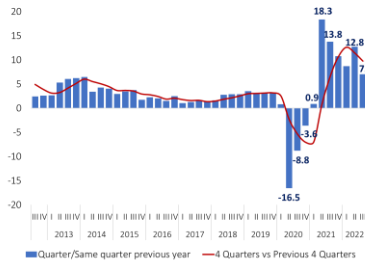
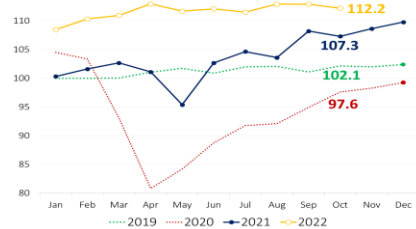


Figure 1. Quarterly GDP Growth (annual growth, %)



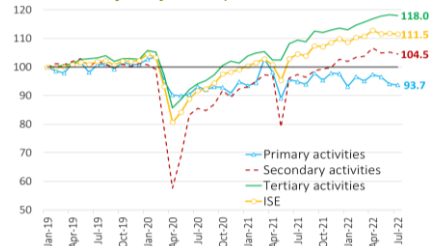
Source: DANE. Own Calculations.

Figure 2. Economy Tracking Indicator ISE (base Jan-19 = 100, Seasonally adjusted)



Source: DANE. Own Calculations.

Figure 3. ISE by activities (base Jan-19 = 100, Seasonally adjusted)



Source: DANE. Own Calculations.

Figure 4. ISE and labor market indicators (base average 2019 = 100, seasonally adjusted)



Source: DANE. Own Calculations.

Economic Activity

Q3-2022 real GDP growth was 7% (Figure 1). Commerce, arts and manufacturing were the key drivers contributing of 1.6 percentage points (pp), 1.1pp, and 0.9pp, respectively. Construction, oil and mining lagged behind and are still below pre-pandemic levels. On the demand side, household consumption -which accounted for 64% of GDP- increased 7.8% compared to Q3-2021.

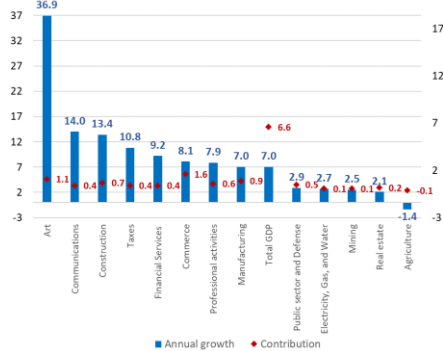
The Economy Tracking Indicator (ISE-DANE) shows a loss of momentum (Figure 2). On a monthly basis, the ISE decreased 0.03% and 0.6% in September and October, respectively. When analyzing the ISE by sectors, primary activities were almost 10% below pre-pandemic levels, mainly due to the oil and mining sector performance. Secondary activities -manufacturing and construction- are losing steam (Figure 3).

Labor market indicators improved steadily during 2022. In October the unemployed rate stood below pre-pandemic levels, reaching single digits (9.7%, Figure 4). On the other hand, the occupied population have consistently increased, while those out of the labor force has remained stable during recent months.

GDP, the supply side

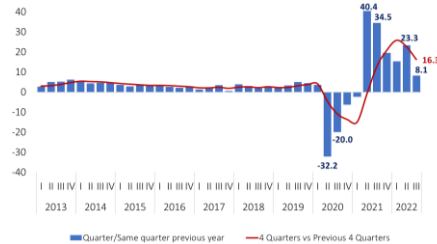
On the supply side, all sectors -except agriculture- exhibited growth (Figure 5). Arts (with an annual increase of 36.9%), commerce (8.1%) and manufacturing (7.0%) were the main drivers. In contrast, agriculture decreased 1.4% in real terms.

Figure 5. Annual growth (%) vs. Contribution (pp)



Source: DANE. Own Calculations

Figure 6. Commerce: 18.0% of GDP (annual growth, %)



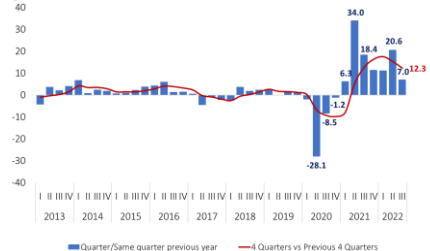
Source: DANE. Own Calculations.

Figure 7. Retail sales index (Base 2019=100)



Source: DANE. Own Calculations.

Figure 8. Manufacturing: 12.6% of GDP (annual growth, %)



Source: DANE. Own Calculations.

Commerce annual growth came in at 8.1% (Figure 6). This dynamic was explained by the increase in transportation and warehousing (18.1%), accommodation and food services (7.6%), and trade and repair of vehicles (3.8%). In line with commerce's performance, in September the retail sales index had an annual growth of 5.6% (Figure 7).

Manufacturing annual growth was 7.0% (Figure 8). None of manufacturing subsectors decreased in Q3-2022 oil refining products grew 6.4%, contributing the most (2.4pp). Textiles manufacturing grew 14.8% and contributed 1.2pp; metallurgical products manufacturing grew 10.4%. Similarly, the industrial production index closed 2022-Q3 at 6.7%. The industrial production index closed 25.4% above the pre-pandemic level (see Figure 9).

During the third quarter the commercial and industrial confidence indices stood above their respective historical averages (Figure 10). Nevertheless, the commercial confidence index lost 7.3pts and industrial one lost 2.7pts. The former was mainly explained by a 53.7% decrease on the production expectations for the next quarter. The industrial confidence behavior was attributed to a consistently negative current volume of orders and a reduction of 13.2% in the production expectations for next quarter.

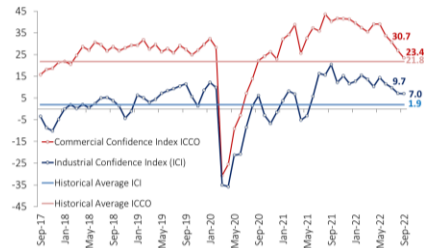
Artistic activities have been the fastest-growing sector for four consecutive quarters. According to DANE, the concerts and mass events explain this sector performance. It is evident how world-renowned artists are including Colombia into their tours (i.e. Rosalía, Coldplay, Dua Lipa, among others). In addition, this quarter coincided with the opening of the "Coliseo Live", one of the largest concert and cultural event venues in the country. Thus,

Figure 9. Industrial Production and Sales Index (2019 = 100)



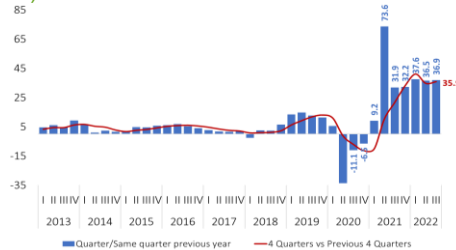
Source: DANE. Own Calculations.

Figure 10. Commercial and Industrial Confidence Index



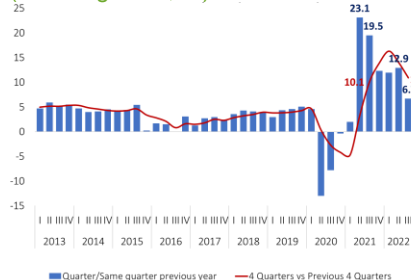
Source: Fedesarrollo. Own Calculations.

Figure 11. Arts: 3.9% of GDP (annual growth, %)



Source: DANE. Own Calculations.

Figure 12. Total Consumption: 91% of GDP (annual growth, %)



Source: DANE. Own Calculations.

entertainment, and recreational activities subsector witnessed its highest growth rate (39.9%). All the above led artistic activities to stand 36.9% above 2021 levels (Figure 11).

Finally, although 3Q growth shows favorable results, there is an undeniable slowdown trend in economic activity. Four sectors show a contraction: agriculture with -1.2%, electricity, gas & water (-0.4%), financial and insurance activities (-0.2%) and public administration & defense (-0.7%).

GDP, the demand side

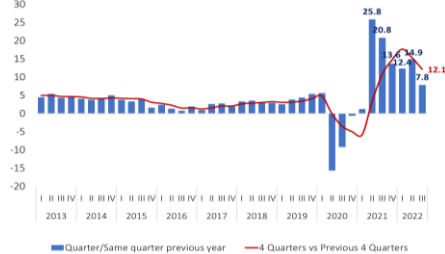
In 2022-Q3, final consumption rose 6.7% annually (Figure 12). Consumption visibly decelerated since it grew 12.9% in the previous quarter (Figure 13). Government consumption grew 7.8% (Figure 14). The slowdown in consumption is attributed mostly to rising prices and interest rates. Within the components of household consumption, services led by growing 11.6%, followed by semi-durable goods consumption (11%), durable goods consumption (3.8%) and non-durable good consumption (2.8%).

Consumer Confidence fell 11.5% during Q3 (Figure 15). This result was explained by a 15.9pts drop in the Consumer Expectations Index and a 12.1pts decrease in the Economic Conditions Index. This performance coincides with tax reform discussions and government announcements, arguably generating some degree of uncertainty. During this quarter, Consumer confidence decreased in all socioeconomic levels. For the high-income households it fell 25.8pts, whereas for the middle-income ones dropped 19.3pts and for low-income families decreased 14.4pts.

Colombia: Quaterly Investment Outlook

QIV, 2022

Figure 13. Household Consumption: 73.8% of GDP



Source: DANE. Own Calculations.

Figure 14. Government Consumption: 17.2% of GDP (annual growth, %)



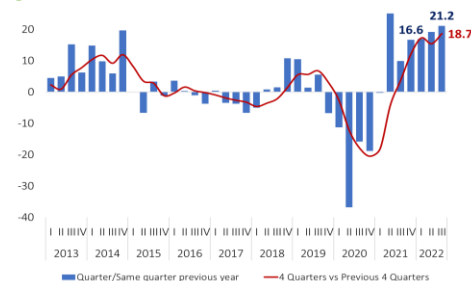
Source: DANE. Own Calculations.

Figure 15. Consumer Confidence Index



Source: Fedesarrollo. Own Calculations.

Figure 16. Gross Capital Formation: 19% of GDP



Source: DANE. Own calculations.

Gross capital formation grew 21.2 percent in the third quarter (Figure 16), driven by the purchase of machinery and fixed assets. Within the components of gross capital formation, intellectual property registered the highest growth (16.6%), followed by housing with 15.3%. Gross fixed capital formation continued to perform below pre-pandemic levels, but it stands 16.1% above Q3-2021. Within its components, buildings and structures is the worst performer vis-a-vis 2019 (-32.3%).

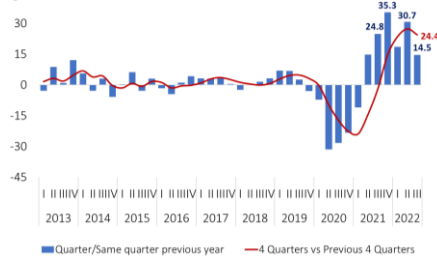
In foreign trade, exports and imports continued growing at double-digit rates. During the last four quarters, exports and imports grew by 14.5% and 32%, respectively (Figures 17 and 18). Both sectors are above pre-pandemic levels. With these results, the trade balance deficit improved, reaching USD -1,401 million (Figure 19).

Outlook

The beginning of the Petro administration has been marked by a tax reform, especially focused on the energy sector, mixed signals on the oil-gas policies and regulation, and announcement and tweets about taxing capital outflows and social reforms. Since Petro was elected in June 19, the Colombian peso has been devalued currency in the region, except for the Argentinian peso (Figure 20). Electricity tariffs, college loans, meat prices, motorcycle insurances, among others, have been targets of intervention and controls.

Inflation will be a major concern for 2023 as it did not ease during 2022. In December, it reached 13.1%, the highest level in more than 20 years (Figure 21). Food price inflation could be the main driver of CPI performance. For 2023, high interest rates and

Figure 17. Total exports: 13.1% of GDP (annual growth, %)



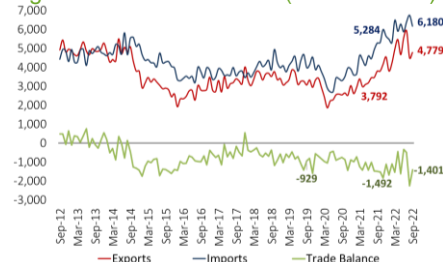
Source: DANE. Own calculations.

