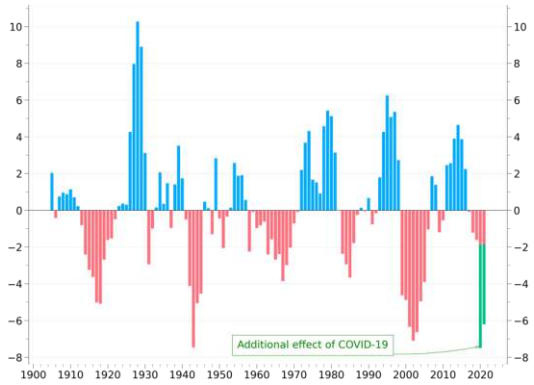


Source: DANE. Own Calculations

Figure 20 Output gap (% of potential GDP)



Source: DANE. Own Calculations

We expect GDP to rebound this year, under a conservative scenario, to be 4.2% (see Figure 1 above). The consensus, however, seems to be more optimistic and considers numerous potential upsides that could bring growth up to 5%. Nevertheless, one should remain wary of the lasting (negative) impact of companies going out of business, credit decelerating (see below in this report and large swaths of the population moving into unemployment (the January 2021 data for the labor market is a case in hand, as Figure 19 shows), informality and poverty. In spite of whether one expects growth to be closer to 4% or closer to 5%, Figure 20 shows that the output gap will remain quite large at the end of this year. This should be expected as a result of the largest downturn in Colombian economic history.

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Credit showing strain, but financial sector in good shape

The negative impact of COVID-19 has shown up pretty much everywhere. However, until recently, the financial sector could be counted among the very few exceptions. Allowing financial institutions to renegotiate payment schedules with borrowers, including the extension of grace periods, has been an appropriate decision under the extraordinary circumstances Colombia faced in 2020. Indeed, according to the latest data provided by the Financial Superintendence, loans equivalent to 3% of GDP have been rescheduled, involving, on average, a 28% reduction in the installment to be paid, a 162 bp reduction in the effective interest rate paid, a lengthening of 37 months in the repayment schedule and a 6-month grace period.

These decisions have made it difficult to have a clear picture of the financial soundness of individuals and corporations during the current negative phase of the business cycle. As time goes by, however, and the window to renegotiate loan conditions becomes a thing of the past, COVID inevitably ended up showing its ugly face in the financial sector as well, as Figure 1 shows.

Data released by the Financial Superintendence as of November shows credit growth losing steam and non-performing loans gaining momentum. While total credit was growing at 7.8% in real terms back in April 2020, by December it had slowed down to 2.2%; during the same period, real growth in total non-performing loans went from -5.3% to 18.5%. A similar but much more worrisome trend can be identified in consumer lending. From a 12.6% real growth rate in total consumer loans back in February of last year, the December data shows a meager 0.4%; non-performing consumer lending real growth rates, on the other hand, went from 3.3% last February (then plummeting to -37.3% in July) to a whopping 34.2% in December.

Non-performing loans (NPL) as a percentage of outstanding loans, it goes without saying, have also increased, as Figure 2 shows. For lending institutions, this indicator stood at 5.2% in November, surpassing the peaks observed in Colombia during the international financial crisis and the 2014-2017 crisis generated by the collapse of oil prices. However, when one breaks down the data by type of credit, the respective NPL indicator is still not above the peaks observed during these two previous crises, except for consumer and mortgage loans vis-à-vis 2015-2016.

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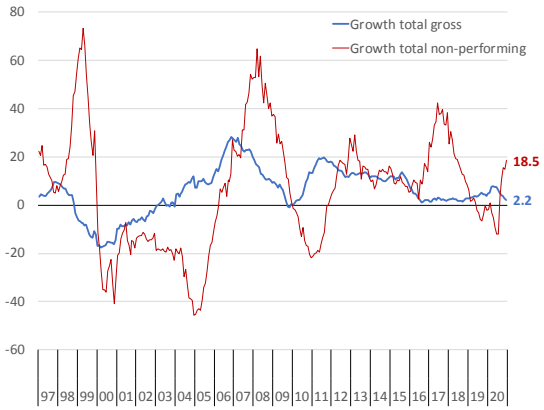
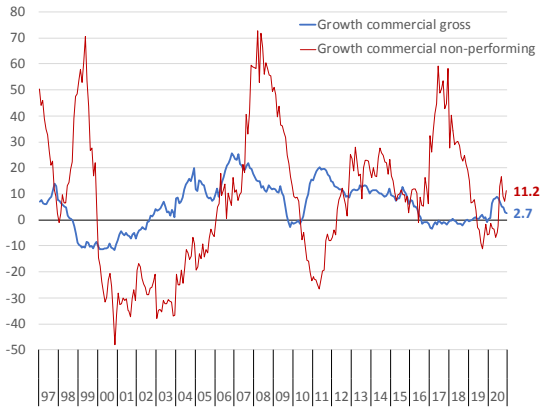
Figure 1. Real annual credit growth by category (%)

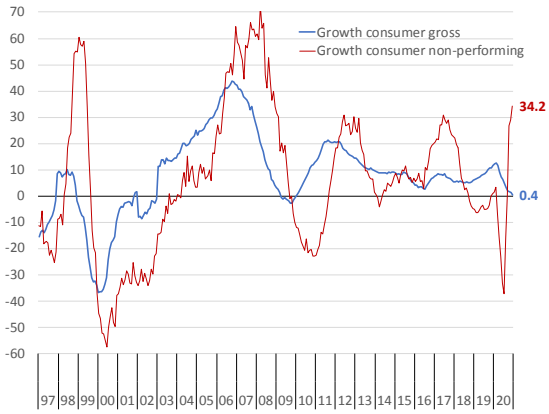
Total Loans



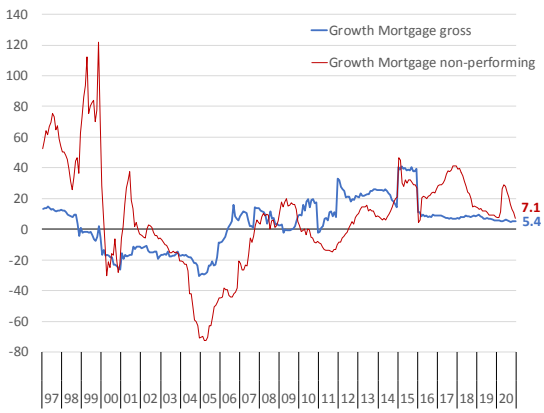
Commercial loans (52.3% of total credit)



Consumer loans (31.0% of total credit)



Mortgage loans (14.1% of total credit)



Data as of December 2020. Microcredit, 2.6% of total credit, is not shown here separately.

