INTERNATIONAL MONETARY FUND

IMF Country Report No. 16/387

BOLIVIA

December 2016

2016 ARTICLE IV CONSULTATION—PRESS RELEASE; STAFF REPORT; AND STATEMENT BY THE EXECUTIVE DIRECTOR FOR BOLIVIA

Under Article IV of the IMF's Articles of Agreement, the IMF holds bilateral discussions with members, usually every year. In the context of the 2016 Article IV consultation with Bolivia, the following documents have been released and are included in this package:

- A **Press Release** summarizing the views of the Executive Board as expressed during its December 9, 2016 consideration of the staff report that concluded the Article IV consultation with Bolivia.
- The **Staff Report** prepared by a staff team of the IMF for the Executive Board's consideration on December 9, 2016 following discussions that ended on October 27, 2016, with the officials of Bolivia on economic developments and policies. Based on information available at the time of these discussions, the staff report was completed on November 23, 2016.
- An **Informational Annex** prepared by the IMF staff.
- A **Staff Statement** updating information on recent developments.
- A **Statement by the Executive Director** for Bolivia.

The IMF's transparency policy allows for the deletion of market-sensitive information and premature disclosure of the authorities' policy intentions in published staff reports and other documents.

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COMMUNICATIONS DEPARTMENT

Press Release No. 16/577
FOR IMMEDIATE RELEASE
December 22, 2016

International Monetary Fund
700 19th Street, NW
Washington, D. C. 20431 USA

IMF Executive Board Concludes 2016 Article IV Consultation with Bolivia

On December 9, 2016, the Executive Board of the International Monetary Fund (IMF) concluded the Article IV consultation1 with Bolivia.

Boosted by the commodity boom, Bolivia has experienced substantial economic and social progress. Growth has been strong, averaging around 5 percent since 2006, and poverty has fallen by a third. During this time, the authorities built up sizable buffers and de-dollarized the financial system to a major extent. However, with Bolivia remaining one of the most commodity-dependent countries in the region, sharply lower commodity prices pose challenges to the implementation of the authorities' development objectives laid out in their Patriotic Agenda 2025. To advance their plans, the authorities are using their policy buffers, with the sizable fiscal and external surpluses that prevailed over the past decade now turning to large twin deficits.

Real GDP growth is projected at 3.7 percent in 2016, which is still relatively strong by regional standards. A continued supportive fiscal policy and rapid credit growth linked to the Financial Services Law are buttressing activity and offsetting a major drought and temporary supply shocks in gas production. However, the fiscal and external current account deficits will remain wide. In the medium term, growth is expected to converge towards 3.5 percent, consistent with the new commodity price normal, amid persistent twin deficits. Risks to this outlook are tilted to the downside, with the potential for additional weakness in key emerging markets, further dollar strength, and a larger-than-expected impact of the drought. Longer-term uncertainties relate to

[1] Under Article IV of the IMF's Articles of Agreement, the IMF holds bilateral discussions with members, usually every year. A staff team visits the country, collects economic and financial information, and discusses with officials the country's economic developments and policies. On return to headquarters, the staff prepares a report, which forms the basis for discussion by the Executive Board.

future oil prices, the extent of natural gas discoveries and export contract renewals, and the possibility of an excessive credit growth volatility.

Executive Board Assessment[2]

Executive Directors commended the Bolivian authorities for the sound macroeconomic management and poverty reduction during the past commodity boom. While slowing, real GDP growth is projected to remain robust in 2016, on the back of a sizable public investment program and strong credit growth. Looking ahead, Directors concurred that the outlook appears increasingly challenging, with risks tilted to the downside, owing to continued low commodity prices and growing fiscal and external imbalances. Given the still sizable buffers, they encouraged the authorities to plan a carefully measured approach to adjusting to the less favorable external environment.

Directors underscored the risks arising from Bolivia's large and widening fiscal deficits. They encouraged the authorities to improve the non-hydrocarbons primary balance through streamlining expenditures while increasing their efficiency. Directors recommended an early transition to a credible medium-term fiscal framework to continue to assure debt sustainability, while also accounting for the state of the business cycle and building cushions to absorb volatility in hydrocarbon prices. They advised the authorities to ensure the financial health of state-owned enterprises, exercise greater oversight of their activities, and strengthen the evaluation and transparency of their investments.

Directors stressed the merits of enhancing the independence of the central bank, and advised phasing out the central bank's exposures to the state-owned enterprises to avoid potential conflicts with the commitment to price stability. Most Directors encouraged consideration of gradually permitting greater exchange rate flexibility, which along with structural reforms, would improve competitiveness, facilitate the adjustment to lower commodity prices, and protect against possible future external shocks.

[2] At the conclusion of the discussion, the Managing Director, as Chairman of the Board, summarizes the views of Executive Directors, and this summary is transmitted to the country's authorities. An explanation of any qualifiers used in summings up can be found here: http://www.imf.org/external/np/sec/misc/qualifiers.htm.

Directors welcomed the overall soundness of the financial sector, and encouraged the authorities to address the growing vulnerabilities. They considered that the quotas and interest caps set under the Financial Services Law appear to be inducing banks to expand credit rapidly, which could lead to greater risks and undermine financial inclusion. Directors suggested that the authorities modify key provisions of the regulations to reduce distortions and avoid an unnecessary buildup of risk. They saw scope for the authorities to utilize more market-oriented mechanisms to achieve greater financial inclusion.

Directors agreed that accelerating structural reforms and improving the business climate are central to improving medium-term growth prospects. They encouraged the authorities to improve incentives for hydrocarbons exploration, bring wages back in line with productivity, and address the severe water shortage.

Directors praised the authorities for the significant declines in inequality and poverty achieved over the last decade, which should be preserved. They considered that better targeting and improved efficiency of social spending could help mitigate the negative impact of lower commodity prices on inequality and poverty.

Bolivia: Selected Economic and Financial Indicators

I. Social and Demographic Indicators

GDP per capita (U.S. dollars, 2015)	2,900	Poverty headcount ratio (percent of population, 2015)	38.6
Population (millions, 2015)	11.5	Gini index (2015)	47.0
Life expectancy at birth (years, 2014)	68	Adult literacy rate (percent, 2015)	95.1
Infant mortality rate (per thousand, 2015)	30.6	Net primary education enrollment rate (2011)	82.2

II. Economic Indicators

							Baseline projections					
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Income and prices												
Real GDP	4.1	5.2	5.1	6.8	5.5	4.8	3.7	3.9	3.5	3.5	3.5	3.5
Real GDP excluding hydrocarbons	3.5	5.0	4.4	6.2	5.4	5.4	5.2	3.7	3.5	3.4	3.8	3.6
GDP deflator	8.8	14.6	7.1	6.0	2.0	-4.6	-2.0	7.1	5.2	4.8	4.2	4.7
CPI inflation (period average)	2.5	9.9	4.5	5.7	5.8	4.1	3.7	4.8	5.0	5.0	5.0	5.0
CPI inflation (end-of-period)	7.2	6.9	4.5	6.5	5.2	3.0	4.6	5.0	5.0	5.0	5.0	5.0
Investment and savings												
Total investment	17.0	19.8	17.7	19.0	21.0	19.2	20.9	19.1	18.0	17.3	16.5	15.8
Public sector	9.5	10.5	10.5	11.3	12.4	13.5	13.5	12.2	11.5	11.0	10.3	9.8
Private sector	7.1	8.4	7.8	7.7	8.6	7.8	7.2	6.8	6.5	6.3	6.2	6.0
Stockbuilding	0.4	0.8	-0.7	0.0	0.1	-2.1	0.2	0.0	0.0	0.0	0.0	0.0
Gross domestic savings	23.9	25.5	27.1	26.0	22.4	13.2	11.9	14.0	14.4	14.8	14.4	14.3
Gross national savings	25.0	25.6	25.7	23.9	20.5	13.2	12.8	14.1	14.1	14.4	13.9	13.8
Public sector	11.1	11.4	12.3	12.0	10.1	6.6	5.4	5.5	5.3	5.6	5.0	4.9
Private sector	13.9	14.2	13.4	11.9	10.4	6.6	7.4	8.6	8.8	8.8	8.9	8.9
Saving/investment balances 1/	8.0	5.8	8.1	4.9	-0.6	-6.1	-8.1	-5.0	-4.0	-2.9	-2.6	-2.0
Public sector	1.7	0.8	1.8	0.7	-2.3	-6.9	-8.1	-6.7	-6.2	-5.4	-5.3	-5.0
Private sector	6.7	5.8	5.6	4.2	1.8	-1.3	0.2	1.7	2.3	2.5	2.7	2.9
Combined public sector												
Revenues and grants	33.2	36.2	37.8	39.1	39.9	37.7	35.0	35.2	34.5	34.6	33.9	33.6
Of which: Hydrocarbon related revenue	10.2	11.4	13.0	13.5	12.7	9.1	6.4	6.8	6.0	6.3	5.6	5.5
Expenditure	31.5	35.4	36.0	38.4	43.3	44.6	43.0	41.9	40.7	40.1	39.2	38.6
Current	22.8	24.2	25.1	24.9	28.2	29.1	27.8	27.8	27.5	27.4	27.3	27.3
Capital 2/	8.7	11.2	11.0	13.5	15.0	15.5	15.2	14.1	13.2	12.6	11.9	11.3
Overall balance after nationalization costs	1.7	0.8	1.8	0.7	-3.4	-6.9	-8.1	-6.7	-6.2	-5.4	-5.3	-5.0
Of which:												
Non-hydrocarbon balance, before nationalization costs	-8.1	-9.6	-9.7	-11.1	-13.2	-14.1	-12.2	-11.4	-10.2	-9.7	-9.0	-8.6
Total gross NFPS debt 3/	38.5	35.7	35.7	36.1	37.0	40.6	46.7	47.6	48.8	49.4	51.2	52.0
NFPS deposits	20.8	21.4	24.2	24.0	20.3	16.6	15.1	12.4	10.3	8.5	7.9	7.3
External sector												
Current account 1/	3.9	0.3	7.2	2.4	0.2	-5.8	-7.6	-4.7	-3.8	-2.9	-2.6	-2.3
Merchandise exports	32.4	34.6	41.3	37.9	37.0	25.0	21.0	21.8	20.5	20.3	19.3	18.5
Of which: natural gas	14.1	16.1	20.1	19.8	18.1	11.3	7.0	7.9	7.6	7.7	6.6	6.3
Merchandise imports	28.3	32.8	31.4	31.4	31.6	29.1	27.5	25.4	23.4	22.6	21.1	20.0
Capital and financial account	0.8	8.6	-0.9	1.2	2.7	0.8	-0.4	-0.6	-0.1	0.3	0.2	0.0
Of which: direct investment net	3.4	3.6	3.9	5.7	1.9	4.1	0.5	1.0	1.5	2.0	2.5	3.2
Overall balance of payments	4.7	8.9	6.3	3.6	2.9	-4.9	-8.0	-5.4	-3.8	-2.6	-2.4	-2.3
Terms of trade index (percent change)	-11.1	58.0	7.3	0.0	-2.2	-16.3	-10.1	9.5	1.9	0.9	-1.5	0.5
Net Central Bank foreign reserves 4/ 5/												
In millions of U.S. dollars	9,730	12,019	13,927	14,430	15,123	13,056	10,344	8,330	6,721	5,570	4,442	3,945
In percent of broad money	80.0	83.0	80.0	71.4	64.7	48.1	36.5	26.4	19.5	14.8	10.9	8.8
Exchange rates 6/												
Bolivianos/U.S. dollar (end-of-period)	6.9	6.9	6.9	6.9	6.9	6.9	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
REER, period average (percent change)	-4.9	1.9	5.2	5.6	7.9	0.1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Money and credit												
Credit to the private sector	19.9	23.0	19.4	18.9	15.0	17.6	17.5	15.2	11.0	10.5	9.5	10.0
Credit to the private sector (percent of GDP)	36.0	36.8	39.0	40.9	43.7	51.5	59.5	61.6	62.8	63.9	64.9	65.7
Broad money	12.5	17.7	20.2	16.2	15.6	16.2	4.5	11.1	9.3	9.1	8.6	9.2
Interest rates (percent, end-of-period)												
Deposits (effective rate)	0.9	1.7	1.2	2.7	2.5	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Lending (effective rate)	10.4	10.8	10.6	11.4	8.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
U.S. dollar and dollar-indexed deposits (in percent of total deposits)	43.8	34.5	26.3	21.0	17.6	15.6	15.6	15.6	15.6	15.6	15.6	15.6
U.S. dollar and dollar indexed credit (in percent of total credit)	38.6	30.7	21.3	15.8	10.2	8.0	3.0	3.0	3.0	3.0	3.0	3.0
Memorandum items:												
Nominal GDP (in billions of U.S. dollars)	19.8	24.1	27.3	30.9	33.2	33.2	33.8	37.6	40.9	44.4	47.9	52.0
Oil prices (in U.S. dollars per barrel)	79.0	104.0	105.0	104.1	96.2	50.8	43.0	50.6	53.1	54.4	56.3	58.0

Sources: Ministry of Economy and Public Finances, Central Bank of Bolivia, National Institute of Statistics, UDAPE, and Fund staff calculations.