Figure 18. Total imports: 22.8% of GDP (annual growth, %)



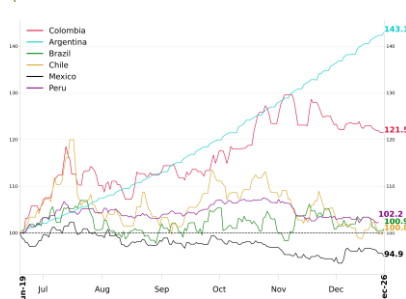
Source: DANE. Own calculations.

Figure 19. Trade balance (USD millions)



Source: DANE. Own calculations.

Figure 20. Exchange rate index, June 19 (second round of Colombian elections) = 100



Source: Central Banks, EConcept calculations.

economic deceleration should help taming inflation; we project it to close at 6.6% at the end of the year.

However, inflation's behavior will also depend on the Government's policy regarding fuel prices. During the last quarter of 2022 gasoline prices increased COP 600 and diesel remained stable. José Antonio Ocampo announced that for 2023 the increases in fuel prices will be stronger; namely, 400 and 65 pesos per month, respectively.

Persistent inflation has led the Central Bank to increase the intervention rate throughout 2022, closing at 12% (Figure 22). For 2023, we expect a final hike of 50bp in January, initiating a phase of stability in the monetary policy stance. We expect that at the end of 2023 a new phase of cuts could lead the rate to close the year at 8.25%.

Finally, Q4-2022 witnessed a deceleration in economic activity. In November and December electricity demand grew almost zero vis-à-vis 2021 (Figure 23). We expect GDP to grow 3.1% annually in Q4, with a total real increase of 7.6% for 2022, a quite positive result. For 2023, total growth would stand between 1.5% and 2.2%, according to our projections.

All in all, the first signs of an economic slowdown are here. According to many analysts, the global economy could experience a short-lived recession. How well Gustavo Petro could navigate these turbulent waters will depend on his pension and health care reforms, as well as his policy towards the energy sector. The political and internal security fronts will most likely be additional critical areas during 2023. In October there will be regional elections

Colombia: Quaterly Investment Outlook

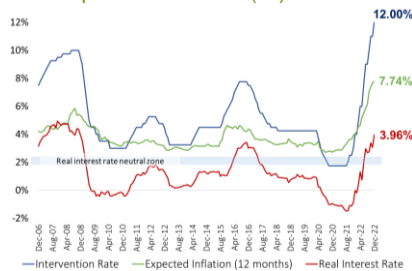
QIV, 2022

Figure 21. Annual inflation (%)



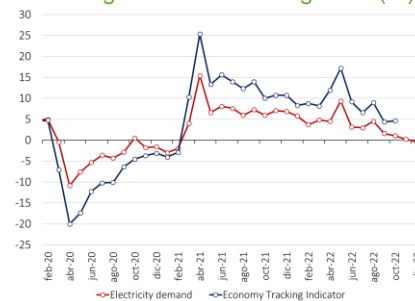
Source: DANE. Own calculations.

Figure 22. Intervention rate, real interest rate and expected inflation (%)



Source: Central Bank. Own calculations.

Figure 23. Electricity demand and Economy Tracking Indicator annual growth (%)



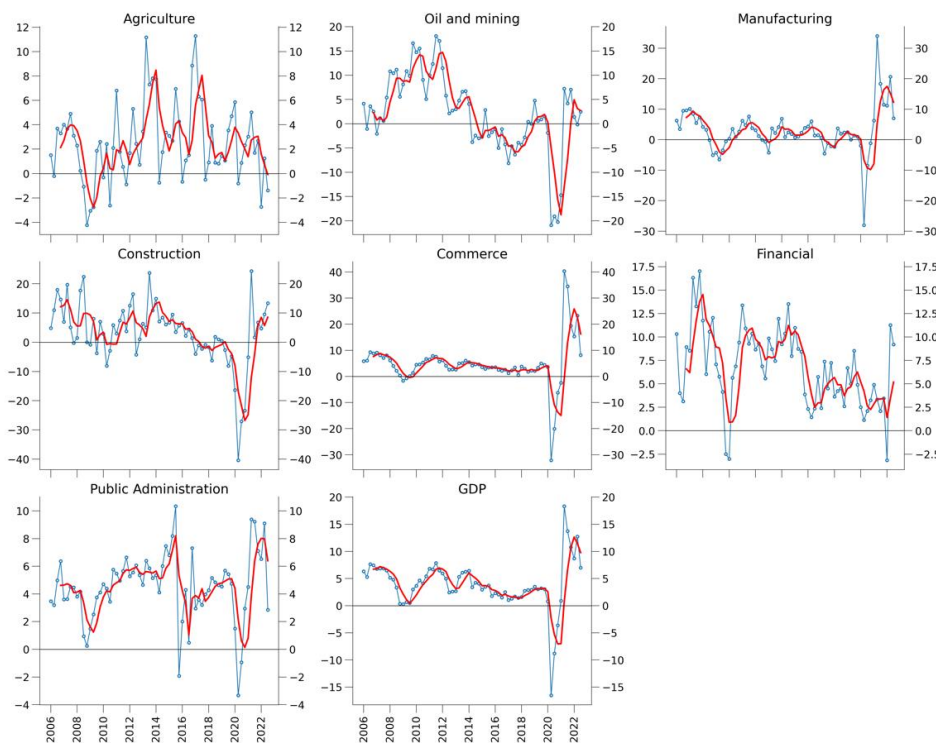
Source: XM, DANE. Own calculations.

that will mark a first and interesting political test for his administration.

Growth deceleration: good news for the external sector

GDP growth posted a strong 7% result in Q3. However, as Figure 24 shows, across most sectors (except for oil & mining and construction), growth keeps losing momentum. Manufacturing and commerce, strong growth drivers during the recovery phase, are losing steam quite noticeably. Also worth noting: public administration spending sharply decelerated, which does not help growth but might be good news for fiscal results (are we about to witness a lower-than-expected central government deficit in 2022?). Agriculture, which posted strong results during the pandemic, actually contracted in Q3.

Figure 24. Quarterly GDP annual growth (%) - data as of Q3-2022



Red line shows annual growth for 4-rolling quarters

Source: Dane, EConcept.

The evolution of economic activity throughout Q3 is worth a look. The ISE monthly economic activity indicator computed by Dane, and fully consistent with GDP shows there was a spike in August, but

September continued the downward trend that started in 2021 (Figure 25). Electricity demand, highly correlated with economic activity, shows that this deceleration actually deepened in Q4; in November, electricity demand barely grew at all (only 0.2%).

Figure 25. Economic tracking indicator and electricity demand - annual growth (%)



ISE data as of September 2022; electricity demand data as of November 30th 2022.
Source: Dane, EConcept.

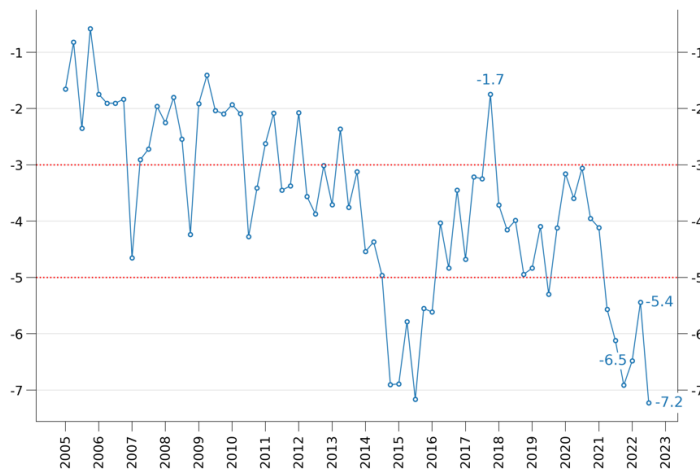
Growth seems to have entered a new phase. Behind us are double-digit growth quarters; enter a new chapter of growth rates below potential GDP growth. There is a broad consensus that this will continue to be the case throughout 2023; we, in particular, expect growth to be between 1.5% and 2.2% next year, that's less gloomy than Central Bank and government expectations, though.

Even though lower growth in Q4 and 2023 is not good news (with it comes higher unemployment and higher poverty, also prompted by high inflation), it may come as a blessing in disguise, to help reduce Colombia's external imbalances.

This is not, mind you, an out-of-context statement. The Central Bank just published its balance of payments data for Q3, and it turns out the current account deficit (CAD) just registered, at 7.22% of GDP, is the largest on record; it edged slightly higher than the 7.16% of GDP posted in Q3 of 2015 (Figure 26).

The deficit just announced is a surprisingly high number, given that in Q3 2022 the average Brent price was \$101 per barrel, while back in Q3 2015 it was just \$50 per barrel.

Figure 26. Current account balance (% of GDP) - data as of Q3-2022

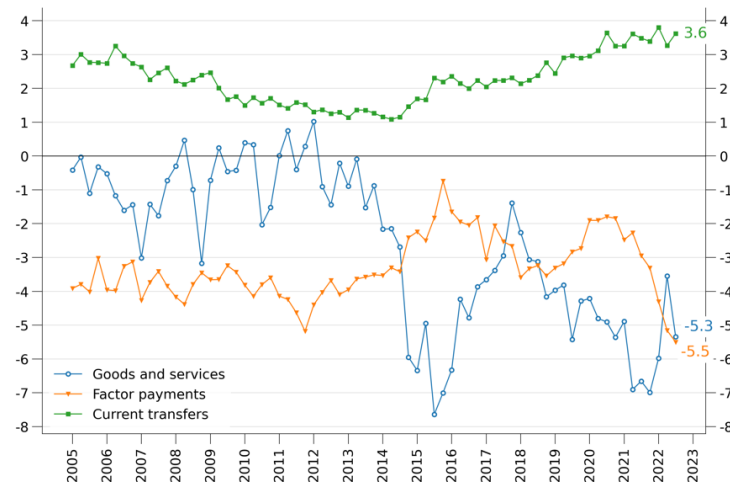


Source: Central Bank, Dane, EConcept.

The CAD increase from 5.4% of GDP in Q2 to 7.2% in Q3 was in part a result of the average exchange rate in both quarters (COP 3,915 / dollar in Q2 and COP 4,374 / dollar in Q3, i.e., an 11.7% depreciation), since GDP is in pesos and the base number of CAD is in dollars. However, it was much more than that. What happened, then, this last quarter? Breaking down the current account into its main components provides a clear-cut answer, as Figure 27 shows: the goods and services balance took a drastic U-turn, while the factor payments balance went even deeper into negative territory. Current transfers, mostly driven by remittances, were the only stable component, with a surplus of 3.6% of GDP.

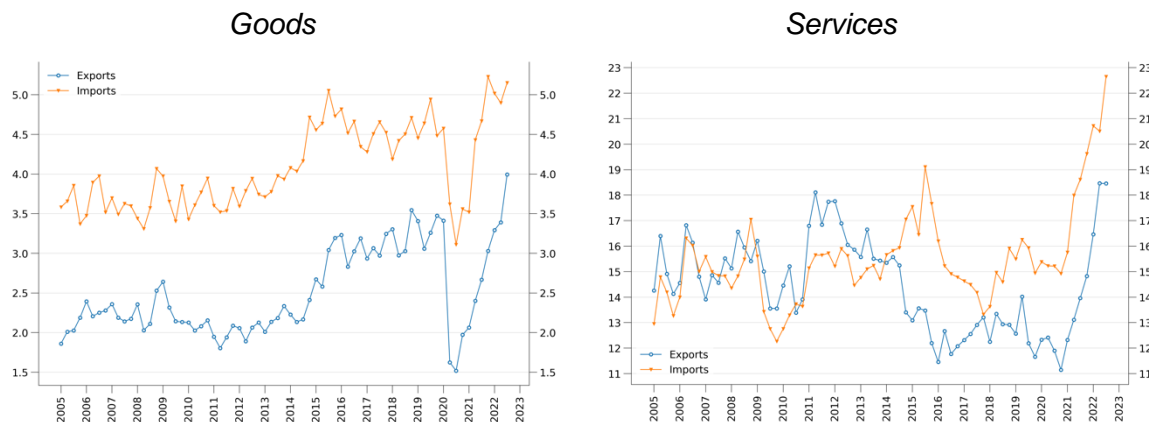
The reason behind the sharp deterioration in the goods and services balance was an increase in imports of goods (see Figure 28, left panel) which jumped by almost 2.5 pp of GDP, while exports of goods remained flat vis-à-vis Q2. On the services side (Figure 28, right panel), exports jumped, but not enough to offset what happened on the goods side.

Figure 27. Current account components (% of GDP) - data as of Q3-2022



Source: Central Bank, Dane, EConcept.