Source: Financial Superintendence, EConcept

In spite of the fact that concerted efforts were made to keep borrowers afloat by rescheduling payments, the flow of credit to new borrowers has been severely affected by the pandemic. Figure 3 shows this compellingly in the case of consumer lending. Disbursements, which averaged COP 9.3 trillion through 748 thousand operations per month during 2019, fell to COP 5.2 trillion through 346 thousand operations on average during the January-November period of last year. May was the absolute nadir of the cycle, with only COP 0.1 trillion in consumer credit disbursements through a dismal 2,000 operations.

As operations dwindled, the average size of disbursements went up, from COP 12.4 million in 2019 to COP 15.1 million last year, indicating that individuals that are less well-off were increasingly kept out of the credit loop. Even

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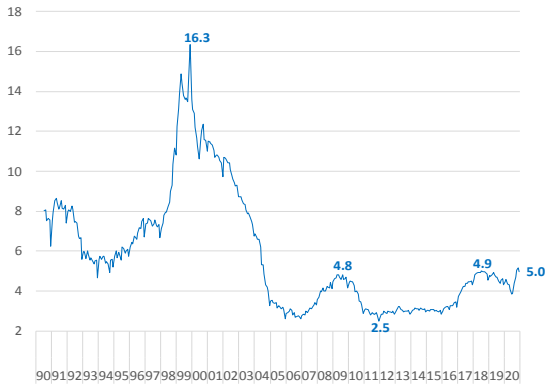
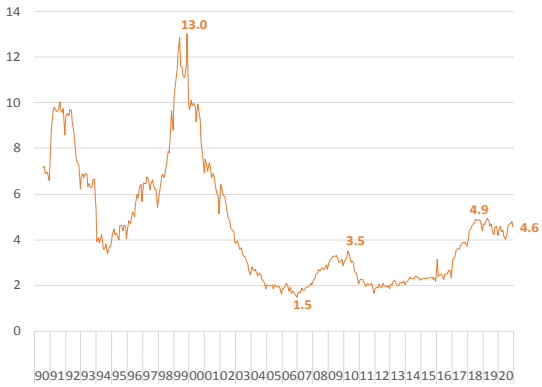
though the September-November period of last year shows a stark recovery vis-à-vis the April-August debacle, disbursements are still, on average, 15% below 2019 levels; worse still, the average size of these disbursements has gone even higher, to COP 16.1 million, signaling even more concentration on households that are better off.

Figure 2. Non-performing loans (% of total loans by category)

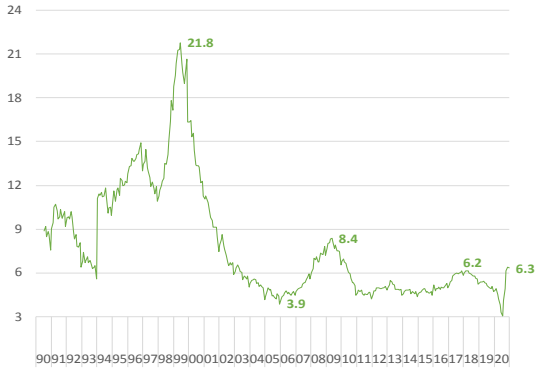
Total Loans



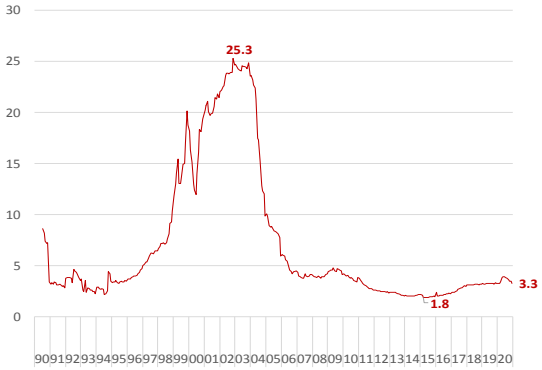
Commercial loans (52.3% of total credit)



Consumer loans (31.0% of total credit)



Mortgage loans (14.1% of total credit)



Data as of December 2020. Microcredit, 2.6% of total credit, is not shown separately

Source: Financial Superintendence, EConcept

One obvious question arises from the analysis presented above: is financial sector soundness affected by all of this? Fortunately, that side of the story looks much better. Solvency margins, shown in Figure 4, are still well above regulatory minima, even in the case of banks, which usually have the lowest solvency margins among

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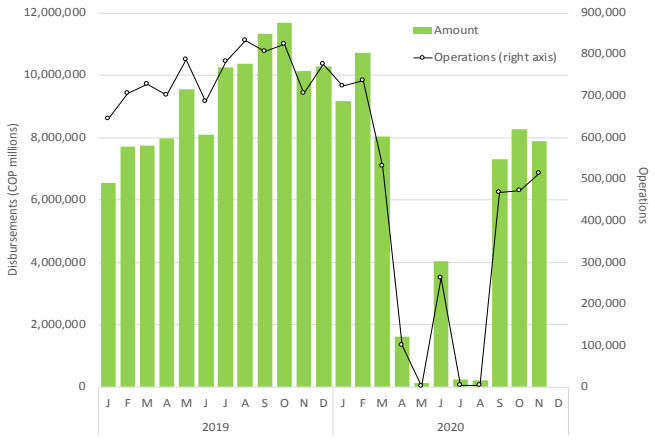
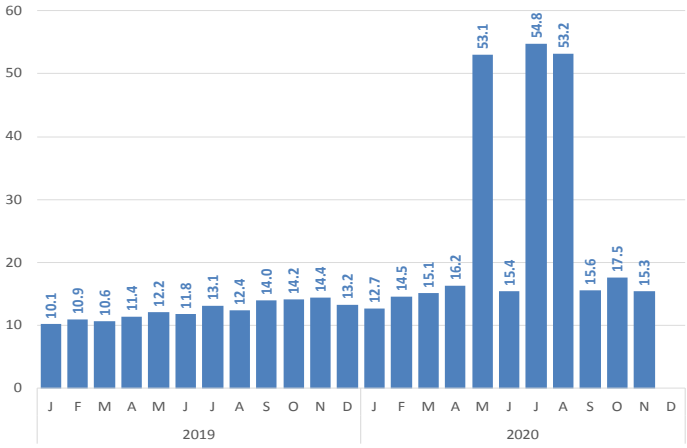
financial institutions. During the crisis months, solvency margins actually rose. However, that was also the result of loan rescheduling and regulatory changes allowing banks to postpone reporting NPLs.