1/ The discrepancy between the current account and the savings-investment balances reflects methodological differences. For the projection years, the discrepancy is assumed to remain constant in dollar value.

2/ Includes nationalization costs and net lending.

3/ Public debt includes SOE's borrowing from the BCB but not from other domestic institutions.

4/ Excludes reserves from the Latin American Reserve Fund (FLAR) and Offshore Liquidity Requirements (RAL).

5/ All foreign assets valued at market prices.

6/ Official (buy) exchange rate.

INTERNATIONAL MONETARY FUND

BOLIVIA

STAFF REPORT FOR THE 2016 ARTICLE IV CONSULTATION

November 23, 2016

KEY ISSUES

Context. Bolivia's macroeconomic management of the commodity boom facilitated a decade of strong macroeconomic performance and poverty reduction, and the accumulation of sizable policy buffers. As Bolivia remains one of the most commodity-dependent countries in the region, however, sharply lower commodity prices pose serious challenges to making further progress towards the objectives laid out in the authorities' Patriotic Agenda 2025, including eradication of extreme poverty, better access to health and education, and state-led industrialization. As the authorities implement their 5-year development plan (*Plan de Desarrollo Económico y Social 2016–20*), sizable fiscal and external current account surpluses during the last decade have turned into large deficits. These deficits are projected to persist over the medium term under current policies, eroding policy buffers and raising questions about the sustainability of the plan.

Outlook and risks. Real output growth is projected at 3.7 percent in 2016, on the back of large twin deficits and rapid credit growth, and is expected to converge towards 3.5 percent over the medium term, consistent with the new commodity price normal. Near-term risks remain tilted to the downside, with the potential for additional weakness in key emerging markets such as China, further dollar strength, and a larger-than-expected impact of the drought on agricultural output. Longer-term uncertainties relate to future oil prices, the extent of natural gas reserve discoveries and the renewal of the Brazil export contract, and the possibility of excessive credit growth volatility.

Policy Recommendations. Existing domestic and external pressures mean that policy adjustment is indispensable. However, given still sizable fiscal and external buffers, the authorities can pursue a measured yet credible approach to adjustment, based on a suitable sequencing of policies. Priorities include steadily reducing the non-hydrocarbons primary deficit and ensuring the financial health of SOEs, allowing greater exchange rate flexibility, improving incentives for hydrocarbons exploration, and bringing wages back in line with productivity.

Approved By
Krishna Srinivasan (WHD) and Bob Traa (SPR)

Discussions took place in La Paz and Santa Cruz during October 13–26, 2016. The team comprised R. Balakrishnan (Head), C. Caceres, E. Jafarov, G. Keim, F. Toscani (all WHD), and S. Lizarazo (SPR). F. Bornhorst (outgoing Resident Representative), A. Santos (incoming Resident Representative) and S. Cardenas (local office) assisted the mission, and E. Tawfik provided research assistance at headquarters. V. de la Barra (OED) participated in the discussions. The team met with the Minister of Finance, the President of the Central Bank, other Ministers and senior officials; as well as private sector participants; think-tanks; academics; donors; and leaders of Congress and Senate.

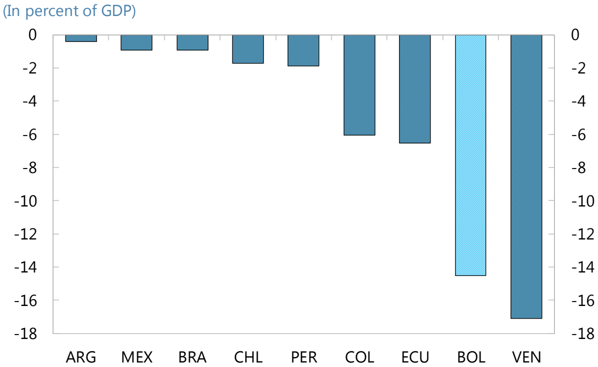
CONTENTS

ANNEXES

CONTEXT AND RECENT DEVELOPMENTS

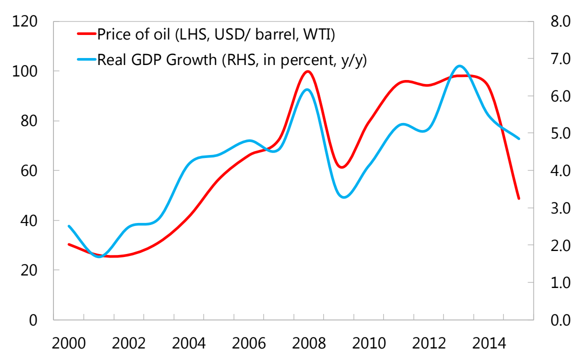
1. **After a decade of substantial economic and social progress, underpinned by sound macroeconomic management, Bolivia is being challenged by low commodity prices.** Growth averaged around 5 percent per year over the last decade (2006–15), while the poverty ratio declined by a third to less than 40 percent. The authorities built up sizable international reserves and fiscal buffers while considerably de-dollarizing the financial system. But the global outlook has changed, and commodity prices have been on a trend decline since 2011, stabilizing only very recently, albeit at significantly lower levels compared to their peak. As one of the most commodity-dependent countries in Latin America (Box 1), Bolivia has suffered a massive decline in commodity terms of trade over the last few years, which has led to a reduction in income of close to 14 percent of GDP (charts). A period of lower commodity prices is expected over the medium term, posing significant challenges in making further progress towards the targets set out in the authorities' Patriotic Agenda 2025, including eradication of extreme poverty, better access to health and education, and state-led industrialization. To achieve these targets, the government is anchoring policies on a 5-year *Plan de Desarollo Economico y Social* (PDES) that scales up public investment projects to sustain high growth. As a result, the sizable fiscal and external current account surpluses generated over a decade have now turned into large twin deficits.

Decline in Commodity Terms of Trade, 2014Q2-2016Q2
(In percent of GDP)



Source: Gruss (2014).

Real GDP Growth and Oil Price



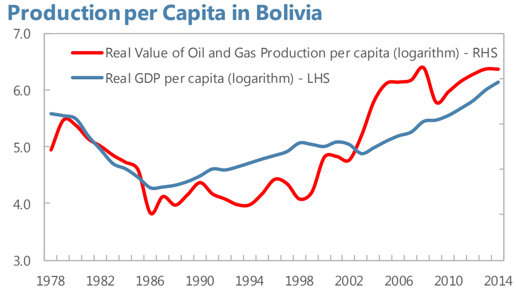
Source: Haver Analytics, Inc

2. **Political challenges have grown.** While *Movimiento al Socialismo* holds a ⅔ majority in Congress, President Morales lost a referendum in February 2016 that would have allowed him to stand for reelection (for a fourth consecutive term) in 2019. Protests by miners that led to the death of the Deputy Interior Minister, strikes by truck drivers and the handicapped, and requests for bailouts from subnational governments have added to the challenges. In light of slowing growth, the government announced that the second monthly Christmas bonus would not be paid in 2016.

Box 1. Impact of Oil and Gas Production in LAC and Bolivia

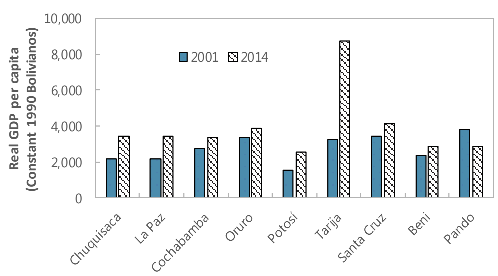
There exists a strong positive long-run relationship between real GDP per capita and the real value of hydrocarbons production in Latin American and Caribbean (LAC) oil and gas producers. Panel co-integration analysis for the period 1980–2014 suggests that a 100 percent increase in the value of oil and gas production increases the level of GDP by 14 percent on average. The relationship is particularly pronounced in Trinidad and Tobago and Venezuela while for Bolivia it is close to the LAC average. Between 2000 and 2014, the real value of oil and gas production per capita in Bolivia increased by about 370 percent, while real GDP per capita increased by 43 percent. The developments in Bolivia over the recent boom period are thus very close to what one would have expected based on this general relationship.

GDP per Capita and Hydrocarbons Production per Capita in Bolivia

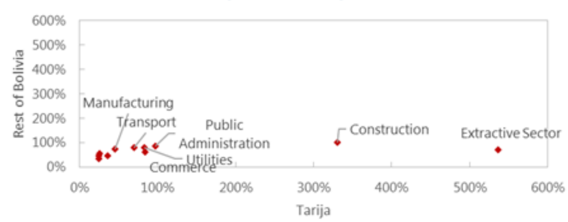


At the provincial level in Bolivia, real GDP per capita in the main gas producing region (Tarija), increased nearly 150 percent during the boom in the 2000s. The huge gas fields discovered in Bolivia in the late 1990s are located in the southern province of Tarija, which now produces about 70 percent of all Bolivian gas. The massive growth in the extractive sector and the related fiscal windfall (with Tarija receiving more revenues than all other 8 provinces combined in 2014) does not seem to have produced important spillovers to other sectors. The only sector besides the oil and gas one which grew substantially more in Tarija than in the rest of Bolivia was construction.

Departmental Real GDP Per Capita

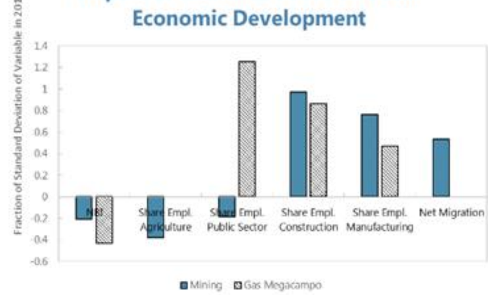


Real GDP Growth in Tarija and the Rest of Bolivia (2001-2014)



The gas boom and associated fiscal windfall reduced poverty in producing municipalities. Data from the 2001 and 2012 population censuses indicates that the large gas discoveries were associated with significant reductions in poverty of around 10 percentage points (as measured by population without access to basic necessities) in directly affected municipalities. Gas producing municipalities also experienced a very large increase in public sector employment (more than 1 standard deviation) as well as important increases in construction and manufacturing employment. In municipalities with mining—which is more labor intensive but generated a smaller fiscal windfall—a larger reallocation of labor away from agriculture, a positive migration effect, but a smaller reduction in poverty was observed.

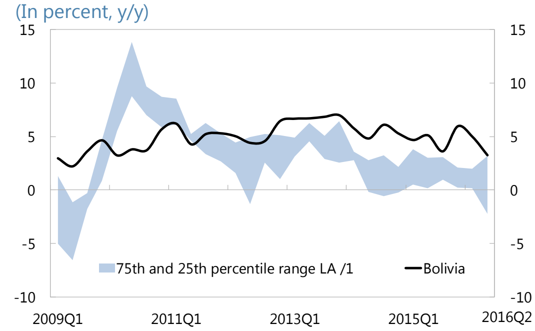
Impact of Resource Boom on Local Economic Development



3. **The economic expansion continues, but fiscal and external imbalances are growing:**

- *Economic growth in Bolivia remains among the highest in Latin America, but has slowed* (chart). While real GDP growth over the last 12 months to June 2016 was 4.4 percent, this masks a significant slowdown recently, with 2016Q2 growth of 3¼ percent (y-o-y). This outcome partly reflects temporary supply shocks in the hydrocarbons and agriculture sectors, with the latter due to a drought linked to the La Niña climate phenomenon. Consumption growth has been strong given solid real wage increases, but unemployment has increased slightly to 4.4 percent (Table 1 and Figure 1). Inflation has remained moderate (3.5 percent y-o-y in October 2016), despite rapid monetary growth (Table 2 and Figure 2), due in part to falling import prices and stable administered prices.