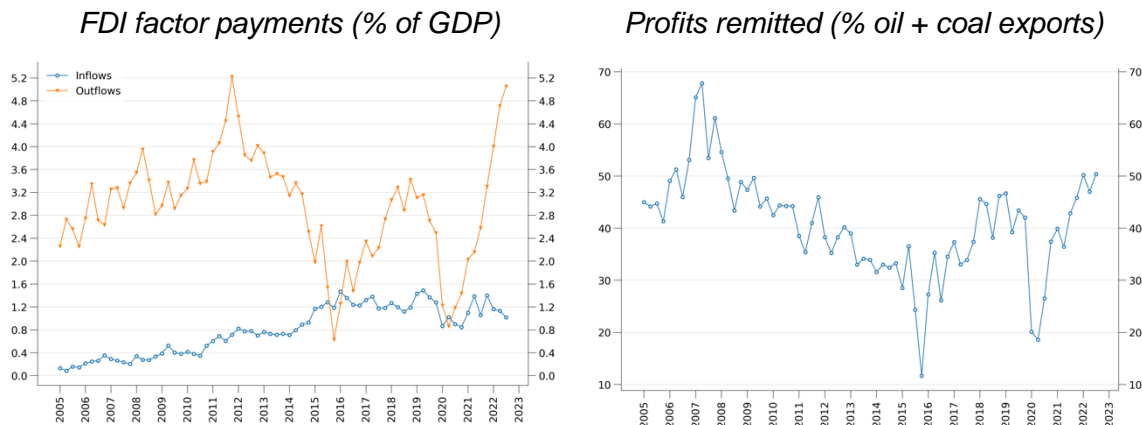
Figure 28. Goods and services balance (% of GDP) - data as of Q3-2022



Source: Central Bank, Dane, EConcept.

On the factor payments side, the situation we analyzed a few months ago, when Q2 data was published, deteriorated further; namely, profits remitted abroad continued to go up relative to GDP (see Figure 29, left panel). If one compares these remitted profits with oil and coal exports, the ratio continued close to 50% (Figure 29, right panel). No surprise there, given the marginal increase in taxation coming to these sectors next year because of the tax reform.

Figure 29. Profits remitted abroad - data as of Q3-2022



Source: Central Bank, Dane, EConcept.

Before moving on to the relationship between the high current account deficit in Q3 and the low growth already apparent in Q4, let us take a look at oil exports and FDI coming to the oil sector. On the export side, Figure 30 (left panel) shows the evolution of total current account revenues, goods and oil exports, as a percentage of GDP; it is clear that, starting in 2020, total current account revenues have gone up by much more than oil exports.

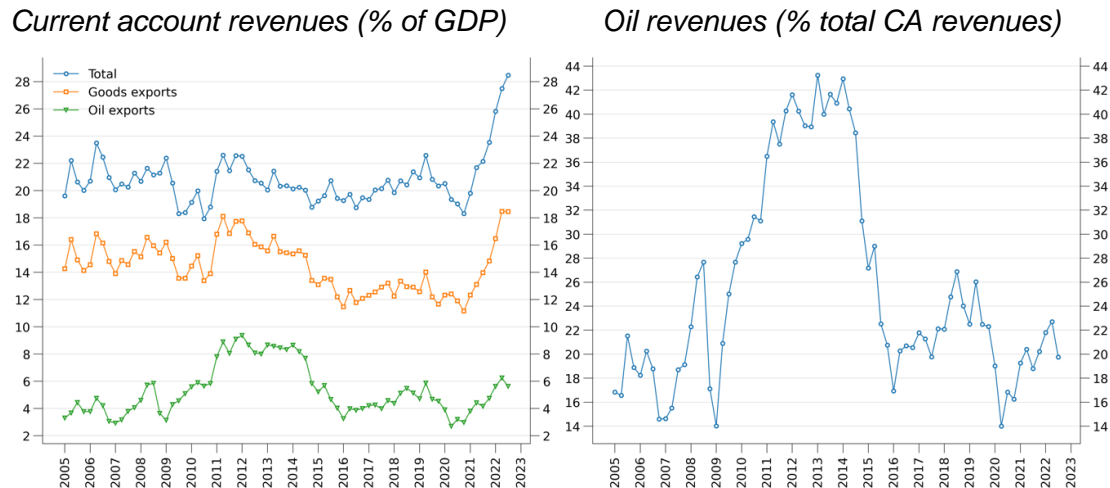
The right-hand side panel in Figure 30 gives an even clearer indication that this is the case: while oil exports explained between 40% and 43% of total current account revenues back in 2012-2014, they now oscillate between 20% and 23%. Colombia is much, much less dependent on oil now, which makes it harder to understand why the Petro administration is so keen on trumping it further, claiming an excessive reliance on oil revenues.

This is confirmed by FDI data. Figure 31 shows that incoming FDI to the oil sector is now less than 20% of all FDI.

In light of the excessively high current account deficit registered in Q3, news about low growth in Q4 (and next year) should not be considered as all bad. If growth does not slow down, which in turn makes imports decelerate, correcting our external imbalances will be extremely hard and financing them extremely

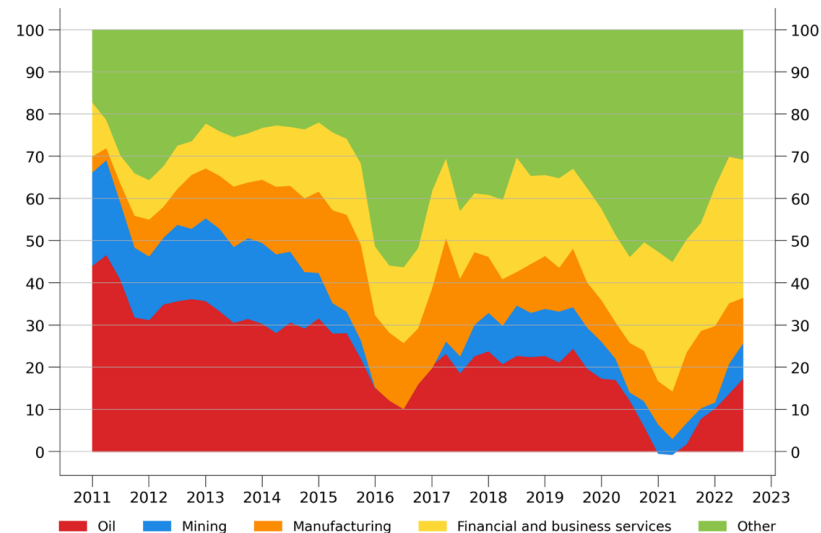
dangerous. Consider that Q3 imports were purchased at record high exchange rates, reaching 5,000 pesos per dollar. It is ironic that such an undervalued currency did not reduce the CAD. Or maybe it induced precautionary high imports.

Figure 30. Oil exports in context - data as of Q3-2022



Source: Central Bank, Dane, EConcept.

Figure 31. FDI composition (%) - data as of Q3-2022



Source: Central Bank, Dane, EConcept.

Monetary policy is already doing its job of curbing private spending. Fiscal policy must also shoulder the burden, especially next year and in 2024. The budget addition to be submitted to Congress in Q2 of 2023 should be especially mindful of the current account implications of fiscal policy. Saving part of the revenues coming from the tax reform now seems more important than ever.

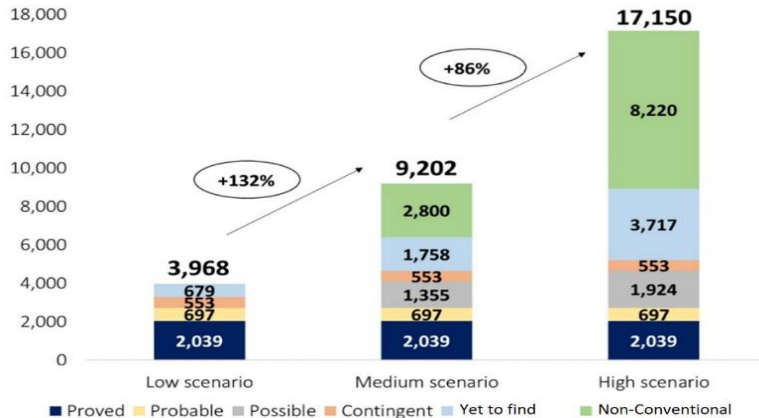
Oil & gas fall from grace

What would be the effect of the tax reform and the ban on exploration on oil production, exports, trade balance, tax collection and royalties? This seems to us the most pressing question for Colombia in the medium term. Fortunately for us, there is an official projection computed by a courageous and valuable memo circulated by the Autonomous Fiscal Rule Committee (CARF).

Before we expose CARF's official projections for 2023-2030, let us review the recent trends in Colombian oil industry. The current estimation of 1P (i.e. proven), 2P (i.e. probable) and 3P (i.e. possible) oil reserves show that Colombia has limited proven reserves, yet it could have a quite promising oil future if it were to tackle its yet-to-find and non-conventional reserves (Figure 32). The current reserves' outlook could improve between three- or six-fold if Colombia decided to tackle its offshore and fracking potential.

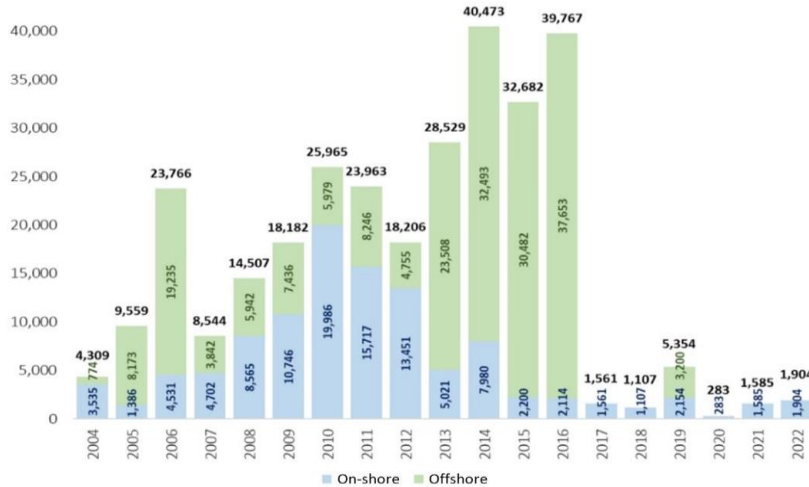
Apart from such prospects, the crucial issue is the intensity with which the O&G industry is pursuing the plays of Figure 32. The best indicator is the acquisition of seismic information. The behavior could not be less promising. Since 2017 The average annual figure is 1.560 Km/year, which pales vis-à-vis the average of 29.940 Km/year between 2010-16 (Figure 33). The drop of 95% reflects the severe 2015-2017 oil crisis and the COVID-19 restrictions. However, 2019, when the oil crisis was over and COVID was not in the horizon ignited only a mild recovery. Neither the offshore not the onshore received the attention they did before 2016.

Figure 32. Scenarios of 1P, 2P and 3P Colombian oil reserves, 2022



Source: ANH, UPME, ACP, CREE.

Figure 33. Seismic acquisition in Colombia, 2004-2022 (Km)



Source: ANH.

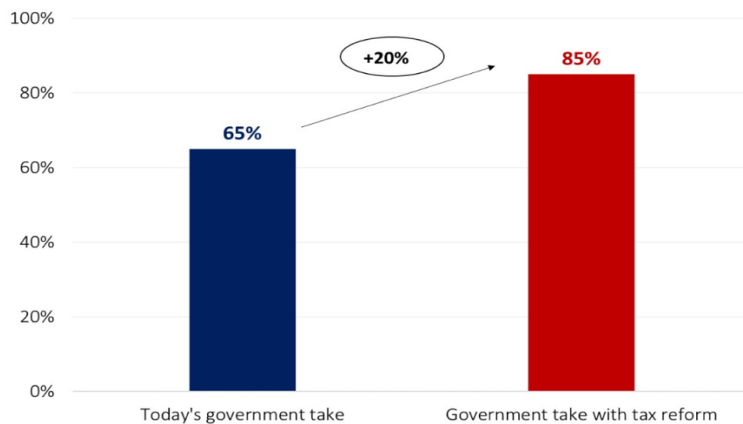
Does the 2017 drop of Figure 33 reflect the new anti-oil-climate-change-transition Zeitgeist of recent years? Does it reveal a fall from grace of Colombia among international producers? Is it the result of low-price expectations that prevailed before the Russian invasion of east Ukraine? Does it indicate Ecopetrol's shift from exploration towards secondary and tertiary recovery of its mature, legacy oil fields? All of the above?

That paradox of allegedly huge yet-to-find, offshore and non-conventional reserves inexplicably left unattended by a dormant and numb O&G industry was characteristic before 2021. Then the presidential campaign took off.