Figure 3. Consumer credit disbursements - 2019-2020

Amount disbursed and number of operations



Average size of disbursements



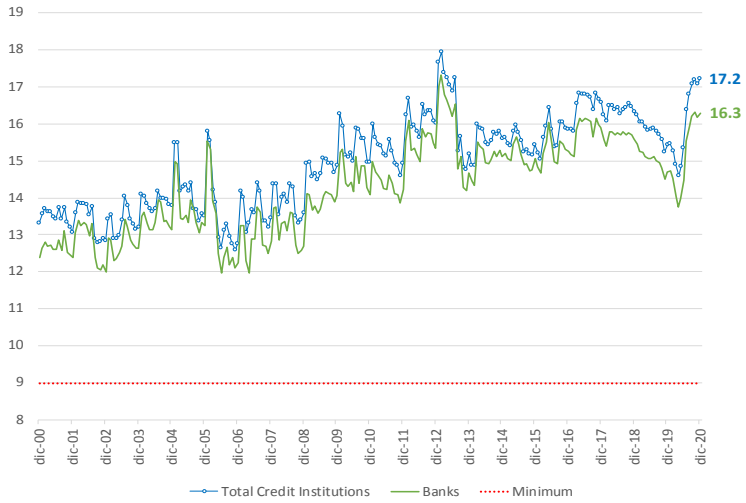
Data as of November 2020

Source: Financial Superintendence, EConcept

In full knowledge that the worst is still ahead when it comes to stress indicators, regulatory requirements and prudent actions on the part of financial institutions have resulted in increased provisions, affecting the overall profitability of the sector. Figure 5 shows that year-to-date profits have taken a hit, especially when it comes to institutions owned by foreigners, which as a group even registered a loss in October of last year. However, being

a result of prudential actions and with solvency at good levels, we don't see a reason for concern as to the overall soundness of the country's financial system.

Figure 4. Solvency margins (%)



Data as of December 2020

Source: Financial Superintendence, EConcept

It is important to mention that our analysis coincides with the conclusions reached at the end of the December meeting of the Coordination and Oversight Committee of the Financial Sector (CCSSF), in which the key institutions responsible for a well-functioning financial system have a seat: the Ministry of Finance, the Financial Regulatory Unit, the Financial Superintendence, the Central Bank and Fogafín. After this quarterly review, the CCSSF sees credit and liquidity risks within reasonable parameters but made it clear that new developments must be followed up closely.

In spite of this, we don't think the data paints a nice picture about the financial standing of households and firms, which in turn suggests a difficult recovery process for both this year, in spite of the expected rebound in overall growth. Being overly optimistic as to the momentum of the economy is not the way to go for now. The road ahead to climb up of the downturn is still steep.

Figure 5. Year-to-date profits of private financial institutions – local and foreign (COP millions)

Local institutions *Foreign institutions*

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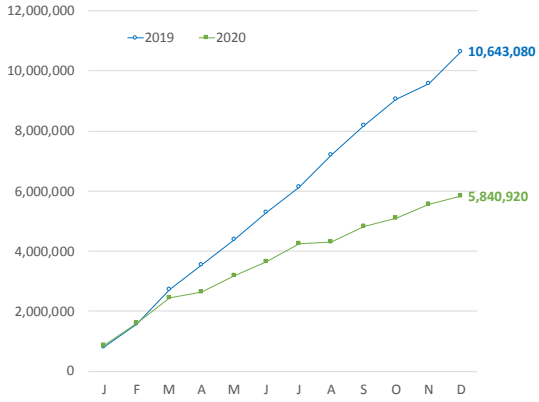

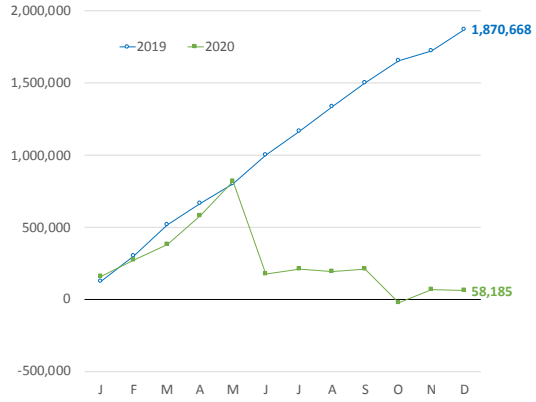

Data as of December 2020

Source: Financial Superintendence, EConcept

How much debt is too much?

Everyone around the globe is probably doing computations on national public debt sustainability. We are no exception. Figure 6 shows the sharp increase occurred since 2012, and especially in 2020. The crucial issues, from our point of view are: i) how much debt can be supported by Colombia's macroeconomy and fiscal stance, and ii) how credible is the path of reduction in the upcoming years towards such sustainable level.

In order to assess the current situation and to answer those two questions, we performed a public debt-interest rate sensitivity analysis. Let us provide first some background information. Table 1 and Figure 8 show the sharp decline in international, but especially in domestic implicit interest rates on public debt (the composition between domestic and external public debt has stabilized around 2/3 and 1/3, respectively, and it is shown in Figure 7). Most importantly, it shows that the 2008-2009 and 2015-2017 crises didn't visibly affected such declining trend. Those two crises represented short-lived blips in a quarter-of-a-century declining trend.

Hence, Colombia's macroeconomic stability and the ample liquidity characterizing international markets produced a virtuous result of much lower costs of financing for the government and the private sector. Whereas in the 1990s it was normal to pay more than 25% for domestic bonds and nearly 10% for foreign ones, currently the implicit rates stand at 5.6% and 4.7%, respectively. This is a crucial phenomenon when assessing how much debt is macroeconomically and fiscally acceptable for Colombia. As Figure 9 shows, this is not a Colombian but a world phenomenon.

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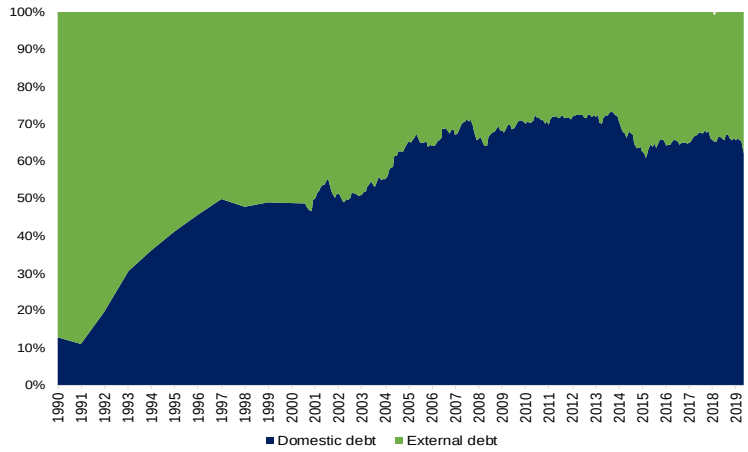
Figure 6. Gross and Net national government debt and credit ratings (end of year), and MTFF 2020 debt projections, 2008-2026

* Colors indicate upgrades (green), affirmations (black) or downgrades (red) in ratings or outlooks.