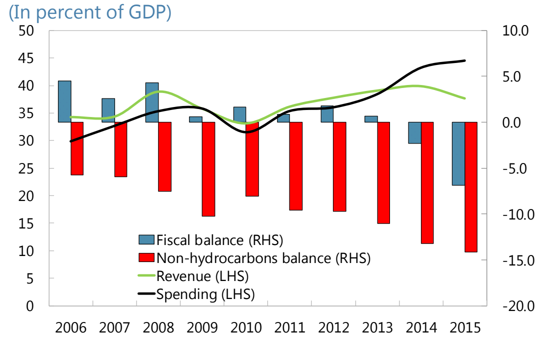
Real GDP Growth
(In percent, y/y)



Source: Haver Analytics, Inc.
1/ Includes ARG. BRA. CHL PER. PRY and URY.

- *While public debt remains moderate, fiscal imbalances are growing*. The fiscal deficit reached 6.9 percent of GDP in 2015 due to sharply lower hydrocarbon revenues and large increases in spending. This was mainly financed by Central Bank of Bolivia (BCB) net credit (either the use of the government deposits or direct credit to SOEs). There has been a broad decline in tax collections through June 2016, reflecting also falling imports and corporate profits, but the shortfall has been partly offset by restraint in current expenditures. Gross public debt remains moderate at 43 percent of GDP in August 2016, while net debt is lower at 28 percent of GDP (Table 3 and Figure 3). At the subnational level, the financial positions of several administrations that rely heavily on hydrocarbons-related revenues have significantly worsened.

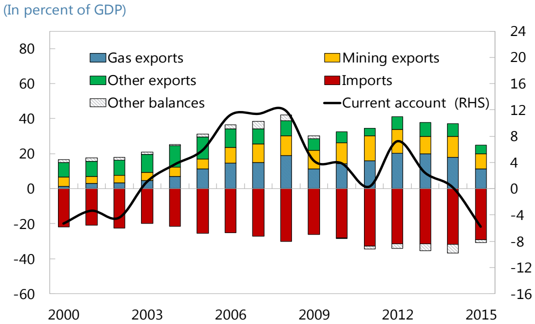
Fiscal Balances
(In percent of GDP)



Sources: Authorities' data and staff calculations.

- *Reserves remain substantial, but the current account deficit has widened.* After being in surplus for over a decade (2003–14), the current account registered large deficits of 5.8 percent of GDP in 2015 and about 7 percent of GDP in 2016Q1.[1] This reflects a marked drop in export prices (and some weakness in hydrocarbon export volumes), which

Current Account
(In percent of GDP)



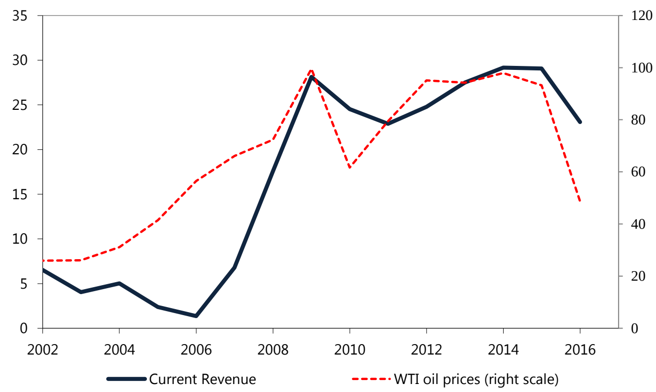
Source: Central Bank of Bolivia.

[1] Balance of Payments data in this report are compiled according to the fifth edition of the *Balance of Payments Manual* (BPM). The authorities are transitioning to the sixth edition of the BPM. In the first half of 2016, the current account balance compiled under the updated methodology was -6.5 percent of GDP.

have been only partly offset by import compression. Given the widening current account deficit, reserves have dropped sharply, by US$2.1 billion in 2015 (about 6 percent of GDP) and an additional US$2.3 billion through mid-October 2016 (Table 4 and Figure 4). Nevertheless, at 32 percent of GDP, reserves remain more than adequate by any metric.

- **The fall in hydrocarbon prices is putting pressure on the financial health of public enterprises.** Over the past several years, public enterprises have been ramping up their spending, particularly investments. This had been sustained by vigorous revenues, supported by relatively high global hydrocarbon prices (chart). However, the increase in spending, combined with the sharp fall in hydrocarbon prices has tipped their financial balance into negative territory over the past couple of years, which has largely been financed by the central bank.

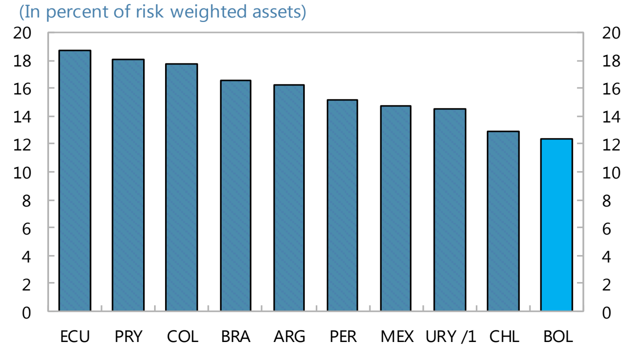
Public Enterprises Consolidated Revenues and Oil Prices
(Percent of GDP (left scale); US$ per barrel (right scale))



Source: Thomson Reuters Datastream; Bolivian authorities; and IMF staff calculations.
Note: excludes subsidiaries of SOEs.

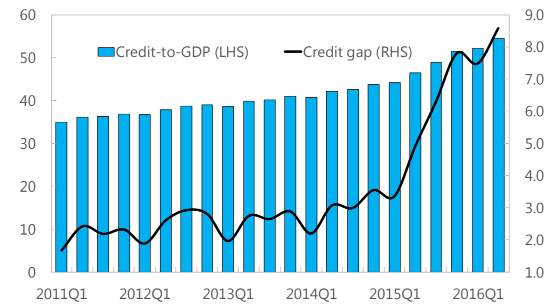
4. **Financial indicators are relatively solid, but vulnerabilities are growing as credit growth remains high.** While low by regional standards (chart), banks' overall capital adequacy ratio stood at 12 percent in mid-2016, with all banks above the regulatory minimum of 10 percent. The return on bank equity is at relatively high levels (12 percent in June 2016), but profitability continues to decline given a higher tax burden and reduced interest margins. Private sector credit increased by about 8 percentage points of GDP in 2015—well above its trend, suggesting the possibility of growing systemic risks (chart). To finance the rapid credit growth while maintaining reasonable capital ratios, banks have increased issuance of subordinated debt. Nevertheless, taking into account the large real appreciation of the currency (see paragraph 15), financial conditions have tightened for exporters and import substituting sectors (chart). At the same time, dollarization of deposits has fallen significantly and stabilized at around 17 percent as of mid-October 2016, while credit dollarization is around 3 percent of total loans (Annex I and Figure 5).

Capital Ratio, 2016Q2
(In percent of risk weighted assets)



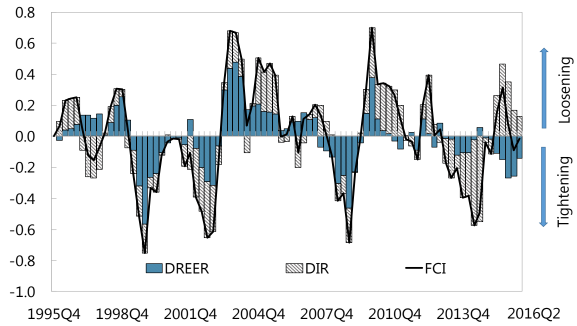
Source: IMF FSI and ASFI.
/1 Data are for December 2015.

Credit Gap Estimations



Sources: Authorities' data and IMF staff calculations.
Note: Estimations use one-sided HP filter. Credit gap analyses assume that large deviations from trend growth will lead to higher probability of a correction ("bust phase") in the future.

Contribution to the Financial Conditions Index



Sources: Bolivian Authorities; and IMF staff estimates.

5. **Implementation of previous Fund advice has been mixed.** The authorities have taken some measures towards adopting a medium-term fiscal framework, including creating a Macro-Fiscal Unit at the Ministry of Finance to produce fiscal projections and requiring subnational governments and public enterprises to prepare multi-year budgets. However, recommendations to improve the non-hydrocarbon fiscal balance, discontinue central bank lending to enterprises, and gradually allow greater exchange rate flexibility have gained limited traction (Table 5).

OUTLOOK AND RISKS

6. **Near-term growth should remain relatively high by regional standards as external and fiscal deficits widen.** With continued supportive fiscal policy (including higher investment spending by subsidiaries of national hydrocarbons and electricity companies, YPFB and ENDE, respectively), strong credit growth, resilient private consumption, and a carryover from 2015 of over 2 percent, growth is expected to reach 3.7 percent in 2016 and 3.9 percent in 2017 despite the negative supply shocks. Notwithstanding some government measures to mitigate the impact of the drought (e.g. a new loan facility from the Bank of Productive Development), agricultural output is expected to decline by about 4 percent in 2016. Gas production is expected to marginally decline despite a recovery in 2016H2 with the entry into production of a new field. The slight growth rebound in 2017 reflects an expected recovery in agriculture. The fiscal and current account deficits are projected to widen in 2016 to 8.1 percent and 7.6 percent of GDP, respectively, given the full impact of low commodity prices on export receipts and tax revenues as well as high levels of public spending. This will involve significant recourse to public sector deposits and central bank credit. Regarding inflation, the drought might lead to some uptick in food prices in the coming months, but pressures are expected to moderate thereafter.

7. **Over the medium term, growth is expected to converge to its potential of 3.5 percent, while buffers will continue to be eroded.** Staff's potential growth forecast is based on estimates of a dynamic general equilibrium model for Bolivia (and supported by the findings of the October 2015 WEO) which show that the commodity bust will lead to lower income and spending, generating a marked reduction in potential growth (Box 2). In the absence of corrective measures, fiscal and external current account deficits are expected to persist over the medium term, further

eroding policy buffers (international reserves are forecast to further decline to close to 7½ percent of GDP or 4 months of imports by 2021).[2]

8. **Risks to this outlook are tilted to the downside.** On the domestic side, growth could be adversely affected by: (i) a slower rebound in agricultural production in 2017; (ii) a faster decline in gas production (impacting negotiations over the Brazil supply contract, Annex II); and (iii) excessive credit growth volatility linked to the lending quotas, interest rate caps, and increased taxation in the financial sector.[3] External downside risks arise from the possibility of: (i) further U.S. dollar strength; (ii) even lower commodity prices; and (iii) additional weakness in key emerging markets (including Brazil and China). Absent policy adjustment, a combination of these risks could rapidly deplete buffers and lead to severe macroeconomic stresses (Table 6).

9. **Nevertheless, there continue to be several upside risks.** In particular, growth could be higher because of: (i) better-than-expected quality of infrastructure spending;[4] (ii) greater success in discovering and exploiting new gas reserves, and/or in bringing downstream industrialization and electricity generation projects on stream; and (iii) a stronger recovery in oil prices. Bolivia also has some of the largest lithium deposits in the world, which would provide a major windfall if lithium battery production can be made commercially viable over the medium term.

[2] Reserves could be up to 3 percent of GDP higher if the US$1 billion of sovereign bond issuance in international capital markets goes ahead.

[3] Previous staff VAR analysis suggests that a 1 p.p. decrease in real credit growth lowers GDP growth by 0.2 p.p. the following year.

[4] Bolivia ranks 138 out of 160 countries in the World Bank's 2016 *Logistics Performance Index*.