Henceforth things got awful for the Colombian O&G industry. Indeed, during the presidential campaign Gustavo Petro exposed a dismal approach toward hydrocarbons, signaling that Colombia should get rid of this and the rest of the so-called “extractive” industries, except for energy transitions and green technologies related metals; i.e., those necessary for batteries, solar, wind, hydrogen and so on.

Then the November 2022 tax reform materialized such an approach by means of a) adding surcharges to O&G corporate income taxes contingent on extraordinary prices; b) eliminating the possibility of deducting royalties paid to municipalities and states from the income tax base; and c) raising the dividends tax rate from 10% to 20%. These measures increased the Colombian state take from 65% to 85% (in times of high international oil prices, Figure 34).

Figure 34. Estimation of Government Take under a scenario of high oil prices

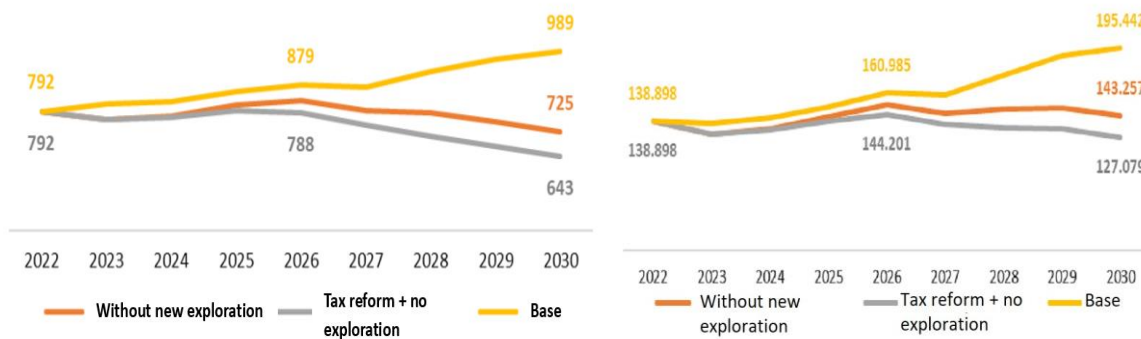


Source: Asociación Colombiana de Petróleo (ACP), Asociación Colombiana de Minería.

As a reaction to these measures and the announcement by the ineffectual minister of mining and energy of no new exploration licenses, CARF performed a prospective analysis, spelling out three scenarios: a) base: the counterfactual case of no-tax reform and no ban on exploration; b) ban exploration, and c) ban

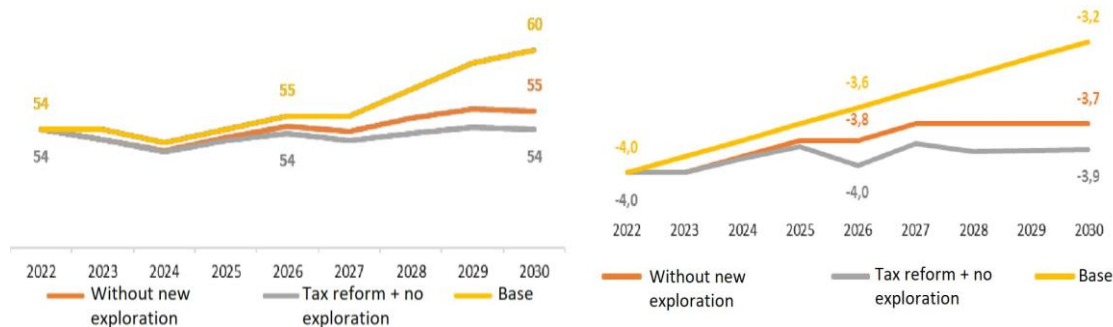
exploration, plus tax reform. Figures 35 to 38 show their results, which could not be more eloquent and worrisome. In sum, by 2030 the Petro-Ocampo “new normal” could induce a fall in oil production from close to one million barrels per day (bpd) to 640 kbpd, a more than one-third decline. Consequently, total exports would fall 6 billion dollars by 2030 and trade balance would be 0.7% of GDP larger, and remain basically stagnating around 4% of GDP for the rest of the decade (Figures 35 and 36).

Figure 35. Scenarios of oil production (left, kbpd) and oil exports (kbpd, year) until 2030



Source: Autonomous Fiscal Rule Committee.

Figure 36. Scenarios of Colombian total exports (left, \$bn FOB) & Trade balance (% of GDP) until 2030



Source: Autonomous Fiscal Rule Committee.

Would a non-oil Colombia be able to either diversify enough its exports or attract enough FDI to tourism, agribusiness, manufacturing, and services to finance such widening of the current account deficit? The Ocampo-Petro expectations are presumably that that would be the case.

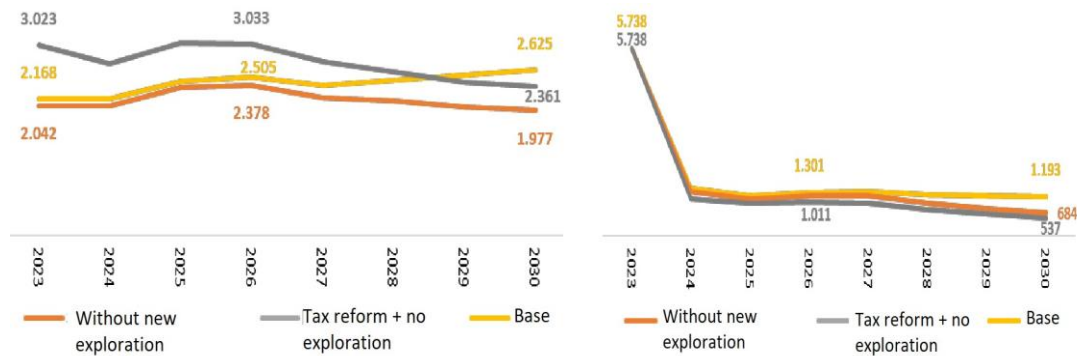
Otherwise, enough Colombians should move abroad, fleeing from devaluation and lack of opportunity, so that their remittances would grow enough to fill that gap. Current remittances are close to 3% of GDP, and are sent by 5 million Colombians living abroad. Hence, it would be necessary to raise remittances approximately by 25%, something that could be achieved by one million Colombians fleeing the non-oil country of Petro-Ocampo.

The fiscal scenario for national and regional governments is interesting. First, the national government does not feel the pain until 2029, due to the increase in tax collections derived from higher tax rates on O&G and a non-deductibility of royalties (Figure 37, left panel). Ecopetrol dividends would fall sharply in 2024, due to the expected decline in international prices, and decline further at the end of the decade. Finally, municipalities and states royalties would fall between 150 and 200 million dollars per year during this administration (i.e. until 2026, Figure 38) due to lower exploration, and more than 700 million dollars per year at the end of the decade due to the added effect of higher taxes on this industry.

It is difficult to understand why any government would be willing to impose such pain on the fiscal, external and regional balances. The CARF did not spell out the derived consequences on exchange rate devaluation, GDP growth, employment, household purchasing power and poverty, especially in oil producing regions. That is not its mandate. However, its numbers and figures are quite eloquent on the substantial consequences and challenges derived from the measures and attitudes adopted by the Petro-Ocampo administration.

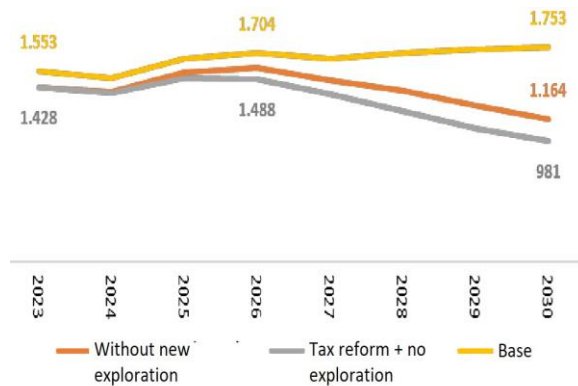
Colombia has never been an oil country. But, since the 1980s, with the substantial discoveries of the Casanare piedmont and at the beginning of this century with the increase in production in Meta, it became a country “with oil.” Petro and Ocampo are willing to launch the economic and social experiment of running a country while forfeiting its oil output.

Figure 37. Scenarios of Colombian income tax revenues (left) & Ecopetrol dividends until 2030



Source: Autonomous Fiscal Rule Committee (CARF).

Figure 38. Scenarios of royalties paid to municipalities and states until 2030



Source: Autonomous Fiscal Rule Committee (CARF).

The illusion of control

Since the election of Gustavo Petro, the COP has lost close to 25% vis-à-vis the dollar. This depreciation was attributed partly to price dirigisme, manifested in many announcements, some materializing and some that did not even make it to actual policies. That was the case of the ill-remembered tweet on taxing capital outflows. Later on, the tax reform increased the state take of oil production, from ~65% to ~85%, in periods of high prices. Two key prices continue to be controlled well below their level: gasoline and

diesel. They come from ex-president Iván Duque, and have been kept, at a fiscal cost to the state of close to 25 billion a year.

Recently the government announced halving the price of so-called SOAT, the insurance against motorcycle and automobile accidents. Specialists estimate its annual cost in two trillion pesos. These price controls and those of energy, fertilizers and meat, led Senator Gustavo Bolívar, the most vocal Petro supporter, to boast of a government that finally decided to help the people. At the rate of one intervened price per week, they will end up “helping” everyone (see Table 1).

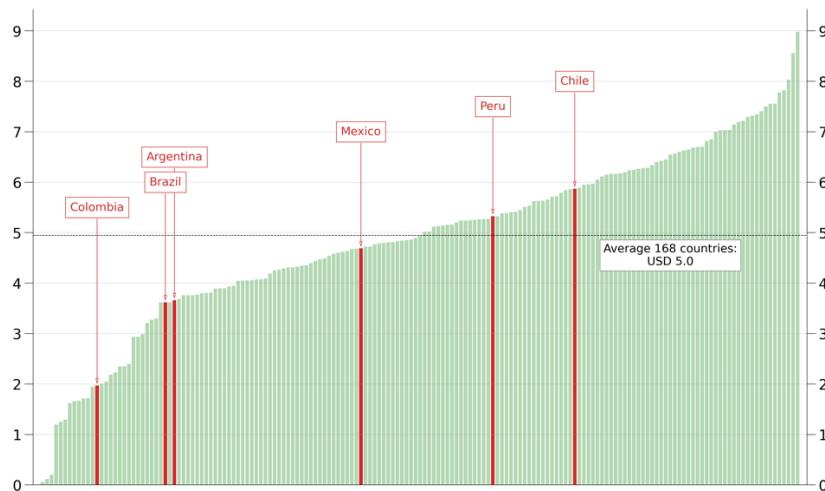
When prices are set below costs or what is paid for goods and services abroad, experience shows that the consequences are: a) shortages, as could happen with SOAT and meat b) extremely high fiscal costs, as happens with Diesel and gasoline, c) uncertainty and runs, as happens with announcements fueling exchange rate depreciation, also with immense fiscal and private cost, and finally d) queues, black markets and corruption. In its first year in office, the government is expected to spend close to 30 trillion pesos in fuel subsidies and higher peso costs for dollar denominated interest payments (one and a half tax reforms) and is likely to add COP 2 trillion for SOAT. Will they continue to control prices? Additionally, a fictitiously reduced price becomes a reason for protests, as shown by taxi drivers, motorcyclists and truckers, who believe that gasoline and diesel cannot rise again. This is not the case in Chile and Peru, with progressive governments, but which did not make the mistake of spoiling and spoiling people (Figure 39).

Table 1. Price controls of different sorts

Reducing meat prices via reopening municipal slaughterhouses	Petro proposes reversing the closing of slaughterhouses originally justified on grounds of sanitary strictness, important for domestic consumption and exports
Reducing interest payments for college loans	Universities with beneficiaries of ICETEX loans must pay the real component of interests and cannot pass it through to college fees
40% tariff increase for textile and apparel products	Import substitution induced via higher tariffs. Fenalco, the merchants' guild, warned that prices to consumers could increase 30%
Subsidies for fertilizers used for food production	The World Bank will lend \$ 50m to Colombia to reduce agricultural input costs
50% reduction of SOAT-accident insurance for motorcycles and work cars	Insurers are forced to maintain existing supply. There is documented fraud & medical treatments over-invoicing. It could cost COP 2 trillion per year
Reduction of energy prices	Discounts would be between 4% and 8%.
Gasoline and Diesel prices	Diesel prices will be frozen until June 2023. Gasoline prices will rise COP 200/month despite a of aprox. 9 thousand pesos per gallon.