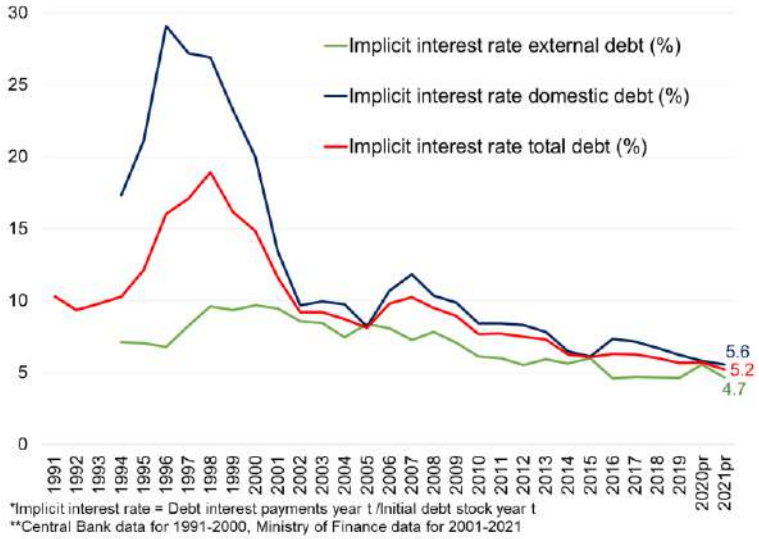
Source: Ministry of Finance, MTFF 2020, EConcept.

Figure 7: National public debt composition by internal and external, 1990-2019



Source: Central Bank 1990-2000. Finance Ministry 2001-2019, EConcept.

Figure 8: Implicit interest rates for total, external and domestic public national debt (%)



Source: Ministry of Finance, Central Bank, EConcept.

Table 1: Implicit interest rates for total, external and domestic national public debt (Billion COP)

Year	External debt stock	Interest payments on external debt	Implicit interest rate external debt	Domestic debt stock	Interest payments on domestic debt	Implicit interest rate domestic debt	Total debt stock*	Interest payments on total debt*	Implicit interest rate total debt
	Billion COP	Billion COP	%	Billion COP	Billion COP	%	Billion COP	Billion COP	%
1990	$3,092			$456			$3,547	$262	
1991	$3,885			$483			$4,367	$365	**10.3**
1992	$4,791			$1,163			$5,955	$407	**9.3**
1993	$5,268			$2,336			$7,604	$582	**9.8**
1994	$5,456	$375	**7.1**	$3,092	$405	**17.3**	$8,549	$780	**10.3**
1995	$6,875	$383	**7.0**	$4,856	$653	**21.1**	$11,732	$1,036	**12.1**
1996	$7,867	$467	**6.8**	$6,664	$1,411	**29.1**	$14,530	$1,879	**16.0**
1997	$10,865	$652	**8.3**	$10,765	$1,811	**27.2**	$21,630	$2,485	**17.1**
1998	$16,171	$1,042	**9.6**	$14,903	$2,895	**26.9**	$31,074	$4,090	**18.9**
1999	$22,845	$1,508	**9.3**	$21,898	$3,466	**23.3**	$44,743	$5,026	**16.2**
2000	$31,922	$2,214	**9.7**	$32,621	$4,374	**20.0**	$64,543	$6,630	**14.8**
2001	$41,742	$3,018	**9.5**	$44,236	$4,383	**13.4**	$85,978	$7,497	**11.6**
2002	$51,577	$3,576	**8.6**	$53,401	$4,281	**9.7**	$104,978	$7,902	**9.2**
2003	$56,811	$4,355	**8.4**	$60,950	$5,306	**9.9**	$117,761	$9,656	**9.2**
2004	$53,355	$4,222	**7.4**	$68,632	$5,944	**9.8**	$121,987	$10,264	**8.7**
2005	$47,626	$4,469	**8.4**	$88,456	$5,613	**8.2**	$136,081	$9,881	**8.1**
2006	$52,613	$3,849	**8.1**	$94,399	$9,452	**10.7**	$147,012	$13,327	**9.8**
2007	$47,653	$3,825	**7.3**	$99,062	$11,158	**11.8**	$146,715	$15,016	**10.2**
2008	$54,593	$3,724	**7.8**	$108,714	$10,261	**10.4**	$163,307	$13,923	**9.5**
2009	$59,694	$3,862	**7.1**	$125,640	$10,737	**9.9**	$185,334	$14,583	**8.9**
2010	$59,306	$3,652	**6.1**	$143,534	$10,561	**8.4**	$202,840	$14,213	**7.7**
2011	$63,980	$3,568	**6.0**	$150,713	$12,069	**8.4**	$214,694	$15,637	**7.7**
2012	$59,519	$3,533	**5.5**	$156,770	$12,538	**8.3**	$216,289	$16,076	**7.5**
2013	$68,719	$3,539	**5.9**	$180,640	$12,265	**7.8**	$249,359	$15,804	**7.3**
2014	$89,767	$3,881	**5.6**	$200,099	$11,713	**6.5**	$289,866	$15,594	**6.3**
2015	$129,590	$5,377	**6.0**	$211,609	$12,244	**6.1**	$341,200	$17,621	**6.1**
2016	$134,070	$5,962	**4.6**	$243,016	$15,566	**7.4**	$377,085	$21,528	**6.3**
2017	$142,552	$6,309	**4.7**	$269,334	$17,351	**7.1**	$411,886	$23,660	**6.3**
2018	$164,090	$6,632	**4.7**	$309,936	$18,116	**6.7**	$474,026	$24,748	**6.0**
2019	$169,508	$7,607	**4.6**	$331,299	$19,288	**6.2**	$500,806	$26,895	**5.7**
2020pr	$229,746	$9,419	**5.6**	$389,846	$19,222	**5.8**	$619,592	$28,641	**5.7**
2021pr		$10,690	**4.7**		$21,654	**5.6**		$32,344	**5.2**

Source: Ministry of Finance, Central Bank, EConcept.

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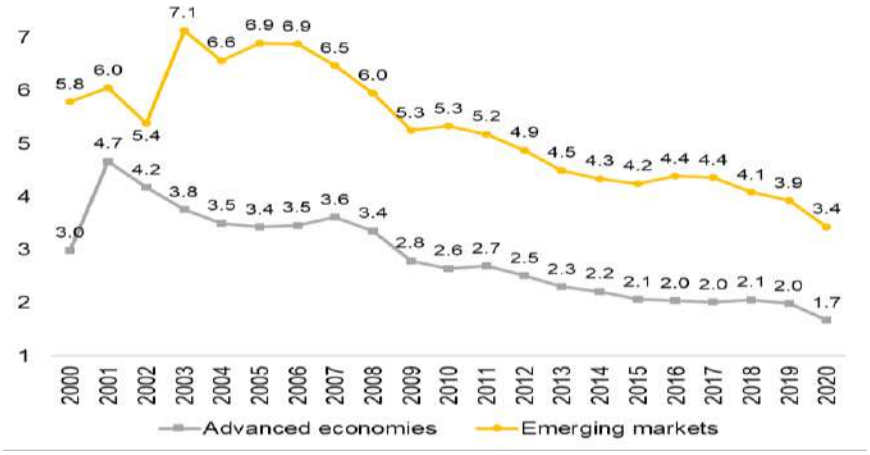
Note[1]: Debt stocks differ on data from Central Bank and Ministry of Finance. Ministry of Finance data are used since 2001, for previous terms the Central Bank is the only accurate source of data which may cause data leaps between 2000 and 2001. Interest payments from Ministry of Finance.