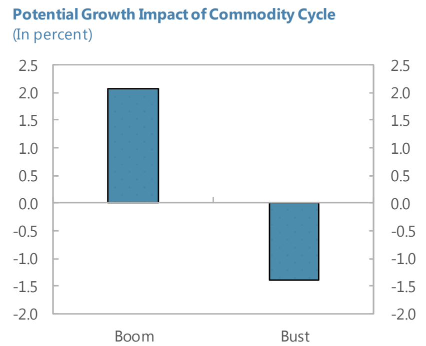
Box 2. The Impact of the Commodity Boom/Bust: A DSGE Model for Bolivia

Dynamic Stochastic General Equilibrium Model

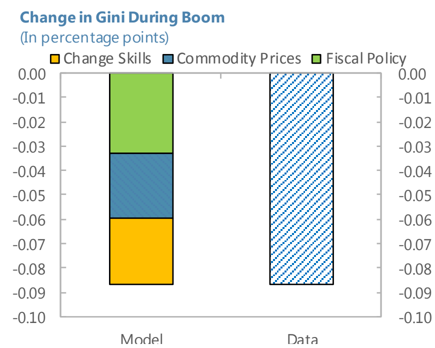
The model has a continuum of heterogeneous households, including: farmers; informal, private and public sector workers; and entrepreneurs. Three distinct periods of time are defined: pre-commodity boom (2000–05), boom (2006–14), and bust (2015–21). The model is calibrated to the pre-boom period using Bolivia's macroeconomic and household survey data, and then the price shocks, structural changes (migration and skill changes) and policy changes are fed into the model to test its predictions for the boom period and forecast the impact of the commodity bust.

Commodity Boom

The 2 percent increase in potential growth observed during the period 2006–14 (chart) is explained mostly by the commodity price boom increasing profitability in the energy and agricultural sectors, and government revenues. This allowed for more infrastructure investment, improving private sector productivity. The increase in the urban labor supply due to rural to urban migration and the substantial increase in the fraction of skilled individuals in this urban labor force helped the industrial sector to expand and take advantage of the increased private sector productivity.

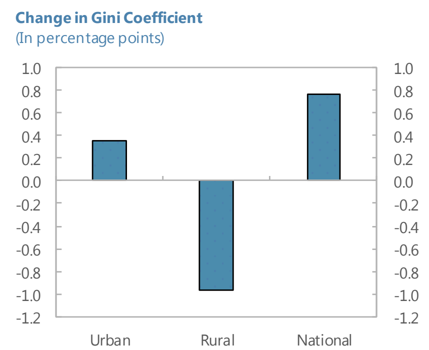


In terms of distributional implications, the increase in the urban labor supply and its average skill level led to higher incomes in urban areas. These factors also reduced the skills premium, accounting for about ⅓ of the observed decline in inequality (chart). In addition, higher agricultural demand and a larger increase in productivity in agriculture (the sector with lower initial average productivity) reduces inter-sectoral inequality with the urban sector. This accounts for another ⅓ of the observed decrease in inequality. Higher government revenues allowed for a substantial expansion in social programs, which account for the remainder of the observed decline in inequality.



Commodity Bust

Model simulations suggest that the bust could reduce medium-term potential growth by about 1½ percentage points. The forces at play are somewhat symmetric to the boom. First, the direct impact of lower commodity prices accounts for slightly more than half of the expected decline, with the rest explained by a combination of general equilibrium effects. Policies that increase fiscal space to support infrastructure investment and enhance the efficiency of such investment can halve the impact of the bust on growth.



Source: National authorities and IMF staff calculations.

Regarding the distributional implications, lower agricultural export prices affect large farmers more than smaller ones, and hence reduces the rural Gini. The urban Gini increases as private sector wages decline more than public sector ones, and civil servants are relatively well paid. The national Gini also rises given the increase in inter-sectoral inequality (chart). The economic slowdown triggered by the bust in energy and commodity prices also lowers incomes across the board. This reduces the pace of poverty reduction. Better targeting cash-transfers can go a long way to mitigate inequality this impact.

POLICY DISCUSSIONS

In the context of low commodity prices, the overarching priority is to adapt policies to anchor strong, balanced and durable growth; continued progress in poverty reduction; and guard against downside risks. Given still large buffers, the authorities can take a measured approach to adjustment and sequencing reforms with the following priorities: (i) steadily reducing the non-hydrocarbons primary deficit and ensuring the financial health of SOEs; (ii) allowing greater exchange rate flexibility; (iii) improving incentives for hydrocarbons exploration; and (iv) bringing wage growth in line with changes in productivity.

A. Preserving Buffers and Strengthening the Fiscal Framework

10. **While committed to continuing large public investment projects, the authorities are prepared to be flexible and pragmatic regarding implementing the PDES.** This is important because the projected levels of public investment envisaged in the original 5-year plan could widen the overall deficit to 15–20 percent of GDP, and increase public debt to about 100 percent of GDP by 2021. This is markedly above the threshold marking high risk of debt distress for emerging markets.

Bolivia: Fiscal Balances and Public Debt

(In percent of GDP)

	Actual	Projections					
	2015	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
				Baseline scenario			
Overall balance	-6.9	-8.1	-6.7	-6.2	-5.4	-5.3	-5.0
Non-hydrocarbon primary balance	-13.1	-11.2	-10.3	-9.1	-8.5	-7.6	-7.1
Public debt	40.6	46.7	47.6	48.8	49.4	51.2	52.0
				Active scenario			
Overall balance	-6.9	-8.1	-6.0	-5.3	-3.9	-3.2	-2.4
Non-hydrocarbon primary balance	-13.1	-11.2	-9.6	-8.2	-7.1	-5.7	-4.7
Public debt	40.6	46.7	46.8	47.2	46.4	46.3	45.0

Sources: Bolivian authorities; and IMF staff estimates.

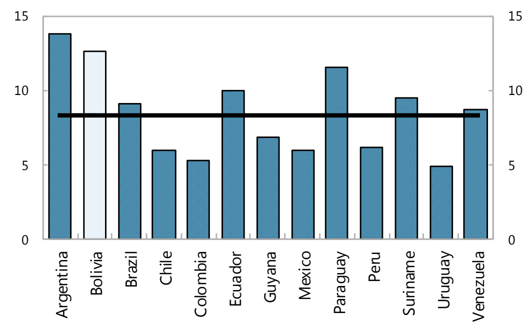
11. **Staff's baseline scenario is consistent with a flexible approach to implementing the PDES.** In particular, the baseline has a lower spending level than in the PDES, consistent with the historical execution rate for investment projects and external financing constraints. Accordingly, the non-hydrocarbons primary deficit declines gradually from around 13 percent of GDP in 2015 to 7 percent of GDP in 2021. The ratio of gross public debt to GDP is projected to increase from 41 percent of GDP in 2015 to about 52 percent of GDP by 2021. In the absence of further fiscal adjustment, the ratio would continue to increase and surpass high risk thresholds (Annex III).

12. **To maintain buffers, staff recommends a more ambitious consolidation than in the baseline scenario, but that is steady and safeguards development spending.** The exhaustibility of natural resources makes it imperative to reduce the non-hydrocarbon primary budget deficit toward a sustainable level (i.e., which stabilizes the debt-to-GDP ratio at around current levels). Given moderate levels of net public debt, and the need to improve infrastructure and support social policies to reduce poverty, staff recommends measures that allow a reduction in the non-

hydrocarbons primary deficit by about 1.3 percent per year on average over the next 5 years (active scenario). The consolidation could be achieved mainly through streamlining expenditures. Such an adjustment would help reduce vulnerabilities with limited impact on growth:

- ***Spending.*** Key measures are to gradually reduce the wage-to-GDP ratio by moderating future wage adjustments, bringing the ratio closer to the regional average (chart); rationalize public investment and strengthen its management; gradually reduce energy subsidies while strengthening social safety nets (potentially yielding up to 1 percent of GDP); and increase the efficiency of social spending. For the latter, staff recommends: (i) higher but progressive fees for users of social services; (ii) greater competition in the provision of social services; (iii) better targeting of social benefits; and (iv) reform of finance mechanisms for health spending (away from the capacity-based remuneration towards a system that rewards performance) to increase incentives for cutting costs (Box 3).

Government Wage Bill in LAC, 2015
(In percent of GDP)



Source: IMF Government Compensation and Employment Dataset.

- ***Revenues.*** The introduction of a progressive income tax or reforming the complementary VAT regime (RC-IVA) would be desirable. While difficult to implement, this reform could bring in additional revenue of around 1 percent of GDP. Staff also recommends simplifying the tax regime for small companies, and reforming the tax system for the hydrocarbon and mineral extraction sectors (see paragraph 23 below). While it may have an adverse impact in the short term, a transparent and incentive-compatible tax system for extractive sectors would help discover new reserves/deposits, and thus generate new revenues in the longer term.

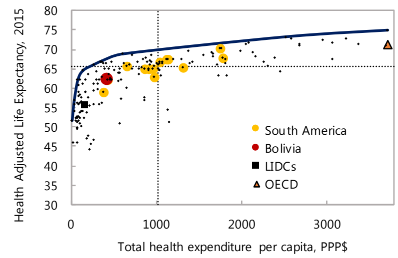
13. **Additional policies to reduce local governments' reliance on gas revenues and increase their revenues are needed, notwithstanding some recent measures.** Staff welcomes subnational government efforts to streamline spending, but cautions against across-the-board cuts.[5] The introduction of the "*Ley del Sistema de Planificación Integral del Estado*" in January 2016 will also help improve coordination between various levels of government, and the central government's ability to monitor subnational fiscal developments. Over the near term, staff recommends strengthening own-source revenues of subnational governments. Possible measures are higher property taxes on real estate and vehicles. Over the medium term, transfers to subnational governments should rely more on criteria such as population size, development needs, and means-testing, rather than primarily on hydrocarbons revenues.

[5] Under current regulations, subnational governments have to almost automatically match their expenditures with revenues and past savings, with limited borrowing possibilities. Municipalities have been affected less than prefectures since the former have more own-source revenues through tax sharing with the central government.

Box 3. Efficiency of Social Spending in Bolivia

Comparisons with other countries suggest inefficiencies in health spending. These inefficiencies occur largely in the process of transforming intermediate resources (e.g. number of physicians, nurses, midwives, and hospital beds) into health outcomes. This outcome is partly related to weaknesses in the payment system for general practitioners, who are paid fixed salaries independent of results they produce, and hospitals that are largely financed based on capacity considerations. The latter reduces hospitals' incentives to cut costs. Also, there are no co-payments made by recipients of health services, which may lead to excessive demand for these services.

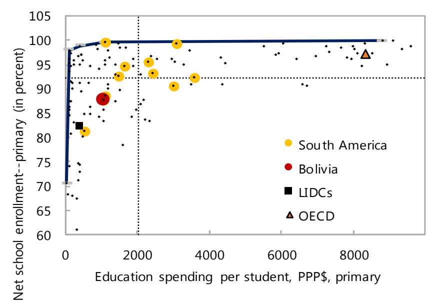
Health Efficiency Frontier, Latest Value Available



Source: IMF Expenditure Assessment Tool (EAT).

Bolivia's spending on education as a share of GDP is well above the levels in its peer countries, but results are relatively poor. At more than 8 percent of GDP, Bolivia's spending on education largely exceeds the average of 5 percent for LAC. While there is no standardized data available in terms of education outcomes such as PISA scores, Bolivia lags most LA countries in terms of teacher-student ratios and enrollment rates. Staff analysis suggests that there are inefficiencies in producing education outputs: Bolivia's net enrollment rates are low for the given level of education spending in purchasing power terms. Bolivia also lags other LAC countries in terms of final outcomes for education, as indicated by the number of the medals and awards in the International Mathematical Olympiads compared with the education spending on secondary education per student. Furthermore, Bolivia ranks low in terms of the number of patents per capita granted by the U.S. Patents and Trademarks Office despite the fact that Bolivia's research and development expenditure (about 0.2 percent of GDP) is close to the average for LAC.

Education Spending and Outcome, Primary, Latest Value Available



Source: IMF Expenditure Assessment Tool (EAT).

The following factors may have contributed to inefficiencies in education spending. First, the shares of wages and investment in total primary education spending are large, leaving a smaller share for spending on non-wage recurrent expenditures such as books for libraries and laboratory equipment. Second, coordination issues in decision making may be contributing to excess spending since decisions about establishing schools are made by local governments while teachers are financed by the central government. Third, public spending on education mostly benefits households with higher income as children from these families are more likely to continue their education.

Spending on subsidies and social protection is high by regional standards, but only a small share reach the poor. The government spends 1–2 percent of GDP on fuel subsidies, which mainly benefit producers and the rich (World Bank, 2015). It spends 2–3 percent of GDP on social programs, but only a small share of this spending reach the poor since no or limited means' testing is used to identify beneficiaries for most social programs (Lustig and others, 2013, Arauco and others, 2013, and World Bank, 2015).