Sources: Portafolio, La República, El Espectador.

Figure 39. Internal prices of gasoline in various countries



Source: Global Petrol Prices, EConcept.

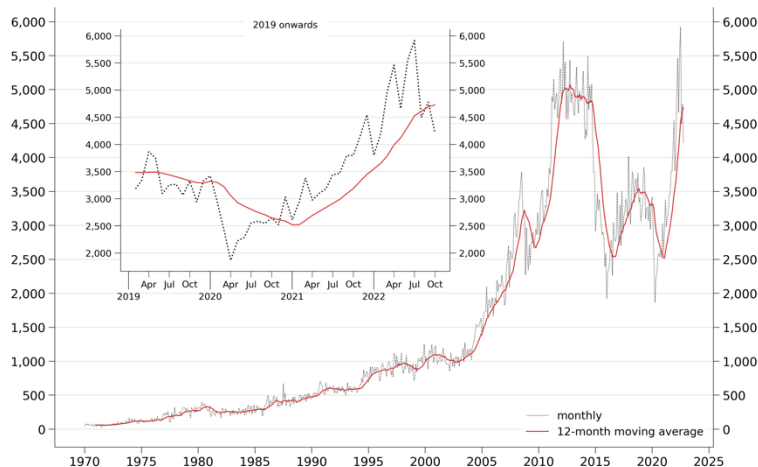
Everything has to be paid for in the end, whether with shortages, taxes, queues, a black market, economic decline or corruption. Everything will be paid for one way or another. In Kung Fu Panda (first picture) Master Oogway told Shifu that he needed to “abandon the illusion of control.” The Petro administration should revisit this piece of Oriental-Hollywood wisdom.

Commodity price downturns, and textbook exchange rate effects on non-commodity exports

In the wake of the oil price collapse, between August 2014 and the end of 2016, the COP/\$ exchange rate went, approximately, from 2,000 to 3,000; this 50% depreciation in nominal terms was coupled with a 20% weakening of the real exchange rate. This exchange rate adjustment had to take place under the Colombian free-floating exchange rate regime, given that total goods exports fell from a peak of around \$5 billion to a trough of around \$ 2.5 billion per month (see Figure 40).

After the worst of the oil price crisis hit bottom, goods exports started to recover, and reached \$3.5 billion per month at the end of 2018, but started slowing down in 2019 and then collapsed again with the pandemic (see the inset in Figure 40).

Figure 40. Total goods exports (\$ Millions)



Monthly data as of October 2022

Source: Dane, EConcept.

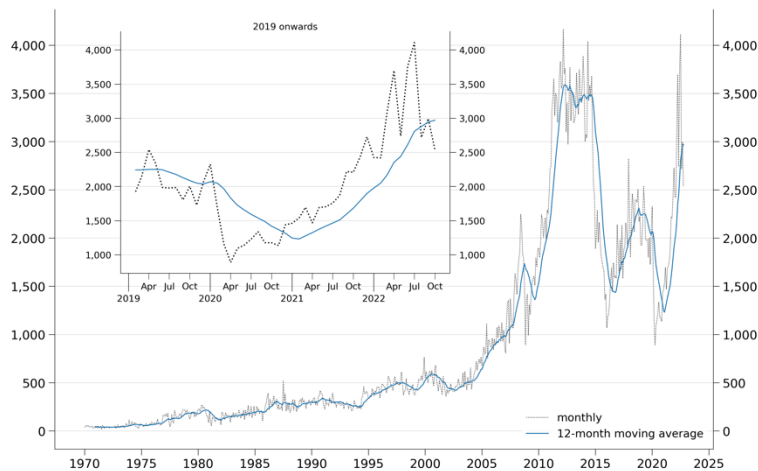
So, prior to the pandemic kicking in, Colombia had experienced a massive depreciation of the currency (nominal and real) and, yet, exports were far from experiencing a boost. The textbook effect from the exchange rate to exports seemed to have stop working.

However, after the worst effects of the pandemic started to recede, exports started to boom, not only recovering from the depths the pandemic had put them in, but threatening to break records not seen in the past. There has been, of course, a new phase of peso weakening, but this time around things seem to be working differently.

Is the textbook effect working again? Let us look more closely at Colombia's exports in the recent past, starting with what we in Colombia call "traditional" goods exports, which refer to the main commodities the country sells abroad: coffee, oil, coal and ferronickel. These are worth separating from the rest, since Colombia's capacity to export them should not be as influenced by terms-of-trade shocks as other

exports. Figure 41 shows that monthly traditional goods exports jumped dramatically after the worst of the pandemic ended, reaching monthly levels of around \$4 billion, side by side with the best registers reached a decade ago. Notice however, by looking at the inset in Figure 41, that these record highs might not be long-lived; more on this later on.

Figure 41. Traditional goods exports (\$ Millions)



Monthly data as of October 2022

Source: Dane, EConcept

Are all traditional goods exports exhibiting the same momentum? The answer is a resounding no, as Figure 42, which breaks traditional goods exports into its components, shows. Coffee and coal are behaving differently than oil and ferronickel.

Coffee exports are definitely booming, at least until the recent price decline stemming from the new Brazilian crop. With external sales of between \$300 million and \$400 million per month, they were by far above anything we had seen in recent years. Actually, with ups and downs along the way, coffee exports were on the rise, in dollar terms, since the early 2000's.

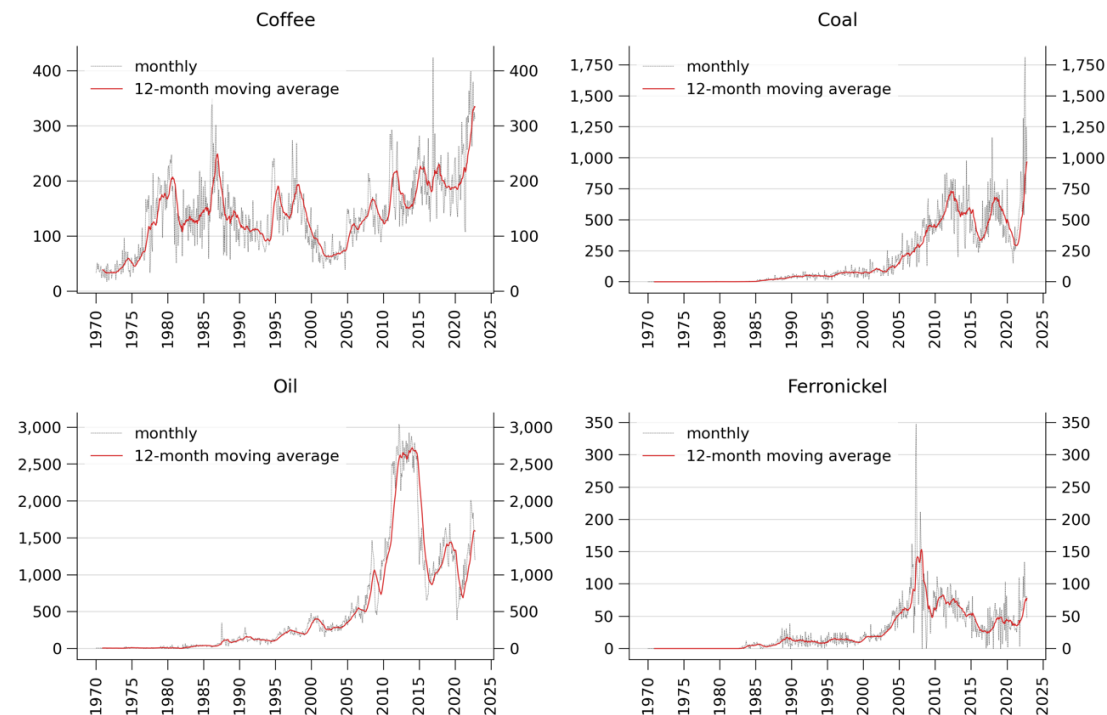
Coal is undoubtedly the champion when among traditional goods. When the pandemic hit, monthly coal exports reached a meager \$250 million per month; we have to go all the way back to 2006 to find similar

registers. Since then, it has jumped to unseen heights, even reaching \$1.75 billion per month a few months back.

Now moving to the second group, oil is clearly not what it used to be for the Colombian economy. After reaching months of \$2.75 billion 10 years ago, oil exports bottomed out during the pandemic at even \$500 per month at some point in 2020. Since then, it has rebounded strongly, reaching even \$ 2 billion worth of exports, but recent months suggest more moderate sales, of around \$1.25 billion per month.

Finally, ferronickel, the junior member of the traditional goods family, has also rebounded after the pandemic but, like in the case of oil, the new “normal” is a far cry from what we saw in the previous peak.

Figure 42. Traditional goods exports by components (\$ Millions)



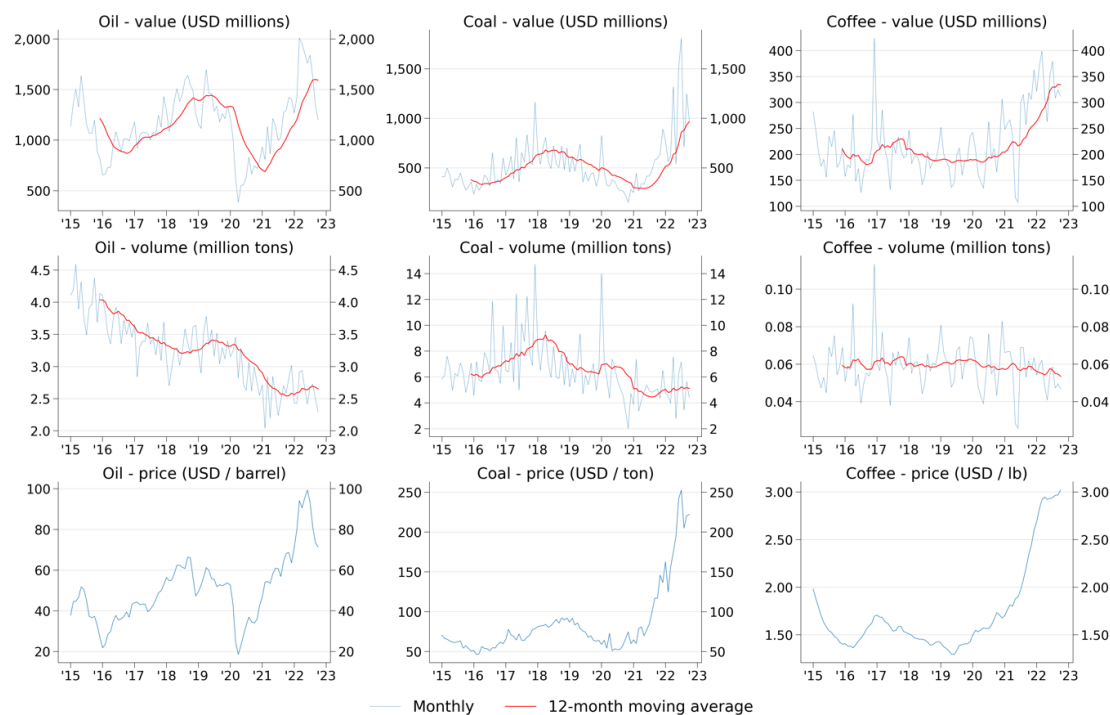
Monthly data as of October 2022

Source: Dane, EConcept.

An important additional issue with traditional goods exports is that the recent boom mentioned above is a price boom, not a volume one, as Figure 43 shows for coffee, oil and coal. The values exported (the first row in Figure 43) indeed jumped after the pandemic, but a breakdown of the value into volumes (second row) and prices (third row) shows nothing has happened to volumes other than stagnation in recent times.

All the boom has been caused by prices, driven for the most part by a volatile international situation. This volatility seems to have reached its peak and, now that it is receding, prices are going south both for oil and coal: implicit prices per barrel of oil exported were already below \$80 in October; implicit coal prices per ton are no longer at \$250. Implicit prices in Colombia's coffee exports remain stubbornly high.