Note[2]: Stock and interest payments on total debt only include interest payments on external and domestic debt and does not include payments linked to the indexation of treasury bonds.

Figure 9: Implicit interest rates for total general government gross debt (%)

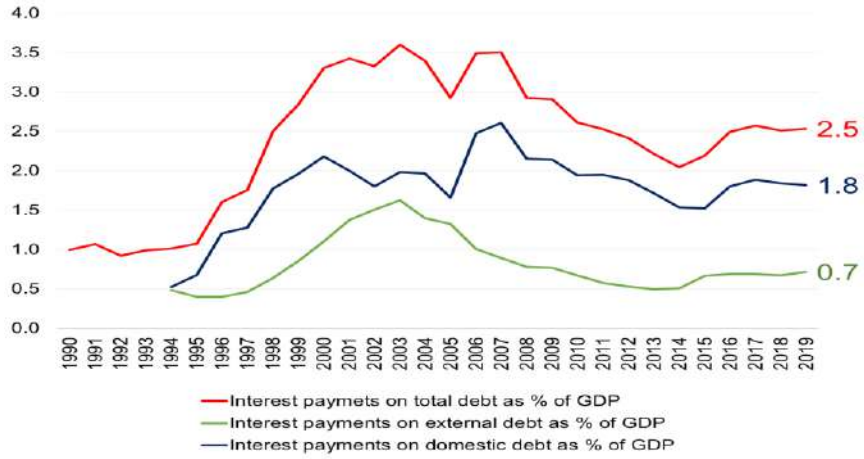
Advanced economies and emerging markets



Source: IMF, EConcept.

Figure 10 shows the corresponding burden of national government interest payments as percentage of GDP. Foreign interest payments (as % of GDP) peaked in 2003, and domestic ones peaked in 2007. Since then, foreign interest payments fell to half of the peak level, and domestic ones fell one fell from 2.6% to 1.8% of GDP. The total burden declined in a full percentage point of GDP. A remarkable trend of this graph is the decline of total debt between 3.5% of GDP in 2007 to 2% in 2013.

Figure 10: Interest payments on total, external and domestic national public debt as % of GDP



Source: Ministry of Finance, DANE, EConcept.

This is illuminating. Our beliefs formed during the last 20 years, after the end-of-the-century crisis, were that total national public debt in Colombia should be at most 40% of GDP, due to the high cost of interest payments. This is still true, but the upper bound of that relationship is contingent on interest rates.

In particular, Table 2 shows the interest payments burden (as % of GDP) of nine combinations of total national public debt and interest rates (keeping the composition of external and internal debt constant). The conclusion we draw is that 50% or 60% of debt/GDP ratio have basically the same fiscal and macroeconomic burden that 40% if interest rates are one percentage point lower.

Table 2: Sensibility analysis for national public gross debt interest (% GDP)

Different interest rates for external and domestic gross debt, base scenario with current average rates (2021)

	% Debt	Interest rate (%)		
External Debt	37.1%	3.7%	4.7%	5.7%
Domestic Debt	62.9%	4.6%	5.6%	6.6%
Total Debt (%GDP)	40%	1.9%	2.3%	2.7%
	50%	2.4%	2.9%	3.4%
	60%	2.8%	3.4%	4.0%
	70%	3.3%	4.0%	4.7%

Source: EConcept.

Indeed, there are diagonals, like the one shown be the red arrow, of mostly equivalent interest payments, with combinations of the vertical and horizontal axes. There is a type of elasticity of the debt burden to the interest rate, that stabilizes the interest payments burden. Analytically, this is a crucial argument for assessing how much is too much debt. Our beliefs that 50% or 60% of GDP was too much debt for Colombia need to be revisited. Currently, Colombia's 60% of GDP national public debt is as sustainable as 40%, when interest rates were around 7% domestic and 9% foreign, ten years ago.

When assessing national government debt sustainability, the rating agencies and lenders should be aware of this relationship. The root cause lies certainly outside the realm of Colombian macroeconomics, in the humongous liquidity flooding international markets. Colombian debt returns or emerging markets debt returns are extremely attractive vis-à-vis those of more secure assets, up to the point that markets reward them irrespective of what in the past would have been deemed excessive debt/GDP. Hence, they are not excessive anymore.

How long could this situation prevail? We don't know. However, in the new monetary and QE accommodation paradigm, in which assets in advanced economies are not allowed to collapse, and any amount of liquidity is to be provided to support valuations, and avoid runs, emerging economies seem to rest comfortably under the umbrella of low cost of debt for a foreseeable future.

Good for us. The world in which people had to sweat blood and oil under the sun to service debt has seemingly been replaced by a status quo in which substantially more debt is admissible. In sum, where should the national public debt/GDP ratio depicted in Figure 6 converge to for fiscal sustainability? Under the current interest rates, towards 50%. This level has to be achieved by a new fiscal rule, that warrants fiscal consolidation.

Should interest rates maintain its declining trend, on average falling approximately one percentage point every four to six years, 60% of GDP could easily be a sustainable level around 2025. That would be a beautiful world in which what used to be populist profligacy, has become just sound financing for emerging economies development.

Reforms of the deaf, by the deaf and for the deaf

We sense a deep disconnection between economists, policymakers, politicians, the media and the general public. The supposed upcoming tax reform is an example at hand. Economists cannot be more convinced that VAT base

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widening is mandatory; government policymakers agree and appear in the media talking about it, without a written bill to present to Congress as of yet, probably to test the waters. Media commentators give a serious consideration to the causes and consequences of such an idea. Politicians react with disbelief, due to the fact that a harsh increase in VAT to the middle (lower classes would get a rebate), would be socially and politically unadvisable when COVID-19 is still prevalent and the economic and social consequences are quite painful. And finally, people start complaining *sotto voce*.

Where is the line of communication lost? How come one extreme of this communication line is so deaf to the other end? Can economists go on thinking that what looks good in spreadsheets, slides, elasticities, and conceptual considerations has to be admissible by the suffering masses?

A series of middle agents are contributing to this state of affairs: politicians need voters; policymakers need members of Congress; media commentators need audiences. They seem to be deaf, or at least hard of hearing. What is inadmissible to the masses is presented by the policymakers and defended by economists as indispensable.