14. **Structural fiscal reforms in medium-term budgeting and SOE oversight are essential to containing risks going forward:**

- *Building on previous steps taken, develop and communicate effectively a medium-term framework to anchor the consolidation described above.* Further efforts should include a faster transition to multi-year budgeting and introducing a fiscal target for the non-hydrocarbons primary balance. This target should be designed so as to assure debt sustainability while also accounting for the state of the business cycle and building cushions to absorb volatility in hydrocarbon prices. Equally important would be to clearly communicate the authorities' policy intentions to the population to avoid surprises and unexpected reactions.

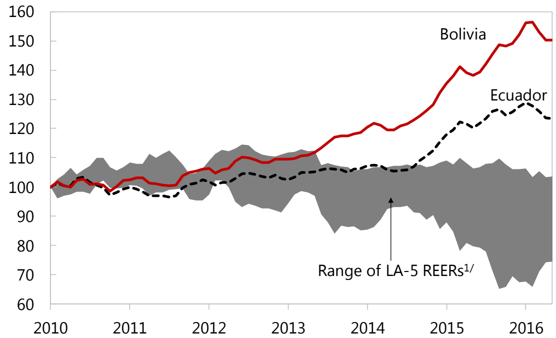
- *Exercise greater oversight of SOEs' activities and strengthen the evaluation and transparency of their investments*. Investments by YPFB and ENDE are increasing considerably under the PDES, and a large share of this is carried out by subsidiaries that are currently classified outside the non-financial public sector (NFPS). Indeed, in 2016, about half of YPFB's investments are to be executed by subsidiaries, while the number is close to 80 percent for ENDE. To manage associated risks, staff recommends monitoring and publishing SOEs' financial operations and balance sheets as a first step to including all of them in the fiscal accounts of the NFPS. Staff also suggests that the efficiency of SOEs and their new investments be assessed on nonsubsidized gas and electricity input prices (Annex II).

B. Allowing Greater Exchange Rate Flexibility and Improving the Monetary Policy Framework

15. **The boliviano is assessed to be overvalued and diversification remains modest.** Despite a moderate depreciation in recent months, the boliviano—de-facto stabilized against the U.S. dollar—has appreciated by 49 percent in real effective terms since January 2010 (chart), while exports are highly concentrated in commodities whose prices remain low (chart). Significant mandatory minimum and average wage increases—that have largely exceeded productivity growth—have also eroded competitiveness. This is reflected in Bolivia slipping in international rankings of competitiveness.[6] Against this backdrop, the two EBA-lite approaches (the current account and real effective exchange rate models) and the external sustainability assessment suggest a significant overvaluation of the boliviano (Annex IV).

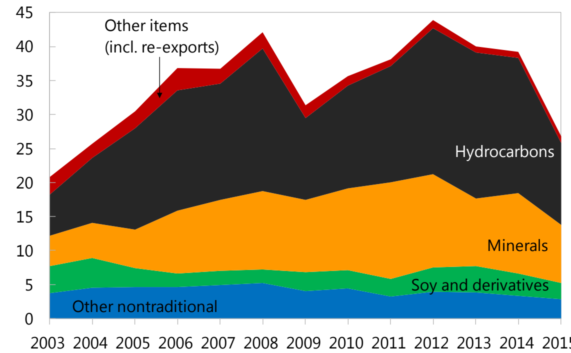
[6] In the 2015–16 Global Competitiveness Index, Bolivia slipped to 117th place from 105th place in 2014–15.

Real Effective Exchange Rates
(Indexes, January 2010=100)



Sources: Information Notice System and Fund staff calculations.
1/ The LA-5 countries include Brazil, Chile, Colombia, Mexico, and Peru.

Exports, by Type of Product
(In percent of GDP)



Sources: Banco Central de Bolivia.

16. **Staff sees merit in gradually permitting greater exchange rate flexibility.** Such a transition would help address longstanding competitiveness and diversification challenges, facilitate the adjustment to lower commodity price prices, and limit the potential impact of future shocks. It would also help cement the tremendous progress on de-dollarization and build capacity to manage exchange rate risks by requiring agents to internalize the effects of two-way flexibility. Importantly, with buffers still ample, the financial sector stable, and macroeconomic performance solid, preparations for greater flexibility could take place in fairly tranquil conditions—a key factor behind smooth transitions to greater flexibility in other countries. Policies to implement the transition will need to be carefully crafted and clearly communicated, with a view towards keeping inflation expectations anchored, building market infrastructure, and strengthening policy and analytical capacity as needed.

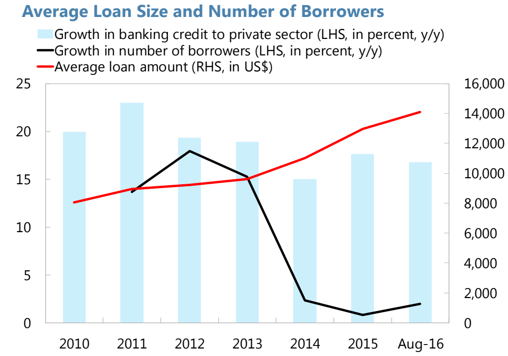
17. **Central bank independence and a strong BCB balance sheet are critical elements of the reform process.** The BCB's exposures to the SOEs—especially the state owned natural gas and electricity companies—have grown substantially in recent years (Annex II). To avoid potential conflicts with the BCB's commitment to price stability, the BCB's exposures to the SOEs should be phased out. Instead, the developmental spending currently financed by BCB credit should be transferred to a separate agency, funded by other means, and guided by transparent investment rules, strong governance, and a clearly-stated development mandate.[7]

[7] Enacting a new central bank law has been delayed, and a first draft is now expected in 2017 H1.

C. Cementing Financial Sector Stability and Promoting Financial Inclusion

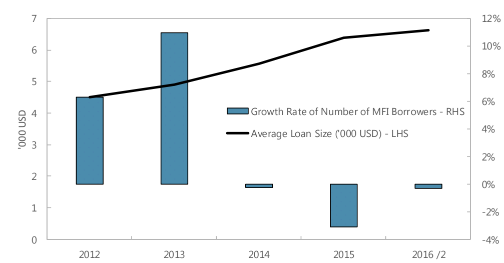
18. **While containing several important reforms, the Financial Services Law continues to lead to high credit growth and appears to skew lending away from small borrowers.** The implementation of some Basel II–III principles, setting up of a deposit insurance scheme and credit registry, and creation of a Financial Stability Council—which meets every quarter—were welcome steps. The quotas and interest caps on the so called "productive sectors" and social housing, however, are inducing banks to expand credit rapidly, potentially lowering credit quality.[8] With the July 2015 decree broadening the definition of these sectors, large institutions appear set to meet the credit targets for 2016, but some small institutions are experiencing difficulties in meeting the targets. Additionally, there are risks that the law is producing negative effects on financial inclusion. In particular, all segments of the financial sector are increasing the average size of loans, while the growth in the number of borrowers has declined substantially (chart). In the microcredit sector there are signs of disintermediation and a shift of activity towards unregulated lenders (chart).

Average Loan Size and Number of Borrowers



Sources: ASFI and IMF International Financial Statistics (IFS).

Number of Borrowers - Microfinance Institutions (MFI) 1/



Sources: ASOFIN, and IMF Staff Calculations
1/ Includes all ASOFIN members.
2/ Through May-2016

19. **Key provisions of the Financial Services Law should be modified to reduce distortions and avoid an unnecessary buildup of risk.** Heightened risks owing to rapid credit growth warrant close monitoring, and the credit quotas should be relaxed to avoid excessive and potentially poor-quality credit growth. The interest rate caps, which are set by decree, should be phased out to better reflect the costs of doing business and inherent risks. More market-oriented mechanisms to improve financial access should be considered (e.g., partial credit guarantees). Finalizing and publishing a housing price index will also help inform the analysis of credit risk.

20. **Stress tests suggest that while the system as a whole remains stable, there are risks related to credit growth, funding and credit concentration, and liquidity needs that mainly affect smaller banks.**[9] Staff considered several scenarios of possible stress to the system that highlight latent risks, the most relevant being higher nonperforming loans (NPLs) and liquidity shortages (Annex V):

- ***Credit risk*:** An adverse economic climate along with rapid credit expansion could result in a sharp increase in NPLs in the medium term. Moreover, lower profitability in such an environment

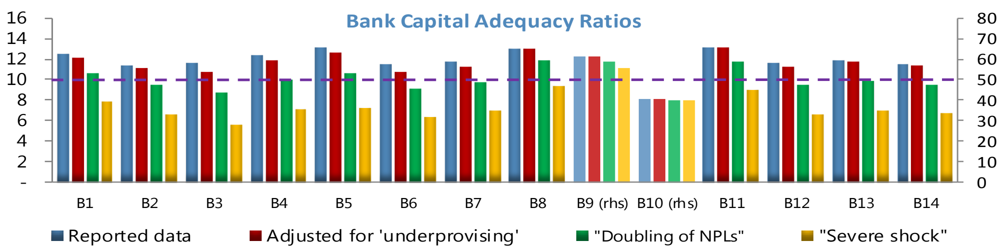
[8] The quotas are set at 60 percent for general license banks and 50 percent for SME banks.

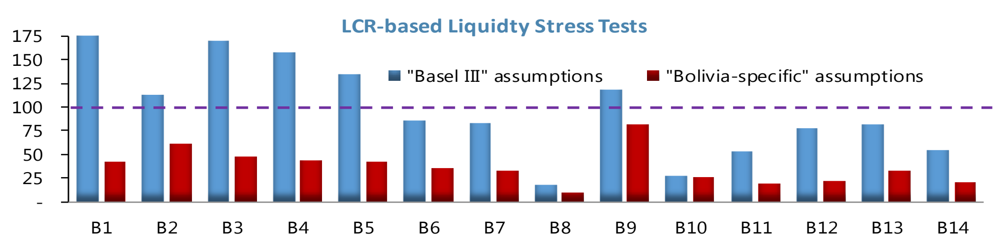
[9] The exercise includes 13 general license banks and the relatively large state-owned bank (Banco Unión).

would reduce the scope for building capital through retained earnings.[10] In the event the NPL ratio doubles, capital would need to be raised to meet regulatory requirements in just over half of banks (chart). An even more adverse scenario, which involves a quadrupling in NPLs (a "one-in-twenty year" shock, calibrated using historical patterns; a level that is still well below the peak observed in 2002) would leave nearly all banks with some capital shortfall. Although nontrivial, these losses remain broadly manageable (0.2 and 1.2 percent of GDP, respectively).

- ***Concentration risk:*** The single largest credit exposure exceeds 10 percent of regulatory capital in 10 banks in the system, and the five largest exposures together exceed half of the regulatory capital in 8 banks in the system. This represents an important potential risk stemming from the default of a small number of borrowers, especially for a few small banks.

- ***Liquidity risk*:** There is currently sufficient liquidity at the system level, with an aggregate liquidity coverage ratio of around 110 percent (chart).[11] However, a stress scenario corresponding to the largest deposit withdrawal rates observed in recent years suggests that several small banks would struggle to cover required liquidity needs, but with no systemic implications.





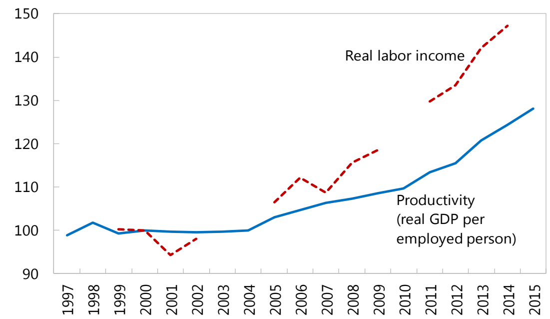
[10] The Financial Services Law requires banks to retain 50 percent of their annual net profits to increase their capital base.

[11] Although Bolivia has not adopted the Basel III regulation (including LCR), liquidity stress tests were based on the computation of LCR proxies in the spirit of Basel III requirements and assumptions, using data for end-June 2016. The "Bolivia specific assumptions" allow for the largest deposit withdrawal rates observed in recent years in Bolivia to materialize throughout the banking system (an extreme assumption).

D. Enhancing Potential Growth and Inclusiveness

21. **Accelerating structural reforms will boost potential growth.** Notwithstanding Bolivian real wages being among the lowest in the region, wage policies should aim to ensure that labor costs are in line with productivity given that the growing wedge is becoming a major constraint to the private sector (chart). In this regard, the government's decision not to pay the second Christmas bonus in 2016 should help competitiveness. Other measures include improving the business climate more generally—helping realize important complementarities between the private and public sector—and reducing export and domestic price restrictions.