Figure 43. Oil, coal and coffee exports: values, quantities and implicit prices



Monthly data as of October 2022

Source: Dane, EConcept

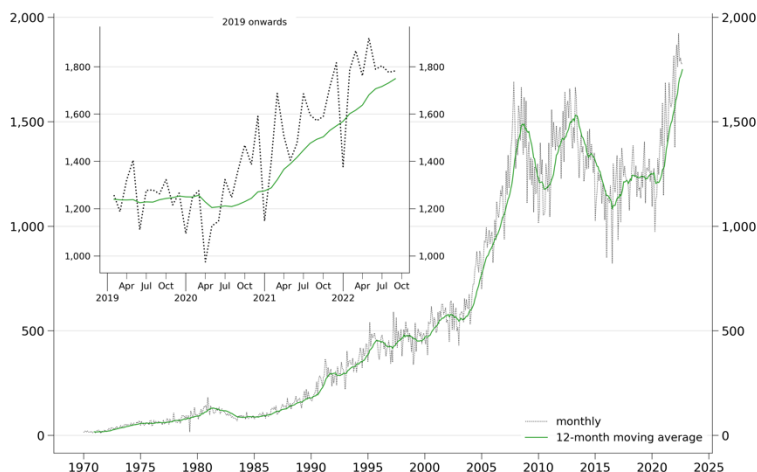
Now let us move on to non-traditional goods exports, i.e. the rest of our goods exports (see Figure 44). Taken as a whole, this group had peaked its sales abroad in 2011-2012, even before oil did. The \$1.5 billion – \$1.6 billion monthly levels posted back then dropped to around \$1 billion to \$1.25 billion for a long time until, around mid-2020, they started to climb quite rapidly.

Colombia is now exporting close to \$1.8 billion per month worth of non-traditional goods exports and, if you look at the inset figure, the momentum continues (as opposed to what the inset shows in Figure 41 for traditional goods exports).

Numerous explanations could be behind this surge in exports. The rebound of the world economy from the pandemic could be one of them. For sure it is acting as a driver, that cannot be denied but, going back in time, previous spikes in world growth have not helped Colombia's non-traditional goods exports. This time around world growth is acting as a tailwind, but something else is at play: the exchange rate.

The drastic nominal and real weakening of the exchange rate seems to be finally generating the textbook effect taught in undergraduate macroeconomics courses. When one thinks about all the worrisome factors behind a weaker COP, this spike in non-traditional goods exports is surely the silver lining.

Figure 44. Non-traditional goods exports (\$ Millions)



Monthly data as of October 2022

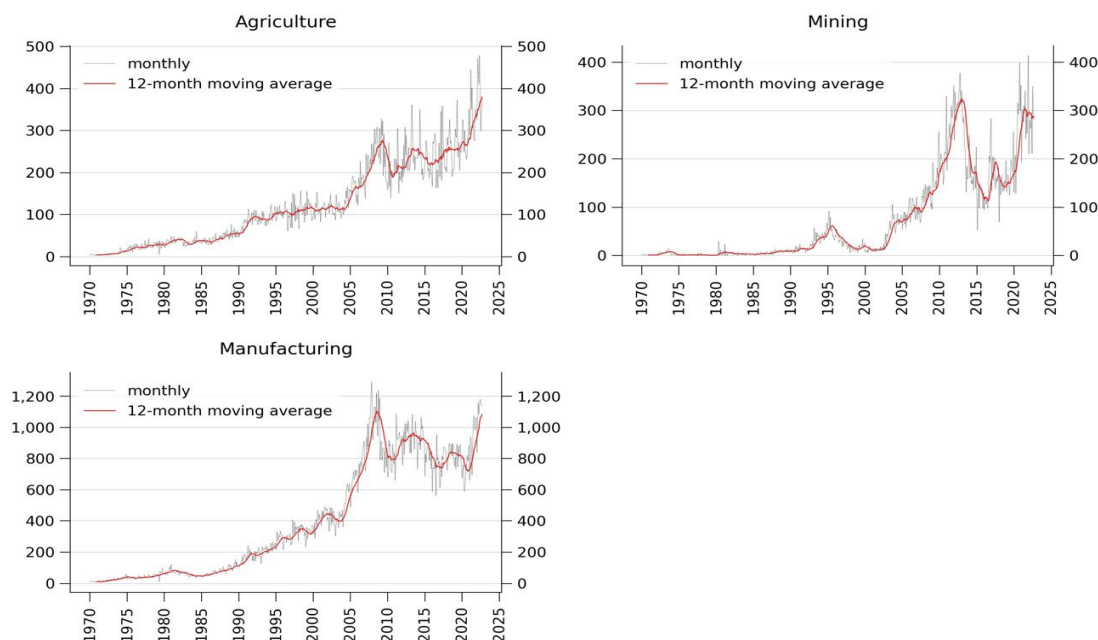
Source: Dane, EConcept

A closer look at non-traditional goods exports by category shows a good performance across the board. Agriculture exports (which, of course, do not include coffee), are the best performers, but mining exports (mainly gold) and manufacturing exports are also performing exceptionally well on the margin.

Now let us focus on services exports. While the goods exports numbers used here come from monthly data published by Dane, services exports come from quarterly balance of payments data published by the Central Bank. To build Figure 46, we broke down services exports into five categories based on values exported: (i) travel, (ii) other business services, (iii) transport, (iv) telecom, IT and information services, and (v) the rest bundled together (in the “other” category).

In our previous report, we documented a continued recovery in services exports as a whole. Here is what has happened. Even though business services and transport are on the rise, by far tourism is behind the increase in services exported, which in Q3 posted a record high of \$1.75 billion. Again, we think the more competitive exchange rate is doing the trick for services, but especially for tourism.

Figure 45. Non-traditional goods exports by category (\$ Millions)

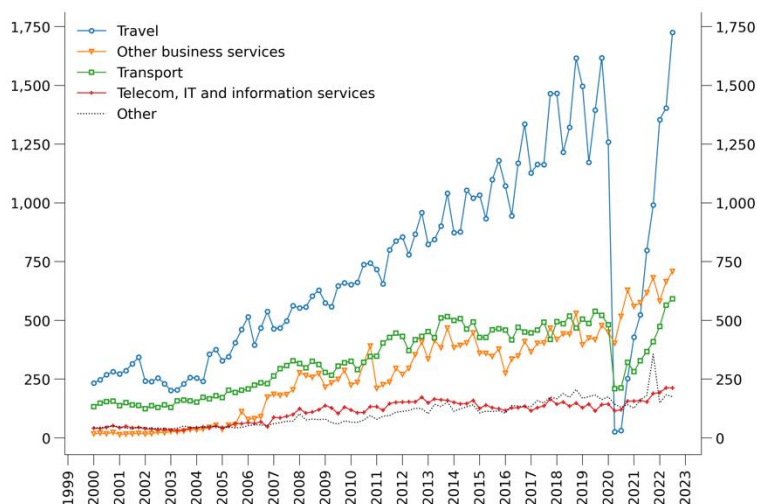


Monthly data as of October 2022. Source: Dane, EConcept

Looking at exports of goods and services as a whole (using quarterly BoP data as of Q3 2022), two comments are in order. First, goods exports are far bigger than services exports; the ratio between the former and the latter currently stands at than 5:1. However, this ratio reached 10:1 a decade ago.

When people say that tourism is becoming more relevant, they are right. We have experienced an important change in the importance of services. However, we are a long way away from being able to say that services exports could compensate for the loss of oil and coal exports (which still represent more than 50% of goods exports).

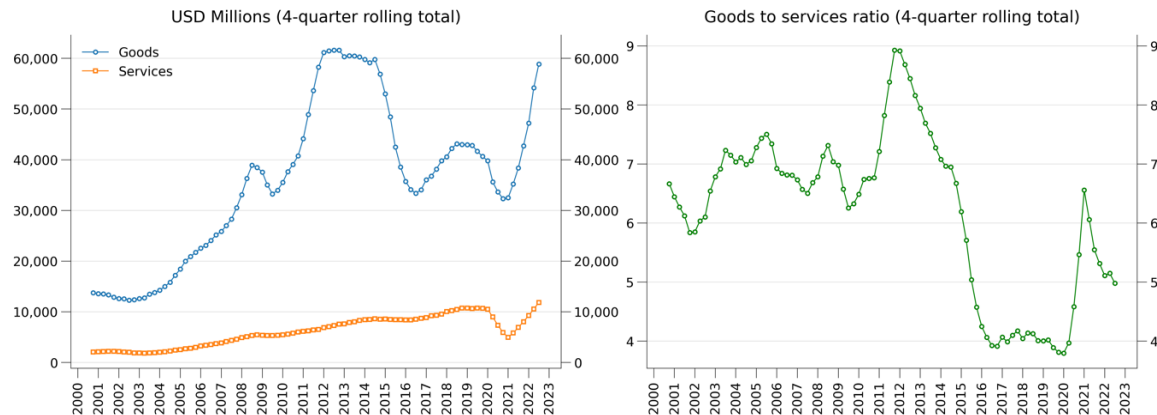
Figure 46. Services exports (quarterly, \$ Millions)



Quarterly data as of September 2022

Source: Central Bank, EConcept

Figure 47. Goods and services exports



Quarterly data as of September 2022

Source: Central Bank, Econcept

“The future ain’t what it used to be” -- Yogi Berra

2023 will be the decisive year for the Petro administration. They have endeavored to embark Colombia on a productive change away from extractive energy industries, and toward others with less cost to the environment. This is going in the right long-term direction, but the Petro team has decided to adopt it in a, from our point of view, reckless period of five years, instead of stretching it out between over one or two decades.

The tax reform and the policy of not approving new exploration licenses would lead to the acid test of this new productive recipe being known sooner rather than later. Something that accelerates these effects is the fact that the international inflation situation, possible recession and war accentuates the risks.

We have developed two macroeconomic scenarios for 2023. There are factors exogenous to the Colombian economy that will be decisive: Yes-or-No the U.S. lowers inflation quickly; Yes-or-No the dollar devalues worldwide, and capitals flow around the world again. Yes-or-No there is a solution in six months to the war in Ukraine, and its effects on energy and food prices are reduced. Yes-or-No La Niña phenomenon stops quickly, and the rains stop in Colombia.

There are also factors internal to the Colombian government policies and the attitude of Congress: Yes-or-No pension and health reforms are approved; Yes-or-No new oil and gas exploration is allowed; Yes-or-No the government spends all of the 2021 and 2022 tax reforms, or more, leading it to issue new debt and expose the jugular to international markets; and finally, Yes-or-No the economy regains momentum, which is currently receding at the end of this year.

Among these internal factors, our main concern is whether the proposed pension reform passes through Congress, given that the government's own funding sources would dry up, the prices of all financial assets would fall, including those of TES and many real assets. In our opinion, this would prevent the exchange rate and interest rate from falling.

These Yes-or-No dilemmas posed lead to many possibilities. We are optimistic about inflation in the United States, and the end of the war before June, knowing that there are tremendous uncertainties on both fronts. With this, to solidify optimism for 2023 what is crucial is the attitude of the government on the hydrocarbons, pensions and health fronts.

In concrete terms, our two key scenarios for 2023 are:

1) External positive + internal pragmatic: GDP would grow between 2.2% and 3% real; the exchange rate would fluctuate between 4,500 and 4,800 COP/USD. Inflation would fall to 7% by the end of 2023; the unemployment rate would remain in single digits for most of the year; the Banrep interest rate would reach 8.25% in December; the current account deficit would reach 4% of GDP; and the fiscal deficit at 3.4%, over-complying with the fiscal rule

2) Negative external + ideological internal: GDP would grow between 0.8% and 1.4% real; the exchange rate would fluctuate between 4,800 and 5,300 COP/USD. Inflation would fall to 7.5% by the end of 2023; the unemployment rate would reach 11.5; the Banrep rate at 8.5%; the current account deficit would reach 3% of GDP; and the fiscal deficit to 4.2%, failing to comply with the fiscal rule.