Table 3 presents the apparent tax reform from the deaf for the deaf, especially with respect to VAT. Whose deafness is more risky? What dangers are being incubated here? Can the people punish those deaf to their suffering? Certainly. In the 2022 elections people can vote for those who pay attention to their anguish. The government aims to increase tax collection in 15 trillion COP (1.5% of GDP), starting in 2022. The design will be aided by an OECD tax experts committee.

We sense that something is wrong in this atmosphere. We adhere to a more pragmatic, eclectic, approvable tax reform, that does not try to achieve too much in hard times like these. The previous section shows that the urgency placed by the rating agencies and internalized by policymakers for passing a 2% of GDP tax reform, or even a 1.5% one, might be premature, half-baked and pernicious. Economists' and policymakers' deafness can become too costly.

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Table 3: Government's statements and proposals on tax reform.

Reform Item	How much will it change?
VAT	Increase VAT base: 83% of goods and services should be taxed, exempting public utilities and education. "VAT rebate" to poor and vulnerable households (˜30%) popul.). More affluent households: 15% VAT tax increase.
Income Tax	Reduce income tax benefits for high income individuals. Less burden on corporations and small businesses Increase on individual's earning more than COP 3.5 m/ month. Medium and small businesses would not have a tax increase.
Pensions	Tax pensions higher than 3 minimum wages.

Source: La República, El Tiempo, El Espectador, Semana, WRadio, Bloomberg.

The post-pandemic world, in which multiple social equilibria are coordinated by social media and dark forces, may be too sensitive for policy experiments like this tax reform. Chile's deaf urban transport fare increase led to a new Constitution. There, deafness was punished. Similar examples since 1990 can be provided in Argentina, Mexico and Venezuela. Let us hope that our sense of hearing improves, or at least that the consequences for Colombia end up being less exorbitant than those of its neighbors.

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Investment Opportunities in Colombia

Transportation Sector

1. Roads

Fourth Generation (4G) Road Concessions Projects – First Wave Projects

Road	Length (km)	Contract Value (COP million)	Status
Honda - Girardot - Puerto Salgar	190	1,465,609.00	**Construction**
Perimetral de Oriente de Cundinamarca	152	1,647,776.10	**Construction**
Cartagena - Barranquilla	146	1,709,364.50	**Construction**
Autopista al Río Magdalena 2	144	1,740,427.60	**Construction**
Autopista Conexión Norte	145	1,300,273.80	**Construction**
Autopista Conexión Pacífico 1	50	2,087,106.20	**Construction**
Autopista Conexión Pacífico 2	97	1,300,234.00	**Construction**
Autopista Conexión Pacífico 3	146	1,869,330.70	**Construction**
Mulaló - Loboguerrero	32	1,587,924.10	**Pre-Construction**
Total	**1,102**	**14,708,046.00**	

Source: National Planning Department, National Infrastructure Agency

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Fourth Generation (4G) Road Concessions Projects – Second Wave Projects

Road	Length (km)	Contract Value (COP million)	Status
Autopista al Mar 1 (2012)	181	2,244,728.60	Construction
Autopista al Mar 2 (2012)	254	2,574,127.20	Construction
Santana-Mocoa-Neiva (2013)	456	2,969,581.00	Construction
Rumichaca-Pasto (2013)	83	2,316,127.80	Construction
Popayán-S/der de Quilichao (2013)	77	1,702,786.70	Pre-Construction
Transversal del Sisga (2013)	137	966,849.10	Construction
Villavicencio-Yopal (2013)	266	2,939,320.80	Construction
P/ta de Hierro - Palmar (2013)	203	1,240,828.00	Construction
Bucaramanga - Barrancabermeja - Yondó	152	2,691,392.44	Construction
Total	**1,809**	**19,645,741.64**	

Source: National Planning Department, National Infrastructure Agency

Fourth Generation (4G) Road Concessions Projects – Third Wave Projects

Road	Length (km)	Contract Value (COP million)	Status
Pamplona - Cúcuta (2015)	62.6	2,072,320.0	Construction
Bucaramanga – Pamplona (2013)	134.2	1,413,763.0	Construction
Total	**195.6**	**3,486,083.0**	

Source: National Planning Department, National Infrastructure Agency

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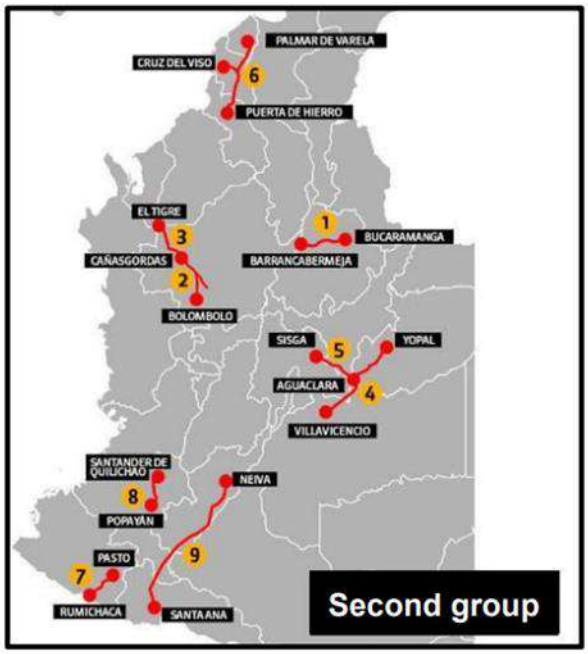
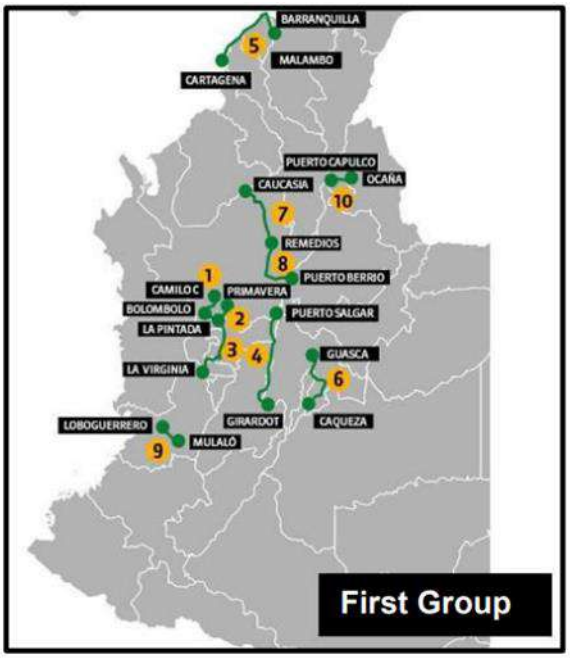
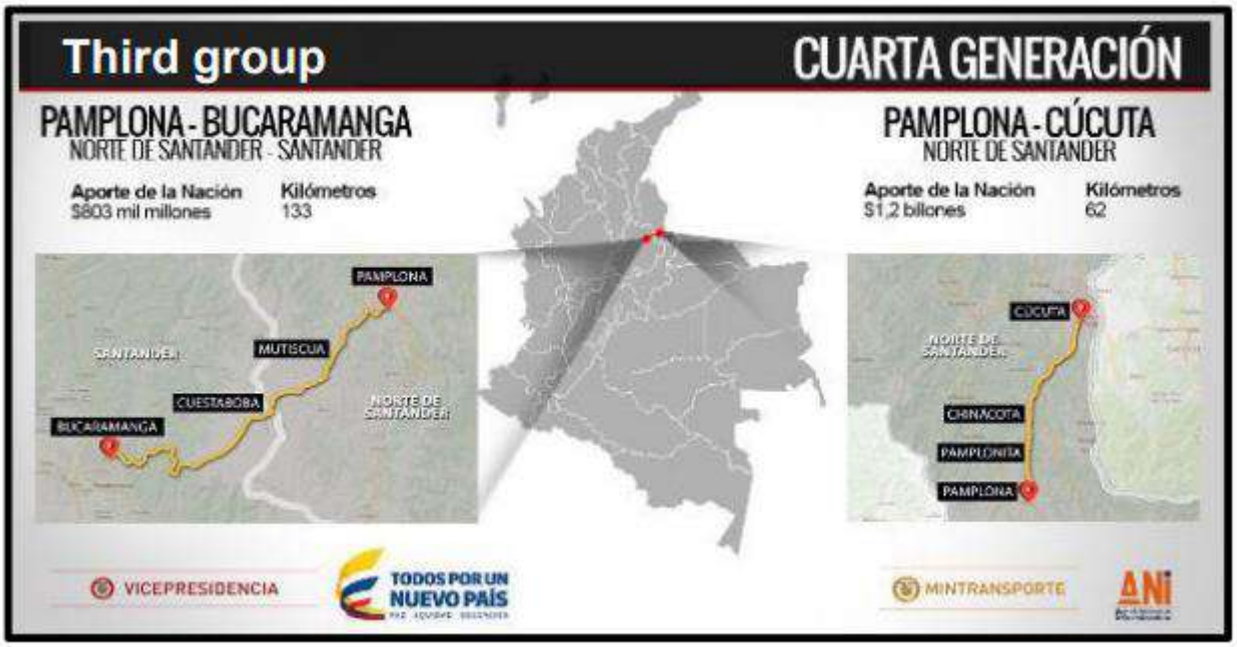
Map of Fourth Generation (4G) Road Concessions Projects