Labor Productivity and Real Labor Income
(Indexes, 2000=100)

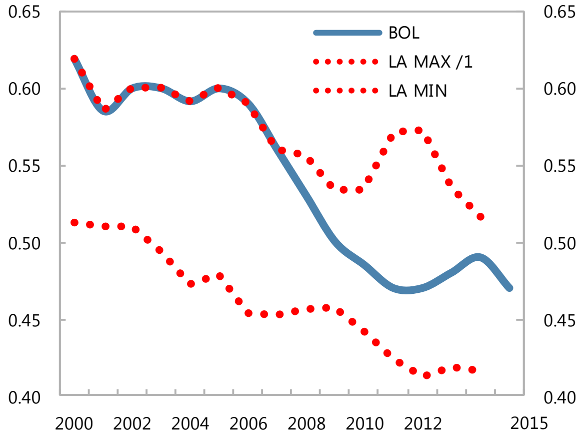


Sources: SEDLAC; ILO; and Fund staff calculations.

22. **Improving exploration incentives in the hydrocarbons sector is another key priority.** The new hydrocarbon incentives law (December 2015) provides incentives for crude oil and condensates production, and is likely to stimulate more production from existing fields. However, the law could have incentivized exploration investment more, as the effective tax burden remains high. Hence boosting production sufficiently to meet growing internal and external demand will likely be challenging. To attract further foreign direct investment into exploration, the government could allow expensing investments in exploration for hydrocarbon tax purposes and introduce an accelerated depreciation scheme for development expenditures.

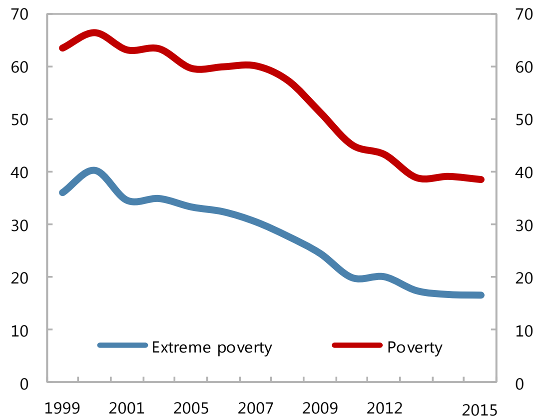
23. **Strengthening the design of social programs can help preserve the significant poverty and inequality reduction (charts) in face of the commodity bust.** The commodity boom helped reduce inequality by increasing agricultural incomes and causing a decline in rural-urban inequality. Government policies and increased hydrocarbons revenues also facilitated more infrastructure spending and expanded social programs. Looking ahead, lower growth will likely reduce the pace of poverty reduction. The Gini coefficient could also start to rise as rural-urban inequalities increase with stresses in the agricultural sector and development spending facing constraints. Better targeting and improved efficiency of social spending could help given a tighter revenue envelope, but will require building capacity to means test benefits, introducing more competition in the provision of social services, and more focus on performance.

Gini Inequality Index



Source: INE SEDLAC (CEDLAS and The World Bank)
/1 Includes ARG, BRA, ECU, SLV, HON, MEX, PRY, PER and URY.

Population Under Poverty and Extreme Poverty
(In percent)



Source: National Statistics Institute (INE).

E. Authorities' Views

24. **The authorities do not share staff's views on short and medium term growth prospects for Bolivia.** The authorities expect to reap greater benefits from their current and previous 5-year development plans and viewed staff's projections as overly pessimistic. They pointed to IMF forecasts which had underestimated growth during the past decade. The authorities stressed that strong public investment, one of the main engines of internal demand growth, and higher execution rates, will boost growth both in the near and long term. Moreover, the authorities argued that these measures will generate new income streams, and current twin deficits – which largely reflect high public investment levels – are thus both expected and transitory in nature.

25. **The authorities did not favor staff's key policy recommendations.** More generally, they questioned if the IMF should make policy recommendations for Bolivia. The authorities' 2017 budget is being planned on the basis of relatively low oil prices ($45 per barrel as in the 2016 budget), taking into account the less favorable external environment. They nevertheless expect output growth of around 4.8 percent. The authorities argued that significant public spending plans in the 2017 budget and beyond, notwithstanding their impact on large fiscal deficits, are oriented towards economic diversification and finding new sources of revenue. At the same time, authorities stressed that current spending levels remained well controlled. They did not concur with staff's recommendation to gradually reduce the non-hydrocarbon deficit over the medium term (a concept they do not like because it is difficult to explain to the public).

26. **The authorities pointed to the existing mechanisms of subnational fiscal adjustments, which automatically limit persistent fiscal deficits over the medium term.** Although departmental governments are highly dependent on mining and hydrocarbon revenues, they are required by the existing legal framework (*Ley de Autonomías*) to finance their operations through their own resources and savings from previous years, which induces an automatic fiscal adjustment towards a balanced budget. Under the law, the central government is under no obligation to

transfer additional resources to departmental governments. Moreover, the authorities said that the fiscal position of local governments (municipalities) had not weakened. They argued that the loss in revenue of local governments from lower hydrocarbon revenues was counterbalanced through tax sharing and existing transfer mechanisms, which have benefitted from a set of tax and customs administration measures executed by the central government.

27. **The authorities view the coordination of policies between the Ministry of Finance and the BCB as a key tool to promote economic growth and stability.** They see the coordination between these entities as adequate, and do not see the need to phase out the BCB's economic development role. The authorities view the BCB loans to SOEs as a key source of financial resources directed towards strategic investment projects that are part of their industrialization plans. In addition, the authorities argued that the returns obtained by the BCB on these operations are higher than those derived from alternative financial investments.

28. **Notwithstanding the depreciation of neighboring currencies, the authorities do not see an exchange rate misalignment.** The authorities argued that exchange rate stability shielded the domestic economy from inflationary pressures and other adverse effects of exchange rate volatility observed in other countries in the region. Moreover, pointing to the experience of neighboring countries, the authorities do not believe that more exchange rate flexibility would lead to higher economic diversification, and would only have a limited impact in addressing external imbalances.

29. **The authorities disagreed with staff's analysis suggesting the financial sector law may have led to increased credit and other risks.** They argued that credit growth was not excessive given that credit was flowing to productive sectors and NPLs were the lowest in the region. The authorities emphasized that banks remained profitable, and maintained that decreasing numbers of borrowers and rising loans sizes were a result of reclassification and did not indicate a reversal of gains in financial access. They explained that a housing price index was built, but more time would be needed before it could be published.

30. **The authorities highlighted their efforts to reduce poverty and inequality.** They argued that their social policies have played a fundamental role in reducing poverty and inequality. They are also implementing and designing a number of projects to support the agriculture sector and rural areas, some involving financial support from IFIs. They explained that their efforts to improve irrigation and support farmers as well as building roads would help boost rural incomes and thus reduce inequality even further.

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31. **After a decade of substantial economic and social progress, underpinned by sound macroeconomic management, Bolivia is being challenged by low commodity prices.** Bolivia recorded strong growth accompanied by a substantial buildup of fiscal and external buffers, and achieved significant reductions in poverty and inequality. However, Bolivia now faces the challenge of adjusting to the new low commodity price normal while preserving and building on the economic

and social gains achieved in the past. Given still sizable policy buffers and developmental needs, the authorities can take a measured approach to this adjustment, but it needs to start soon.

32. **Growth will remain robust, but imbalances are growing.** Growth is projected at 3.7 percent in 2016, despite temporary supply shocks given support from a sizeable public investment plan and rapid credit growth. But given lower commodity prices, potential growth is estimated at 3.5 percent, which is significantly lower than in the boom years. And relatively low hydrocarbon prices combined with robust public spending levels is leading to sustained large fiscal and external deficits, absent any significant adjustment. Rapid wage growth and sizeable exchange rate appreciation in real effective terms have eroded Bolivia's competitiveness.

33. **Key policy priorities are the consolidation of the non-hydrocarbon primary balance and allowing for greater exchange rate flexibility.** Existing external sector pressures render policy adjustment indispensable. The gradual consolidation of the non-hydrocarbon primary deficit, especially through streamlining spending, would help ensure longer term fiscal sustainability. It will also be important to adopt a credible medium-term fiscal framework which includes activities of SOEs more systematically. Likewise, gradually transitioning towards a more flexible exchange rate regime would help facilitate the adjustment to lower commodity prices and provide an important line of defense against future external shocks.

34. **Increasing private investment is key to medium-term prospects, while improving the efficiency of social spending can help preserve the inequality and poverty reduction.** The existing hydrocarbon sector framework should be strengthened to increase the incentives for much needed exploration activities. Reigning in wage growth, to prevent increases in labor costs not aligned with productivity growth, and eliminating distortionary policies in product markets would improve private sector participation and efficiency. Importantly, the short horizon of current proven reserves of natural gas adds to the urgency to improve the business climate and governance, helping promote the development of non-commodity sectors. Better targeting and improved efficiency of social spending could help mitigate the negative impact of lower commodity prices on inequality and poverty given a tighter revenue envelope. This will require building capacity to means test benefits, introducing more competition in the provision of social services, and more focus on performance.

35. **Data provision is broadly adequate for surveillance, although some shortcomings are present.** Progress has been made to strengthen the quality of statistics, including working towards full subscription of the Special Data Dissemination Standard (SDDS). Timely publication of macroeconomic data according to a pre-announced schedule, improving data on quasi-fiscal activities of subsidiaries of SOEs outside of the fiscal accounts, and publishing a real estate price index would be further important steps to improve transparency.

36. **Staff proposes holding the next Article IV Consultation with Bolivia on the standard 12-month cycle.**

Table 1. Bolivia: Selected Economic and Social Indicators

I. Social and Demographic Indicators

GDP per capita (U.S. dollars, 2015)	2,900	Poverty headcount ratio (percent of population, 2015)	38.6
Population (millions, 2015)	11.5	Gini index (2015)	47.0
Life expectancy at birth (years, 2014)	68	Adult literacy rate (percent, 2015)	95.1
Infant mortality rate (per thousand, 2015)	30.6	Net primary education enrollment rate (2011)	82.2