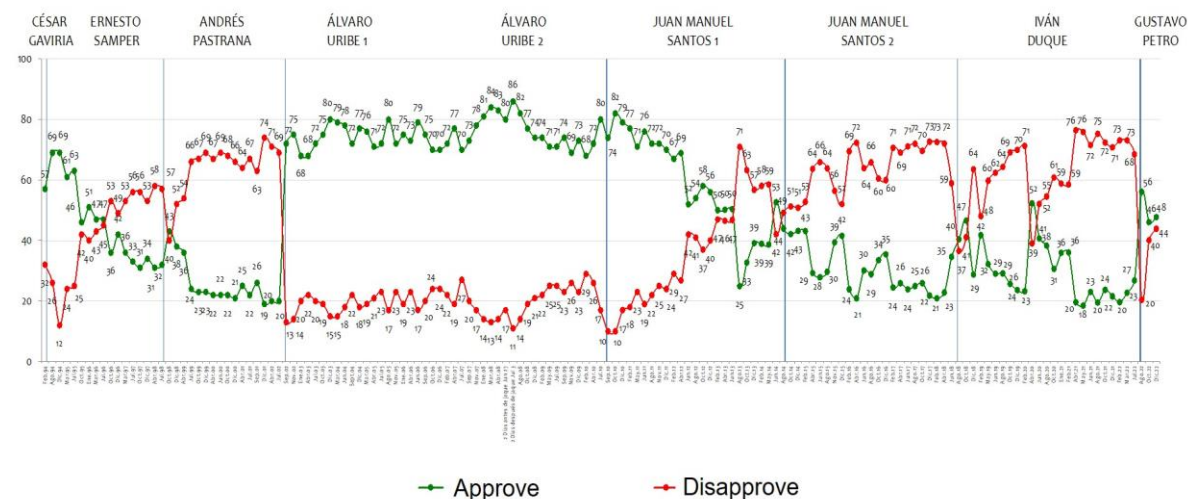
Although scenarios 1) and 2) don't seem that different, they would mark the fork on the road for the rest of the government. Recall the Yogi Berra quote, "When you come to a fork in the road, take it." The ideological attitude that would stubbornly maintain the original vision would lead to the economy not taking off and instead of a good 2023 we end up living a darker year that would complicate not only the economy but also social tensions and governability. Colombia would enter 2024 weak, with gloomy omens for the second half of the government.

On the contrary, the pragmatic way out, aided by a world scenario that is less difficult than the current one, would materialize the fact that Colombia is cheap for international investors. The people who want to invest would have a golden opportunity solidified by a government that has adjusted to what is possible and not to what is ideal. The government could "surf" the wave of growing non-traditional exports that have already started to gradually replace the traditional ones, and would obtain a positive fiscal and a manageable external scenario.

For the time being, Petro favorability in the polls looks stable. His negate is rising yet his positive has stabilized in Dec. (Figure 48).

Figure 48. Petro's favorability, Dec. 2022, Invamer Poll

Do you approve or disapprove Gustavo Petro's performance as President of Colombia?



Source: Invamer.

Possible effects of excessive increments in the minimum wage

Banco de la República's technical staff has written the most comprehensive study to date on the effects of the minimum wage (MW) on inflation, employment, and income distribution. It was published in the September 2022 issue of *Ensayos sobre Política Económica*, its technical journal.

First, it states a truism for Colombia, namely that it exhibits the highest ratio between the MW and the median salary (close to 90%) among the OECD countries. The average within that group is 50%. Second, it concludes that the minimum wage is frequently mistakenly understood to be a redistributive mechanism whereas, apparently, it does not play that role. Or, if anything, it operates rather in the opposite direction, namely, worsening fairness problems in Colombia.

We present the study's results: a 100 bp increase in the nominal MW would generate an increase of between 22 and 29 bp in quarterly core inflation. Considering the 67.6% participation of the basic-goods basket in Total CPI, the effect would be between 15 and 20 bp on total inflation. Hence, in the current scenario, an increase of 15% would induce a 2.25%-3% shift upwards in CPI inflation; and a 20% increase could be associated with one between 3-4%.

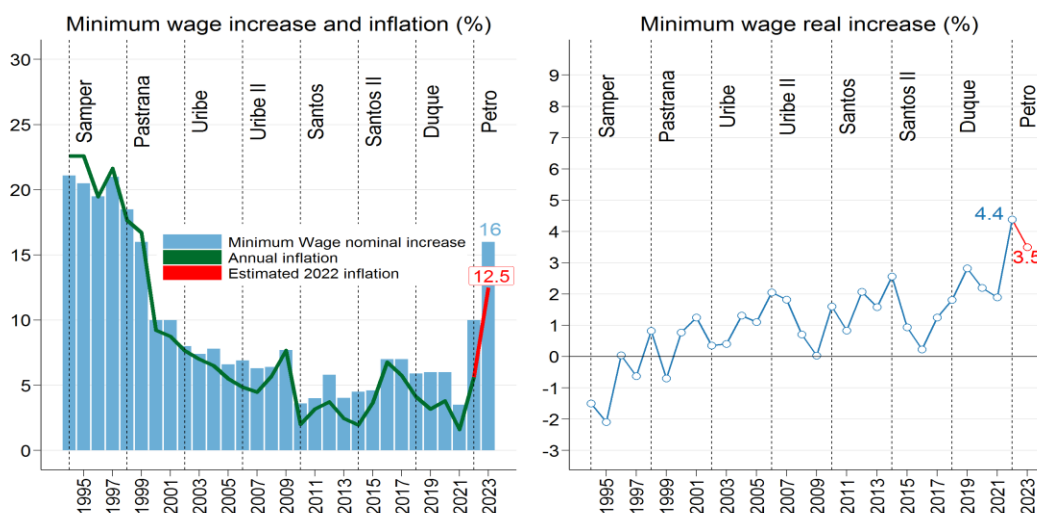
Another methodology suggests that an increase in the nominal MW by 1% will increase median inflation (without some regulated goods and services), accumulated between January and May, of 16 bp between January and May. The MW does not seem to have persistent effects on the monthly variations of individual prices. Using an Instrumental Variables methodology, increases in the MW are shown to affect quarterly core inflation; the estimated coefficient suggests that increases of 100 bp in the MW pushes quarterly core inflation by 14.4 bp; that is, 9.5 bp over total inflation. Lastly, an approach, based on the Input-Output Matrix, suggests that between 2010 and 2019, for every 100 bp increase in the nominal MW, the CPI increased 14.4 bp.

Basically, the different methodologies yield quite consistent ranges of influence from MW increases on CPI inflation. However, interestingly, the technical staff concludes that: “The previous estimations suggest that, in conditions of macroeconomic stability, the monetary authority does not need to react in any special way to control the transfer of the increases of the MW to inflation.”

What about the effects of the MW on employment? The results show that the MW increases job destruction, reduces job creation, increases dismissals, and reduces hiring. Specifically, a 1% increase in the real MW produces, on average, a reduction of 46,000 jobs per year during the period analyzed (2010-2019). The effects tend to be larger in the smallest firms (20 employees or less) and the youngest (less than six years since incorporation).

The results on income distribution measured by real monthly per capita households' income indicate that an increase of 0.01 in the real monthly MW, relative to the median family income per capita, decreases the value of the 10th quantile of the distribution; that is, the income of the lowest 10% of monthly family income per capita. The effects on the value of the other quantiles are positive and increase with the quantile, which translates into an increase in income inequality, measured by the Gini coefficient. Hence, MW determination during the last decade in Colombia did not help the poorest families (Figure 49).

Figure 49. Nominal MW increase and annual inflation (left) and real increases 1994-2022



Source: Central Bank, EConcept calculations.

The current MW negotiations are about to have sizeable effects on many social and economic variables. At least two main factors are officially considered in the negotiation: i) annual inflation -which is estimated to close 2022 near 12.5%-, and ii) total productivity -estimated by Dane at 1.2%. Adding these increments, the increase for 2023 should be between 13.7% and 14%.

Figure 49 shows MW increases and annual inflation during the last seven presidential periods. Real increases have been the norm during this century. One year ago, Ivan Duque's administration increased the nominal MW by 10%, with a real growth of 4.4%, when compared with past inflation as it closed at 5.6%. Of course, when compared with the 2022 inflation rate, in a forward-looking perspective, such increment looks less problematic.

After three weeks of negotiations between the national government, labor unions and employers the MW increase for 2023 came in at 16%. The latter represents a real growth of 3.5%, a value that stands below Duque's 4.4% increase. The government already issued a decree de-indexing many public sector prices from the MW, to reduce the fiscal impact of a real rise. All in all, since the MW increase exceeded the sum of inflation and productivity (14%), we expect that it will impact inflation, employment and income distribution, especially for the poorest echelon of the population.

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 - Puerto Salgar – Girardot (2012)	190.56	1,465,609	Operation
Perimetral de Oriente de Cundinamarca (2012)	152.24	1,647,776	Construction
Cartagena – Barranquilla y Circunvalar de la Prosperidad (2012)	146	1,709,365	Operation
Autopista al Río Magdalena 2 (2012)	144	1,740,428	Construction
Autopista Conexión Norte (2012)	145	1,300,274	Construction
Autopista Conexión Pacífico 1 (2012)	50.1	2,087,106	Construction
Autopista Conexión Pacífico 2 (2012)	96.5	1,300,234	Operation
Autopista Conexión Pacífico 3 (2012)	146	1,869,331	Construction
Mulaló – Loboguerrero (2012)	32	1,587,924	Pre-Construction
Total	1102.4	14,708,047	

Source: National Planning Department, National Infrastructure Agency

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

Road	Length (km)	Contract Value (COP million)	Status
Autopista al Mar 1 (2012)	181	2,244,729	Construction
Autopista al Mar 2 (2012)	254	2,574,127	Construction
Santana-Mocoa-Neiva (2013)	456	2,969,581	Construction
Rumichaca-Pasto (2013)	83	2,316,128	Construction
Popayán-S/der de Quilichao (2013)	77	1,702,787	Construction
Transversal del Sisga (2013)	137.03	966,849	Construction
Villavicencio-Yopal (2013)	266	2,939,321	Construction
P/ta de Hierro - Palmar (2013)	202.56	1,240,828	Operation
Bucaramanga - Barrancabermeja - Yondó	151.6	2,691,392	Construction
Autopistas del Caribe (2015)	253	4,314,364	Pre-Construction
Total	2,061	23,960,106	

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	Construction
Bucaramanga – Pamplona (2013)	134.2	1,413,763	Construction
Total	196.80	3,486,083	

Source: National Planning Department, National Infrastructure Agency

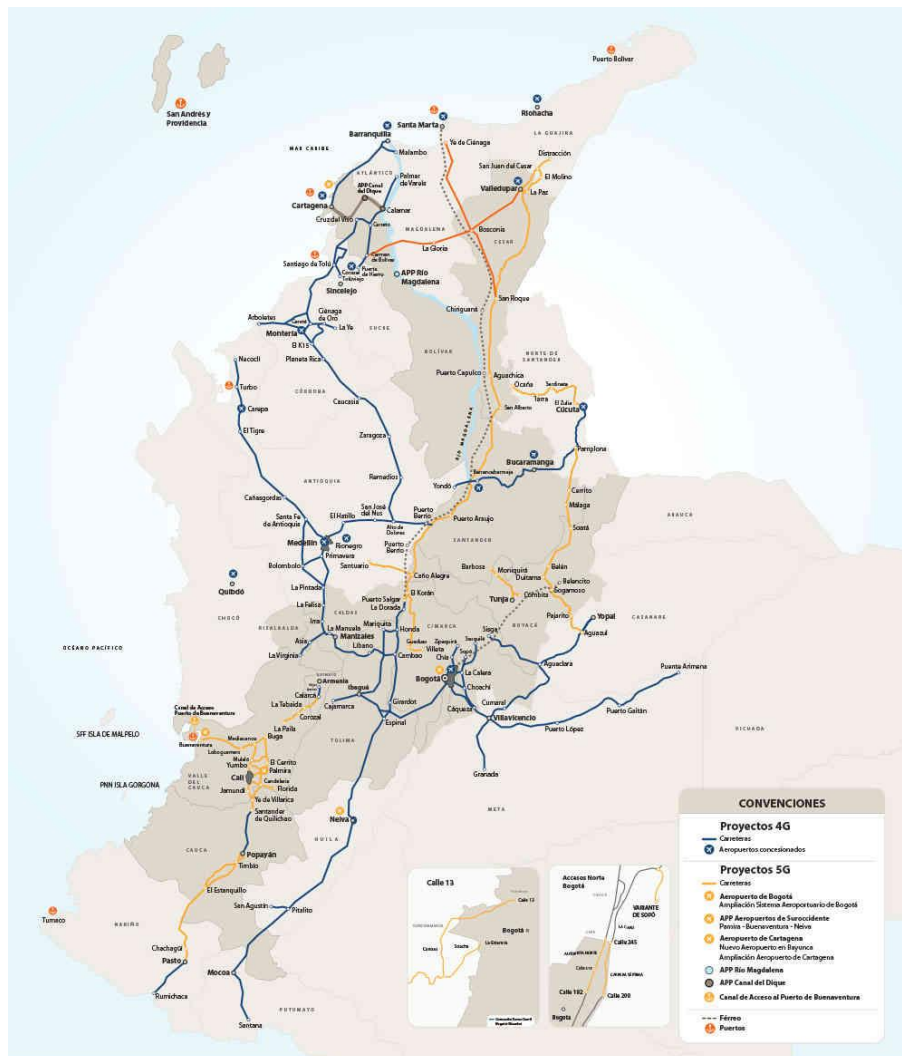
Fifth Generation (5G) Road Concessions Projects

Road	Length (km)	Contract Value (COP trillion)	Status
APP Nueva Malla Vial del Valle del Cauca	310	1.22	Allocated
IP ALO Sur	23.5	0.7	Allocated
Troncal del Magdalena C1	259.6	2.07	Allocated
Troncal del Magdalena C2	268.4	1.70	Allocated
Accesos Norte Fase II	17.96	1.32	Allocated
APP Buga – Buenaventura	128	2.21	Allocated
IP Santuario - Caño Alegre	135.5	2.59	Feasibility studies
Total	1,142.96	11.81	

Source: National Planning Department, National Infrastructure Agency.