Source: National Planning Department

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Other Road Projects: Other infrastructure road projects, different to 4G involving the building, rehabilitation and maintenance of roads. Primarily private initiative.

Project	Length (km)	Contract Value (COP million)	Status
IP Cambao – Manizales (2013)	256	1,147,653.4	**Construction**
IP Tercer Carril Bogotá Girardot (2016)	145	4,197,839.6	**Construction**
IP Accesos norte a la ciudad de Bogotá D.C. (2014)	62	1,225,686.3	**Construction**
IP Chirajará – Fundadores / Bogotá Villavicencio* (2013)	86	5,090,472.5	**Construction**
IP Malla Vial del Meta (2013)	267	1,580,927.0	**Pre-Construction**
IP GICA	35	1,810,392.0	**Construction**
IP Vías del NUS* (2013)	157	2,490,136.0	**Construction**
IP Neiva – Girardot* (2014)	198	2,017,901.6	**Construction**
IP Antioquia – Bolívar* (2015)	495	2,752,552.2	**Construction**
Total	**1,701**	**22,313,560.6**	

Source: National Planning Department, National Infrastructure Agency

1. Airports

- **Tourist Airports** modernization, adequacy, administration, operation, and maintenance of Javier Noreña Valencia (La Macarena), Germán Olano (Puerto Carreño) and César Gaviria Trujillo (Inírida) airports.
  - **Capex:** USD 109.6 Million.
  - **Status:** Structured.

2. Massive urban transit systems and Strategic Transport

- **San Andrés island public transport:** Construction, rehabilitation, operation, and maintenance of the infrastructure associate to the stations, bus stops and supply of rolling stocks (electric fleet) and of the technological systems required. CAPEX: 49.25 million USD. Status: Pending approval to advance to the legal structuring. Benefited population: 70.000 people and 1.000.000 tourist/year.

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II. Energy and Mining Sectors

Ministry of Mines and Energy – National Development Plan:

Projects considered in building phase

Project	Capacity (MW)	Operation Start Date
Chemesky	100	November 2022
Tumawind	200	November 2022
Casa Eléctrica	180	November 2022
Windpeshi	200	November 2020
La Loma Solar	150	August- September 2020
Puerto Solo 1	148	Not defined
Ituango	1200	September 2020
TermoEBR	19.4	November 2019
TermoProyectos - Jagüey	19.4	November 2019
Termocandelaria	252	Not defined
TermoProyectos	19.4	Not defined

Source: UPME, Plan de Expansión 2019-2033

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Oil Exploration Projects for Colombia in 2020 (fourth quater)

Exploration Projects	Status	Participants
Olini Oeste -1	Dry	Hocol 100%
Aguas blancas 24	Temporarily suspended	Parex (Operator) 60% ECP 40%
Lorito Este-1	Temporarily suspended	ECP (Operator) 55% Repsol 45%
Gato do Mato-4	Successful	ECP 55% Shell (Operator) 50%
Lorito A1	Temporarily suspended	ECP (Operator) 55% Repsol 45%
Obiwan-1	Dry	Hocol 100%
Saturno-1	In evaluation	Shell (Operator) 45% Chevron 45% ECP 10%
Nafta-1	Temporarily suspended	ECP 100%
Alqamari-1	Temporarily suspended	ECP 100%
Flamencos-2	In evaluation	ECP 100%
Antillas-1	Under evaluation	ECP 50% Perenco (Operator) 30% Nexen 20%
Chacha-2	Under evaluation	Lewis (Operator) 50% Hocol 50%
Caipal Noreste B	Dry	Union Temporal IJP (Operator) 50% ECP 50% in commerciality
Arrecife-3	Successful	Hocol (100%)
Cayena-1ST1	Successful	Parex (Operator) 80% ECP 20%
Chacha-3	Under evaluation	Lewis (Operator) 50% Hocol 50%
El Niño-1	Under evaluation	ECP 50% Perenco (Operator) 30% Nexen 20%
Santa Bárbara 1S	Under evaluation	Petrosantander (Operator) 70% ECP 30%

Source: Ecopetrol

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Ecopetrol's Investment plan for 2020-2023

USD million	Investment 2020	Investment 2021-2023 Projected	
Production	1,488	12,000	15,000
Exploration	543	9,000	11,000
Refining and Petrochemistry	335	1,200	1,400
Transport	218	780	960
Operation	90	-	-
Other	-	2,190	2,260
Total	2,674	12,000	15,000

Source: Ecopetrol

III. Others

- **Education:** Design, construction or rehabilitation, maintenance and operation of 8 schools in Soacha.
  - ***Capex:*** USD 81.47 Million
  - ***Status:*** On approbation.