II. Economic Indicators

							Baseline projections					
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Income and prices					(Annual percentage changes)							
Real GDP	4.1	5.2	5.1	6.8	5.5	4.8	3.7	3.9	3.5	3.5	3.5	3.5
Real GDP excluding hydrocarbons	3.5	5.0	4.4	6.2	5.4	5.4	5.2	3.7	3.5	3.4	3.8	3.6
GDP deflator	8.8	14.6	7.1	6.0	2.0	-4.6	-2.0	7.1	5.2	4.8	4.2	4.7
CPI inflation (period average)	2.5	9.9	4.5	5.7	5.8	4.1	3.7	4.8	5.0	5.0	5.0	5.0
CPI inflation (end-of-period)	7.2	6.9	4.5	6.5	5.2	3.0	4.6	5.0	5.0	5.0	5.0	5.0
						(In percent of GDP, unless otherwise indicated)						
Investment and savings												
Total investment	17.0	19.8	17.7	19.0	21.0	19.2	20.9	19.1	18.0	17.3	16.5	15.8
Public sector	9.5	10.5	10.5	11.3	12.4	13.5	13.5	12.2	11.5	11.0	10.3	9.8
Private sector	7.1	8.4	7.8	7.7	8.6	7.8	7.2	6.8	6.5	6.3	6.2	6.0
Stockbuilding	0.4	0.8	-0.7	0.0	0.1	-2.1	0.2	0.0	0.0	0.0	0.0	0.0
Gross domestic savings	23.9	25.5	27.1	26.0	22.4	13.2	11.9	14.0	14.4	14.8	14.4	14.3
Gross national savings	25.0	25.6	25.7	23.9	20.5	13.2	12.8	14.1	14.1	14.4	13.9	13.8
Public sector	11.1	11.4	12.3	12.0	10.1	6.6	5.4	5.5	5.3	5.6	5.0	4.9
Private sector	13.9	14.2	13.4	11.9	10.4	6.6	7.4	8.6	8.8	8.8	8.9	8.9
Saving/investment balances 1/	8.0	5.8	8.1	4.9	-0.6	-6.1	-8.1	-5.0	-4.0	-2.9	-2.6	-2.0
Public sector	1.7	0.8	1.8	0.7	-2.3	-6.9	-8.1	-6.7	-6.2	-5.4	-5.3	-5.0
Private sector	6.7	5.8	5.6	4.2	1.8	-1.3	0.2	1.7	2.3	2.5	2.7	2.9
Combined public sector												
Revenues and grants	33.2	36.2	37.8	39.1	39.9	37.7	35.0	35.2	34.5	34.6	33.9	33.6
Of which: Hydrocarbon related revenue	10.2	11.4	13.0	13.5	12.7	9.1	6.4	6.8	6.0	6.3	5.6	5.5
Expenditure	31.5	35.4	36.0	38.4	43.3	44.6	43.0	41.9	40.7	40.1	39.2	38.6
Current	22.8	24.2	25.1	24.9	28.2	29.1	27.8	27.8	27.5	27.4	27.3	27.3
Capital 2/	8.7	11.2	11.0	13.5	15.0	15.5	15.2	14.1	13.2	12.6	11.9	11.3
Overall balance after nationalization costs	1.7	0.8	1.8	0.7	-3.4	-6.9	-8.1	-6.7	-6.2	-5.4	-5.3	-5.0
Of which:												
Non-hydrocarbon balance, before nationalization costs	-8.1	-9.6	-9.7	-11.1	-13.2	-14.1	-12.2	-11.4	-10.2	-9.7	-9.0	-8.6
Total gross NFPS debt 3/	38.5	35.7	35.7	36.1	37.0	40.6	46.7	47.6	48.8	49.4	51.2	52.0
NFPS deposits	20.8	21.4	24.2	24.0	20.3	16.6	15.1	12.4	10.3	8.5	7.9	7.3
External sector												
Current account 1/	3.9	0.3	7.2	2.4	0.2	-5.8	-7.6	-4.7	-3.8	-2.9	-2.6	-2.3
Merchandise exports	32.4	34.6	41.3	37.9	37.0	25.0	21.0	21.8	20.5	20.3	19.3	18.5
Of which: natural gas	14.1	16.1	20.1	19.8	18.1	11.3	7.0	7.9	7.6	7.7	6.6	6.3
Merchandise imports	28.3	32.8	31.4	31.4	31.6	29.1	27.5	25.4	23.4	22.6	21.1	20.0
Capital and financial account	0.8	8.6	-0.9	1.2	2.7	0.8	-0.4	-0.6	-0.1	0.3	0.2	0.0
Of which: direct investment net	3.4	3.6	3.9	5.7	1.9	4.1	0.5	1.0	1.5	2.0	2.5	3.2
Overall balance of payments	4.7	8.9	6.3	3.6	2.9	-4.9	-8.0	-5.4	-3.8	-2.6	-2.4	-2.3
Terms of trade index (percent change)	-11.1	58.0	7.3	0.0	-2.2	-16.3	-10.1	9.5	1.9	0.9	-1.5	0.5
Net Central Bank foreign reserves 4/ 5/												
In millions of U.S. dollars	9,730	12,019	13,927	14,430	15,123	13,056	10,344	8,330	6,721	5,570	4,442	3,945
In percent of broad money	80.0	83.0	80.0	71.4	64.7	48.1	36.5	26.4	19.5	14.8	10.9	8.8
Exchange rates 6/												
Bolivianos/U.S. dollar (end-of-period)	6.9	6.9	6.9	6.9	6.9	6.9	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
REER, period average (percent change)	-4.9	1.9	5.2	5.6	7.9	0.1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Money and credit					(Annual percentage changes, unless otherwise indicated)							
Credit to the private sector	19.9	23.0	19.4	18.9	15.0	17.6	17.5	15.2	11.0	10.5	9.5	10.0
Credit to the private sector (percent of GDP)	36.0	36.8	39.0	40.9	43.7	51.5	59.5	61.6	62.8	63.9	64.9	65.7
Broad money	12.5	17.7	20.2	16.2	15.6	16.2	4.5	11.1	9.3	9.1	8.6	9.2
Interest rates (percent, end-of-period)												
Deposits (effective rate)	0.9	1.7	1.2	2.7	2.5	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Lending (effective rate)	10.4	10.8	10.6	11.4	8.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
U.S. dollar and dollar-indexed deposits (in percent of total deposits)	43.8	34.5	26.3	21.0	17.6	15.6	15.6	15.6	15.6	15.6	15.6	15.6
U.S. dollar and dollar indexed credit (in percent of total credit)	38.6	30.7	21.3	15.8	10.2	8.0	3.0	3.0	3.0	3.0	3.0	3.0
Memorandum items:												
Nominal GDP (in billions of U.S. dollars)	19.8	24.1	27.3	30.9	33.2	33.2	33.8	37.6	40.9	44.4	47.9	52.0
Oil prices (in U.S. dollars per barrel)	79.0	104.0	105.0	104.1	96.2	50.8	43.0	50.6	53.1	54.4	56.3	58.0

Sources: Ministry of Economy and Public Finances, Central Bank of Bolivia, National Institute of Statistics, UDAPE, and Fund staff calculations.
1/ The discrepancy between the current account and the savings-investment balances reflects methodological differences. For the projection years, the discrepancy is assumed to remain constant in dollar value.
2/ Includes nationalization costs and net lending.
3/ Public debt includes SOE's borrowing from the BCB but not from other domestic institutions.
4/ Excludes reserves from the Latin American Reserve Fund (FLAR) and Offshore Liquidity Requirements (RAL).
5/ All foreign assets valued at market prices.
6/ Official (buy) exchange rate.

Table 2. Bolivia: Financial System Survey 1/

							Baseline projections					
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
(Flows in millions of Bolivianos, unless otherwise indicated)												
Net short-term foreign assets	7,245	12,999	14,563	5,368	8,474	-10,886	-16,854	-10,566	-7,914	-4,582	-4,306	65
(Flows in millions of U.S. dollars)	1,088	2,025	2,123	783	1,235	-1,587	-2,457	-1,540	-1,154	-668	-628	9
Net domestic assets	1,029	1,313	4,339	14,189	13,025	38,756	26,419	33,378	29,288	27,328	27,787	27,023
Net credit to the public sector	-7,487	-5,654	-6,132	-4,028	4,398	13,454	12,372	11,372	11,372	11,372	10,686	10,000
Credit to the private sector	8,258	11,423	11,832	13,784	13,038	17,571	20,586	20,934	17,474	18,432	18,521	21,307
Other items (net)	258	-4,456	-1,362	4,433	-4,411	7,731	-6,539	1,072	442	-2,476	-1,421	-4,284
Net medium and long-term foreign liabilities (increase -)	-1,123	-620	-1,150	263	-118	1,844	1,194	1,194	1,194	1,194	1,194	1,194
Broad money	9,398	14,933	20,052	19,295	21,618	26,026	8,372	21,618	20,179	21,552	22,286	25,895
Liabilities in domestic currency	12,562	16,354	22,036	20,819	22,022	24,586	7,289	18,161	16,910	17,996	18,568	21,431
Foreign currency deposits	-3,164	-1,421	-1,985	-1,525	-404	1,440	1,083	3,456	3,270	3,556	3,719	4,464
(Stocks in millions of Bolivianos, unless otherwise indicated)												
Net short-term foreign assets	77,635	90,634	105,197	110,565	119,040	108,154	91,300	80,734	72,820	68,238	63,931	63,996
(Stocks in millions of U.S. dollars)	11,187	13,212	15,335	16,117	17,353	15,766	13,309	11,769	10,615	9,947	9,319	9,329
Net domestic assets	8,458	9,771	14,110	28,299	41,324	80,080	106,499	139,877	169,165	196,493	224,280	251,303
Net credit to the public sector	-17,492	-23,145	-29,277	-33,305	-28,906	-15,452	-3,080	8,292	19,664	31,036	41,722	51,722
Credit to the private sector	49,668	61,090	72,922	86,706	99,744	117,315	137,901	158,835	176,308	194,740	213,262	234,569
Other items (net)	-23,718	-28,174	-29,536	-25,103	-29,514	-21,783	-28,321	-27,249	-26,807	-29,283	-30,704	-34,988
Net medium and long-term foreign liabilities (increase -)	1,710	1,090	-60	203	85	1,929	3,123	4,317	5,510	6,704	7,898	9,092
Broad money	84,382	99,315	119,367	138,661	160,279	186,305	194,677	216,295	236,474	258,026	280,313	306,207
Liabilities in domestic currency	57,375	73,728	95,765	116,584	138,606	163,192	170,481	188,643	205,552	223,548	242,116	263,547
Foreign currency deposits	27,007	25,587	23,602	22,077	21,673	23,113	24,196	27,652	30,922	34,478	38,197	42,661
(Changes in percent of broad money at the beginning of the period)												
Net short-term foreign assets	9.7	15.4	14.7	4.5	6.1	-6.8	-9.0	-5.4	-3.7	-1.9	-1.7	0.0
Net domestic assets	1.4	1.6	4.4	11.9	9.4	24.2	14.2	17.1	13.5	11.6	10.8	9.6
Net credit to the public sector	-10.0	-6.7	-6.2	-3.4	3.2	8.4	6.6	5.8	5.3	4.8	4.1	3.6
Credit to the private sector	11.0	13.5	11.9	11.5	9.4	11.0	11.0	10.8	8.1	7.8	7.2	7.6
Other items (net)	0.3	-5.3	-1.4	3.7	-3.2	4.8	-3.5	0.6	0.2	-1.0	-0.6	-1.5
Net medium and long-term foreign liabilities	-1.5	-0.7	-1.2	0.2	-0.1	1.2	0.6	0.6	0.6	0.5	0.5	0.4
Broad money	12.5	17.7	20.2	16.2	15.6	16.2	4.5	11.1	9.3	9.1	8.6	9.2
Liabilities in domestic currency	16.8	19.4	22.2	17.4	15.9	15.3	3.9	9.3	7.8	7.6	7.2	7.6
Foreign currency deposits	-4.2	-1.7	-2.0	-1.3	-0.3	0.9	0.6	1.8	1.5	1.5	1.4	1.6

Sources: Central Bank of Bolivia, and Fund staff calculations.

1/ The financial system comprises the central bank, commercial banks and nonbanks, and the Banco de Desarrollo Productivo (BDP), which is a state-owned second-tier bank.

Table 3. Bolivia: Operations of the Consolidated Public Sector 1/

(In percent of GDP, unless otherwise indicated)