Order: 1) Allocated, 2) In contracting, 3) Structured, in bidding process, 4) Feasibility studies

Map of 4G and 5G Road Concessions Projects



Source: ANI.

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

Project	Length (km)	Contract Value (COP million)	Status
IP Cambao – Manizales (2015)	256	1,147,653	Construction
IP Tercer Carril Bogotá Girardot (2014)	144.81	4,197,840	Construction
IP Accesos norte a la ciudad de Bogotá D.C. (2014)	62	1,225,686	Construction
IP Chirajará – Fundadores / Bogotá Villavicencio (2013)	86	5,090,472	Construction
IP Malla Vial del Meta (2013)	267.5	1,580,927	Construction
IP GICA (2012)	180	1,810,392	Construction
IP Vías del NUS (2013)	157	2,490,136	Construction
IP Neiva – Girardot (2014)	198.35	2,017,902	Construction
IP Antioquia – Bolívar (2014)	504.44	2,752,552	Construction
Total	1,856.10	22,313,560	

Source: National Planning Department, National Infrastructure Agency

1. Airports

- **Aeropuerto de Cartagena** design and construction of: New international terminal, apron expansion, remodeling of current terminal, infrastructure maintenance Rafael Núñez Airport.
 - **Capex:** COP 0.49 Trillion.
 - **Status:** Feasibility under evaluation.
- **APP Aeropuertos de Suroccidente** administration, adaptation, modernization, construction, expansion, operation, economic exploitation, maintenance and reversion of the airport infrastructure of the Alfonso Bonilla Aragón airport in Palmira, Valle del Cauca and Benito Salas airport in Neiva, Huila.
 - **Capex:** COP 0.90 Trillion.
 - **Status:** Feasibility under evaluation.
- **IP Nuevo Aeropuerto de Cartagena (Bayunca)** construction of a new airport for Caratagena.
 - **Capex:** COP 3.08 Trillion.
 - **Status:** Feasibility under evaluation
- **IP Aeropuerto de San Andrés** design, construction, modernization, operation and maintenance of the airport infrastructure on both the air and land sides of the Gustavo Rojas Pinilla Airport in San Andres.
 - **Capex:** COP (2018) 0.17 Trillion.
 - **Status:** Structured, in bidding process.
- **Aeropuertos César Gaviria, Germán Olano y Javier Noreña** The modernization, commercial exploitation, operation and maintenance of the Javier Noreña Valencia (la Macarena), Germán Olano (Puerto Carreño) and César Gaviria Trujillo (Inírida) airports.
 - **Capex:** COP (2018) 0.37 Trillion
 - **Status:** Structured

2. Massive urban transit systems and Strategic Transport

- **Dorada – Chiriguaná** track rehabilitation activities, upgrade to Cooper E40 type track, change of rails to 90 lb/Yd. Construction of long welded bars, train traffic control system, bridge intervention, upgrade and overhaul of rolling equipment.
 - **Capex:** COP 1.5 Trillion.
 - **Status:** Feasibility studies
- **Canal del Dique** maintain control of sediment transit between the channel and the bays of Cartagena and Barbacoas
 - **Capex:** COP 2.34 Trillion.
 - **Status:** Publication of the draft solicitation documents.
- **Estaciones intermodales Medellín** Structuring technically, legally and financially a public-private partnership project that contemplates the construction, operation and maintenance of the infrastructure of the Medellín Intermodal Stations

- **Capex:** COP (2015) 0.4 Billion
- **Status:** Structured (inactive)

II. Energy and Mining Sectors

Ministry of Mines and Energy – National Development Plan:

Projects recommended for the National Transmission System

Project	Operation Start Date
Córdoba Sucre – Second Circuit	
Cerromatoso – Sahagún – Chinú 500 kW	December 2025
Central outage in diameter one (1) of the Chinú 220 kW substation.	June 2023
Compensation bay, central cutout for the new diameter, transformer bay in diameter two (2), differential protection for the busbar at the San Marcos 500 kW substation.	December 2024
Third Transformer at Bolivar substation 500/220 kW	December 2025
Installation of a second transformer at the La Virginia 500/230 kW substation by relocating the existing transformer.	December 2024
HVDC Transmission Line at 600 kW, VSC type, two-pole with metallic return, from La Guajira.	December 2028 – December 2032

Source: UPME, Plan de Expansión Preliminar de Transmisión 2022-2037

Projects considered in building phase

Project	Type	Capacity (MW)	Operation Start Date
Acacia 2	Wind	80	November 2022
Alpha	Wind	212	November 2023
Apotolorru	Wind	75	August 2023
Beta	Wind	280	November 2023
Camelias	Wind	250	December 2023
Campano	Solar	99	December 2022
Carrizal	Wind	195	June 2023
Cartago	Solar	99	December 2022
Casa Eléctrica	Wind	180	August 2023
Chemesky	Wind	100	August 2023
El Paso Solar	solar	68	January 2021
El Tesorito	Thermoelectric	199	December 2022
Ipapure	Wind	201	September 2023
Irraipa	Wind	99	June 2023
Ituango	Hydroelectric	1,200	June 2022
Kuisa	wind	200	August 2023
La Loma	Solar	150	November 2022
San Felipe	Solar	90	December 2022
Termo Jagüey	Thermoelectric	19	December 2021
Termo Rubiales	Thermoelectric	19	December 2021
Termocandelaria	Thermoelectric	252	November 2022
Termocaribe 3	Thermoelectric	42	November 2022
Termosolo 1	Thermoelectric	148	December 2023
Termosolo 2	Thermoelectric	80	December 2022
Termoyopal G3	Thermoelectric	50	August 2020
Termoyopal G4	Thermoelectric	50	August 2020

Termoyopal G5	Thermoelectric	50	September 2020
Windpeshi	Wind	200	December 2022
ENR Col 1	Solar	120	January 2024
Tayrona	Solar	76	January 2024

Source: UPME, Plan de Expansión 2020-2034

Oil Exploration Projects for Colombia in 2022 (Q2)

Exploration Projects	Status	Participants
Gorgon-2	Successful	ECP 50% Shell 50% (Operator)
Uchuva-1	Successful	ECP 55.6% Petrobras 44.4% (Operator)
Kinacú-1	Under evaluation	ECP 100% (Operator)
Coralino-1	Under evaluation	Hocol 100% (Operator)
Boranda Norte-1 ST2	Successul	Parex % (Operator) ECP % Partner exclusive operation

Source: Ecopetrol

Ecopetrol's Investment plan for 2022-2024 (USD billion)

USD million	Investment 2022	Investment 2022-2024 Projected	
Production	2.12	-	-
Upstream	-	11	12
Midstream	0.18	0.8	0.9
Downstream	0.27	1.2	1.4
Exploration	0.29	-	-
Corporate	0.08	-	-
Total	2.95	17	20

Source: Ecopetrol.

III. Others

- **Education:** Design, construction, financing, operation, and maintenance of accommodation for university students, and provision of complementary services such as cleaning, surveillance, restaurant, among others, for the Universidad Nacional de Colombia in Manizales.

- **Capex:** COP 88 Billion (2019).
- **Status:** Structured.

Construction, operation, and maintenance of student housing in Medellín.

- **Capex:** COP 80 Billion (2017).
- **Status:** Phase I completed.

- **Sports:** structuring of a project that contemplates the design, modernization, adaptation, construction, provision, operation, maintenance and economic exploitation of the infrastructure that is required within the Center of High Performance Sports (CAR).

- **Capex:** COP 167 Billion (2022).
- **Status:** Structured.

- **Water and sewage:** Design, construction, operation, and maintenance of Wastewater Treatment System (STAR), located within the jurisdiction of the Municipality of Neiva, Huila.

- **Capex:** COP 215 Billion (2019).
- **Status:** Phase II.

Design, construction, operation and maintenance of Wastewater Treatment System (STAR) located in the jurisdiction of the Municipality of Duitama, Boyacá.

- **Capex:** COP 70 Billion (2019).
- **Status:** Phase II.

Carry out the decontamination of the Bogotá River through the provision of Phase II design and construction, operation, and maintenance of Phases I and II of the Wastewater Treatment Plant – PTAR Canoas.

- **Capex:** COP 4.5 Trillion (2018).
- **Status:** Structured.

- **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:** COP 36 Billion (2018).
- **Status:** Structured.

- **Health:** To conceive the Great Hospital Park of Engativá, which is a hospital infrastructure of international reference with the highest specialized technology for patient care, laboratories, as well as study and innovation that allow it to be researched.
 - **Capex:** COP 517 Billion (2020).
 - **Status:** Beginning of phase II.

Design, financing, construction, equipment, endowment, operation, maintenance and reversal of a new high complexity hospital in Fusagasugá.

- **Capex:** To define.
 - **Status:** Structuration in course.
- **Urban Renewal and Public Buildings:** Design, construction, operation and maintenance of National Attorney General office in Cali.
 - **Capex:** COP 175 Billion (2018).
 - **Status:** Adjudicated.

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. There are 281 PPP projects in the RUAPP, 194 without public resources. Furthermore, 835 projects registered in the RUAPP (10 repeated registrations), but 554 are in the rejected, abandoned or deserted stages.

Number of Public-Private Partnerships by Sector

Sector	Hired	Feasibility Studies	Pre-Feasibility Studies	Total
Agriculture		4	4	8
Water and Sewage		3	29	32
Environment and tourism		2	2	4
Science, tech and innovation				
Commerce, Industry and tourism			4	4
Culture and sports		3	5	8
Public Buildings and Urban Renewal	3	6	32	41
Education		7	3	10
Justice		1	1	2
Mining and Energy		3	5	8
Health Care	1	5	2	8
Information and Communication Technologies		1	3	4
Transport	42	35	63	141
Housing			2	2
Total	46	71	155	272

Source: National Planning Department- RUAPP (July 2022)

Forecast table

		2020	2021pr	2022f	2023f
Population	Millions	50.4	51.0	51.6	52.2
Real GDP	Trillions of 2015 COP	819.1	906.6	970.0	989.4
	% change	-6.8	10.7	7.0	2.0
Nominal GDP					
In pesos	Trillions of current COP	1,002.6	1,172.0	1,404.5	1,268.4
	% change	-5.5	16.9	19.8	8.2
In dollars	Billions of current USD	271.5	313.0	332.2	300.0
	% change	-16.1	15.3	6.1	-4.2
GDP deflator	% change	1.6	5.6	12.0	-11.5
Consumer prices (end of period)	% change	1.6	5.6	12.0	6.1
Nominal exchange rate (average)	COP/USD	3,693	3,744	4,228	4,960
	% change	12.6	1.4	12.9	17.3
Real exchange rate (average)	2010 average = 100	138.8	143.7	149.4	152.8
	% change	9.1	3.5	4.0	2.3
Repo rate (end of period)	% (end of period)	1.8	3.0	11.8	8.3
Nominal interest rate (DTF)	% (end of period)	2.0	2.9	12.7	10.4
Current account balance	Billions of current USD	-9.1	-17.8	-17.6	-12.0
	% of GDP	-3.3	-5.7	-5.3	-4.0
Capital account balance	Billions of current USD	-8.2	-16.6	-17.6	-10.2
	% of GDP	-3.0	-5.3	-5.3	-4.0
Exports	Billions of current USD	31.1	41.4	48.8	47.7
	% change	-21.4	33.3	18.0	-2.3
Exports (goods and services)	Billions of current USD	38.1	50.4	56.7	60.7
	% change	-25.7	32.1	12.5	7.1
Imports	Billions of current USD	43.5	61.1	76.4	77.4
	% change	-17.5	40.5	25.1	1.2
Imports (goods and services)	Billions of current USD	51.3	70.9	88.7	93.9
	% change	-21.6	38.2	25.1	5.9
Non-Financial Public Sector Balance	% of GDP	-7.6	-7.2	-6.1	-2.7
Central Government Fiscal Balance	% of GDP	-7.8	-7.1	-5.6	-3.6

f*:all values are forecasts