- **Museums:** Design, restoration, maintenance, operation, conservation and administration of collections of 8 museums in Cartagena, Villa del Rosario, Ocaña, Santa Fe de Antioquia, Villa de Leyva, Popayan and Honda.
  - ***Capex:*** USD 41.64 million.
  - ***Status:*** Structured.

- **Water and sewage:** Design, construction, operation and maintenance of the Santa Marta aqueduct. Construction of a Wastewater Treatment Plant for the Bogotá River, Duitama and Neiva.
  - ***Capex:*** USD 1,702.3 Million (Santa Marta), USD 2,522.9 Million (Bogotá). Capex for Neiva and Duitama to be defined.
  - ***Status:*** Structured (Santa Marta, Bogotá and Duitama.). Phase 2 (Neiva).

- **Electric Energy:** Rehabilitation, operation and maintenance of the infrastructure of an electric energy generation system, in Military Air Units – MAU of Colombian Force – CAF.
  - ***Capex:*** USD 134.3 Million.
  - ***Status:*** Feasible.

- **National Parks:** Operation and development of Ecotourism services in Tayrona Natural National Parks, and Salamanca Park.
  - ***Capex***: USD 71.4 million.

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- ***Status:*** Structured.

- **Penitentiary Infrastructure**: Structuring technical, legal and financial under the PPP mechanism which includes the construction of prisons in Barrancabermeja and Uramita.
  - ***Capex***: USD 273.6 million (Barrancabermenja) and 304.0 million (Uramita).
  - ***Status:*** Phase 2.

- **Urban Renewal and Public Buildings:** Structuring technical, legal and financial services for the construction of the Judicial Citadel of Bogotá.
  - ***Capex***: USD 312.84 million.
  - ***Status:*** Structured.

- Construction, operation, and maintenance of student housing in Medellín.
  - ***Capex***: USD 79.6 million.
  - ***Status:*** Phase 1 finalized.
- **Design and construction of the new Congress building.**
  - ***Capex*:** USD 136.8 million.
  - ***Status:*** Structured.

- **Design, construction, operation and maintenance of National Attorney General office in Cali.**
  - ***Capex:*** USD 114 million.
  - ***Status:*** On approbation

IV. Public – Private Partnerships Projects without public funds

The purpose of these projects is to facilitate private sector participation in infrastructure projects, to the extent that private entities are now entitled to propose projects of this nature to either National or Regional Governments, as well as to invest in economic sectors in which private involvement has traditionally been scarce. This is the case of education, health, justice, defense and public building construction, among others.

Number of Public-Private Partnerships by Sector

Sector	Hired	Feasibility Studies	Pre-Feasibility Studies	Total
Agriculture		4	4	8
Water and Sewage		3	30	33
Environment and Sustainable Development		1		1
Science, tech and innovation			1	1
Commerce, Industry and			2	2

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tourism				
Culture and sports			7	7
Public Buildings and Urban Renewal	2	10	49	61
Education			10	10
Justice		3	5	8
Mining and Energy		3	6	9
Health Care	1	4	2	7
Information and Communication Technologies		1	4	5
Transport	35	34	90	159
Housing		1	2	3
Total	**38**	**67**	**212**	**314**

Source: National Planning Department- RUAPP (January 2021)

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Forecast table

		2015	2016	2017	2018	2019	2020f	2021f
Population	Millions	47.9	47.9	48.0	48.2	49.4	50.3	51.1
Real GDP	Trillions of 2015 COP	804.7	821.5	832.6	854.0	882.0	821.6	919.1
	% change	3.0	2.1	1.4	2.7	3.3	-6.8	4.2
Nominal GDP								
In pesos	Trillions of current COP	804.7	863.8	920.5	987.8	1,061.1	1,002.6	999.0
	% change	5.5	7.3	6.6	7.3	7.4	-5.5	-5.9
In dollars	Billions of current USD	293.5	282.7	311.9	334.1	323.4	269.2	273.8
	% change	-23.0	-3.7	10.3	7.1	-3.2	-16.7	-15.3
GDP deflator		1.0	1.1	1.1	1.2	1.2	1.2	1.1
Consumer prices (end of period)	% change	6.8	5.7	4.1	3.2	3.8	1.6	2.4
Nominal exchange rate (average)	COP/USD	2,742	3,055	2,951	2,956	3,281	3,724	3,649
	% change	37.0	11.4	-3.4	0.2	11.0	13.5	11.2
Real exchange rate (average)	2010 average = 100	126.9	131.0	124.8	123.3	128.6	131.8	130.2
	% change	22.4	3.2	-4.7	-1.2	4.3	2.5	1.2
Repo rate (end of period)	% (end of period)	5.8	7.5	5.0	4.3	4.25	1.75	2.50
Nominal interest rate (DTF)	% (end of period)	5.2	6.9	5.4	4.5	4.2	1.9	2.1
Current account balance	Billions of current USD	-18.6	-12.0	-10.3	-12.7	-13.6	-8.3	-11.0
	% of GDP	-6.3	-4.3	-3.3	-3.8	-4.2	-3.1	-4.0
Capital account balance	Billions of current USD	-18.2	-12.3	-9.6	-12.1	-12.9	-8.3	-11.0
	% of GDP	-6.2	-4.3	-3.1	-3.6	-4.0	-3.1	-4.0
Exports	Billions of current USD	36.0	31.8	37.9	41.8	40.0	32.9	41.3
	% change	-34.4	-11.7	19.2	10.5	-4.4	-21.4	3.3
Exports (goods and services)	Billions of current USD	29.4	24.9	30.2	32.9	30.6	31.4	30.6
	% change	-38.6	-15.1	21.1	9.0	-7.0	-4.7	0.1
Imports	Billions of current USD	51.6	42.8	44.0	48.9	55.0	40.1	57.1
	% change	-15.5	-17.0	2.6	11.3	12.4	-18.1	3.9
Imports (goods and services)	Billions of current USD	43.9	36.4	36.8	32.3	36.2	30.5	38.9
	% change	-11.2	-17.0	1.0	-12.0	12.0	-5.7	7.4
Consolidated fiscal balance	% of GDP	-3.4	-2.2	-2.3	-2.2	-2.9	-10.2	-8.1
Central Government Fiscal Balance	% of GDP	-3.0	-4.0	-3.6	-3.1	-2.5	-8.9	-7.6

f*:all values are forecasts

Source: DNP, DANE, Ministry of Finance. EConcept calculations

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