							Baseline projections					
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Revenue	**33.2**	**36.2**	**37.8**	**39.1**	**39.9**	**37.7**	**35.0**	**35.2**	**34.5**	**34.6**	**33.9**	**33.6**
Taxes	26.3	28.9	31.8	33.7	33.7	31.3	28.7	28.8	28.8	28.7	28.3	28.0
IDH and royalties	7.7	8.3	10.3	11.5	10.8	7.6	5.1	5.4	5.3	5.4	5.1	5.0
Direct taxes	4.6	5.5	5.7	6.0	6.2	6.1	6.1	6.1	6.1	6.0	6.0	6.0
o/w: Corporate income tax	3.8	4.6	5.0	5.3	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4
Indirect taxes	14.0	15.2	15.7	16.2	16.7	17.6	17.5	17.3	17.4	17.2	17.1	16.9
o/w: VAT	7.2	8.1	8.7	9.0	9.0	9.1	9.0	8.9	9.0	8.9	8.8	8.7
o/w: Excise tax on fuel	1.6	1.5	1.3	1.3	1.3	1.3	1.4	1.4	1.4	1.4	1.4	1.4
Grants	1.1	0.8	0.7	0.3	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.3
Other revenue	5.8	6.5	5.4	5.1	5.9	6.1	5.9	6.1	5.4	5.6	5.3	5.3
Nontax revenue	3.4	3.0	2.6	2.7	3.8	4.5	4.6	4.6	4.6	4.6	4.6	4.6
Public enterprises operating balance	2.5	3.2	2.6	2.0	1.9	1.5	1.3	1.4	0.7	0.8	0.5	0.5
Central bank operating balance	-0.1	0.2	0.1	0.3	0.2	0.1	0.0	0.1	0.1	0.2	0.2	0.2
Expenditure	**31.5**	**35.4**	**36.0**	**38.4**	**43.3**	**44.6**	**43.0**	**41.9**	**40.7**	**40.1**	**39.2**	**38.6**
Expense	**22.8**	**24.2**	**25.1**	**24.9**	**28.2**	**29.1**	**27.8**	**27.8**	**27.5**	**27.4**	**27.3**	**27.3**
Compensation of employees	9.5	9.3	9.0	9.1	10.4	12.6	12.2	11.7	11.5	11.3	11.1	10.9
Purchases of goods and services	2.2	3.0	2.1	2.3	2.8	3.8	3.7	3.7	3.7	3.7	3.7	3.7
Interest	1.4	1.2	1.0	1.0	1.0	1.0	1.0	1.1	1.1	1.2	1.4	1.5
Domestic	1.1	1.0	0.8	0.6	0.5	0.5	0.5	0.6	0.7	0.8	1.0	1.2
Foreign	0.3	0.2	0.2	0.3	0.4	0.5	0.5	0.4	0.4	0.4	0.4	0.4
Subsidies 2/	0.9	2.1	3.1	3.0	2.0	1.3	0.8	1.5	1.4	1.5	1.4	1.5
Social benefits 3/	7.8	7.9	8.8	8.9	9.5	8.4	8.1	7.9	7.9	7.8	7.8	7.7
Other expense	1.1	0.7	1.1	0.7	2.6	2.0	2.0	1.9	1.9	1.9	1.9	1.9
Other	1.1	0.7	1.1	0.7	1.5	2.0	2.0	1.9	1.9	1.9	1.9	1.9
Nationalization cost	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net acquisition of nonfinancial assets 4/	**8.7**	**11.2**	**11.0**	**13.5**	**15.0**	**15.5**	**15.2**	**14.1**	**13.2**	**12.6**	**11.9**	**11.3**
o/w: Public Enterprises	0.9	1.9	2.8	3.2	3.7	4.7	4.4	4.3	4.0	3.9	3.8	3.7
Gross operating balance	**10.4**	**12.0**	**12.7**	**14.2**	**11.7**	**8.6**	**7.2**	**7.3**	**7.0**	**7.2**	**6.6**	**6.3**
Net lending/borrowing (overall balance)	**1.7**	**0.8**	**1.8**	**0.7**	**-3.4**	**-6.9**	**-8.1**	**-6.7**	**-6.2**	**-5.4**	**-5.3**	**-5.0**
Net financial transactions	**1.7**	**0.8**	**1.8**	**0.7**	**-3.4**	**-6.9**	**-8.1**	**-6.7**	**-6.2**	**-5.4**	**-5.3**	**-5.0**
Net incurrence of liabilities	**-1.7**	**-0.8**	**-1.8**	**-0.7**	**3.4**	**6.9**	**8.1**	**6.7**	**6.2**	**5.4**	**5.3**	**5.0**
External	1.0	1.8	2.3	2.5	1.3	1.9	1.6	1.5	1.5	1.4	1.2	1.1
Disbursements	4.1	4.7	5.5	4.0	2.3	3.1	2.5	2.3	2.3	2.2	2.1	2.1
Amortizations	-3.0	-2.8	-3.2	-1.1	-0.9	-1.1	-0.8	-0.8	-0.7	-0.7	-0.9	-0.9
Other external	0.0	-0.1	0.0	-0.5	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Domestic	-2.7	-2.6	-4.1	-3.1	2.0	5.0	6.5	5.2	4.7	4.0	4.1	3.9
Banking system	-5.3	-3.5	-3.4	-2.1	1.8	5.9	5.3	4.4	4.0	3.7	3.3	2.8
Central Bank	-4.9	-2.7	-3.3	-2.4	1.8	5.8	4.7	3.9	3.6	3.3	3.0	2.8
Commercial banks	-0.4	-0.9	-0.1	0.2	0.0	0.1	0.6	0.5	0.5	0.5	0.2	0.0
Pension funds	0.0	0.0	-0.7	-0.8	-0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other domestic	2.6	0.9	-0.7	-1.0	0.2	-0.9	1.1	0.8	0.7	0.2	0.8	1.1
Memorandum items:												
Primary balance	3.1	2.1	2.8	1.6	-2.4	-5.9	-7.0	-5.7	-5.1	-4.2	-3.9	-3.4
Overall balance before nationalization	1.7	0.8	1.8	0.7	-2.3	-6.9	-8.1	-6.7	-6.2	-5.4	-5.3	-5.0
o/w Non-hydrocarbon primary balance 5/	-6.7	-8.3	-8.7	-10.1	-12.3	-13.1	-11.2	-10.3	-9.1	-8.5	-7.6	-7.1
Overall balance as a share of non-hydrocarbon GDP	1.8	0.9	1.9	0.7	-2.5	-7.3	-8.5	-7.1	-6.5	-5.7	-5.5	-5.2
Hydrocarbon related revenue 6/	10.2	11.4	13.0	13.5	12.7	9.1	6.4	6.8	6.0	6.3	5.6	5.5
Hydrocarbon balance 7/	9.8	10.4	11.4	11.7	11.0	7.2	4.2	4.7	4.0	4.3	3.7	3.6
Nonfinancial public sector gross public debt 8/	38.5	35.7	35.7	36.1	37.0	40.6	46.7	47.6	48.8	49.4	51.2	52.0
o/w gross foreign public debt	15.4	14.8	15.7	17.0	17.3	19.1	20.3	19.8	19.7	19.6	19.3	18.9
Nonfinancial public sector gross public debt (in percent of non-hydrocarbon GDP)	41.1	38.6	39.5	40.3	41.0	43.3	49.1	50.0	51.3	52.0	53.6	54.5
Nominal GDP in billions of Bolivianos	137.9	166.2	187.2	211.9	228.0	228.0	231.9	258.0	280.8	304.7	328.4	356.9

Sources: Ministry of Economy and Public Finances and Fund staff calculations.

1/ The operation of mixed-ownership companies, primarily in the telecommunications, electricity and hydrocarbon sectors, are not included.

2/ Includes incentives for hydrocarbon exploration investments in the projection period.

3/ Includes pensions, cash transfers to households, and social investment programs (previously classified as capital expenditure).

4/ The authorities' programs of social investment, including school breakfast, recurrent costs on basic sanitation and social management, are reclassified to current spending.

5/ Primary balance before nationalization costs minus hydrocarbon related balance.

6/ Hydrocarbon related revenues are defined as direct hydrocarbon tax (IDH), royalties, and the operating balance of state oil/gas company (YPFB).

7/ Hydrocarbon related revenues minus YPFB capital expenditures.

8/ Public debt includes SOE's borrowing from the BCB but not from other domestic institutions.

Table 4. Bolivia: Summary Balance of Payments

(In millions of U.S. dollars, unless otherwise indicated)

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
							Baseline projections					
Current account	**766**	**77**	**1,970**	**749**	**61**	**-1,923**	**-2,563**	**-1,786**	**-1,571**	**-1,298**	**-1,232**	**-1,211**
Trade balance	812	431	2,676	2,014	1,783	-1,384	-2,209	-1,354	-1,233	-998	-868	-765
Exports, f.o.b.	6,402	8,358	11,254	11,698	12,301	8,302	7,100	8,188	8,560	9,034	9,253	9,641
Exports, c.i.f.	7,052	9,215	11,991	12,372	13,028	8,912	7,710	8,797	9,170	9,643	9,862	10,251
Natural gas	2,798	3,885	5,479	6,113	6,012	3,771	2,358	2,956	3,170	3,398	3,165	3,254
Mining	2,396	3,429	3,744	3,077	3,929	2,852	3,164	3,482	3,577	3,686	3,811	3,966
Soy - related	496	628	977	1,211	1,083	795	856	822	818	846	873	902
Other	1,363	1,273	1,791	1,970	2,004	1,494	1,331	1,537	1,604	1,713	2,013	2,128
Imports, c.i.f.	-5,590	-7,927	-8,578	-9,684	-10,518	-9,686	-9,309	-9,542	-9,793	-10,032	-10,121	-10,406
Services (net)	-263	-369	-342	-627	-1,099	-535	-657	-451	-205	-133	-144	-156
Income (net)	-864	-1,161	-1,629	-1,908	-1,707	-1,173	-866	-1,181	-1,365	-1,429	-1,512	-1,627
Transfers (net)	1,081	1,175	1,266	1,270	1,084	1,169	1,169	1,201	1,231	1,262	1,292	1,337
Capital and financial account	**157**	**2,083**	**-258**	**372**	**909**	**280**	**-149**	**-228**	**-39**	**147**	**103**	**713**
Capital transfers	-7	6	6	6	5	5	0	0	0	0	0	0
Direct investment (net)	672	859	1,060	1,750	648	503	169	376	628	888	1,197	1,665
Gross investment	915	954	1,505	2,030	2,113	1,060	693	950	1,202	1,435	1,753	1,885
Disinvestment and investment abroad	-293	-95	-445	-280	-1,465	-557	-524	-574	-574	-547	-556	-584
Portfolio investment (net)	90	186	-360	-429	-561	-917	65	-148	-125	-163	-359	-336
Public sector	263	537	651	-458	1,101	838	562	596	629	665	604	581
Disbursements	538	777	1,135	1,243	759	1,032	839	881	925	971	1,019	1,070
Amortization	-528	-607	-829	-279	-231	-376	-276	-285	-295	-306	-415	-489
Other (net)	253	367	346	-1,423	573	182	0	0	0	0	0	0
Private sector	-101	-611	-815	-1,045	-1,303	-1,163	-946	-1,052	-1,171	-1,243	-1,339	-1,197
Errors and omissions	-759	1,107	-800	549	1,018	1,015	0	0	0	0	0	0
Overall balance	**923**	**2,160**	**1,712**	**1,122**	**971**	**-1,643**	**-2,712**	**-2,014**	**-1,610**	**-1,151**	**-1,129**	**-497**
Financing	**-923**	**-2,160**	**-1,712**	**-1,122**	**-971**	**1,643**	**2,712**	**2,014**	**1,610**	**1,151**	**1,129**	**497**
Memorandum items:												
Current account (in percent of GDP)	3.9	0.3	7.2	2.4	0.2	-5.8	-7.6	-4.7	-3.8	-2.9	-2.6	-2.3
Current account (in percent of non-hydrocarbon GDP)	4.1	0.3	8.0	2.7	0.2	-6.2	-8.0	-5.0	-4.0	-3.1	-2.7	-2.4
Non-energy current account (in percent of non-hydrocarbon GDP)	-6.0	-10.6	-7.9	-13.7	-14.7	-13.9	-11.7	-9.4	-8.3	-7.4	-6.0	-5.7
Merchandise exports (in percent of GDP)	32.4	34.6	41.3	37.9	37.0	25.0	21.0	21.8	20.5	20.3	19.3	18.5
Merchandise imports (in percent of GDP)	-28.3	-32.8	-31.4	-31.4	-31.6	-29.1	-27.5	-25.4	-23.4	-22.6	-21.1	-20.0
Net official reserves (end-of-period)	9,730	12,019	13,927	14,430	15,123	13,480	10,768	8,753	7,143	5,992	4,863	4,366
(in months of imports of goods and services)	17.6	15.7	16.8	15.2	14.1	14.2	11.6	9.3	7.4	6.0	4.8	4.1
Foreign direct investment (in percent of GDP)	3.4	3.6	3.9	5.7	1.9	4.1	0.5	1.0	1.5	2.0	2.5	3.2
GDP (in millions of U.S. dollars)	19,786	24,135	27,282	30,883	33,237	33,238	33,798	37,612	40,932	44,411	47,869	52,028
Capital account (in percent of GDP)	0.8	8.6	-0.9	1.2	2.7	0.8	-0.4	-0.6	-0.1	0.3	0.2	0.0
Errors and omissions (in percent of GDP)	-3.8	4.6	-2.9	1.8	3.1	3.1	0.0	0.0	0.0	0.0	0.0	0.0
Export value growth (in percent)	29.1	30.6	34.6	3.9	5.2	-32.5	-14.5	15.3	4.5	5.5	2.4	4.2
Export volume growth (in percent)	28.5	-26.0	25.8	6.6	10.6	-15.1	-0.9	12.7	3.2	4.7	2.1	3.7
Export prices growth (in percent)	0.4	76.4	7.0	-2.5	-4.9	-20.5	-13.7	2.4	1.3	0.8	0.3	0.4
Import value growth (in percent)	23.0	41.8	8.2	12.9	8.6	-7.9	-4.9	2.5	2.7	2.6	1.8	2.8
Import volume growth (in percent)	8.8	27.0	8.5	15.8	11.7	-3.0	-4.0	1.0	2.2	1.9	1.1	2.4
Import prices growth (in percent)	13.0	11.6	-0.3	-2.5	-2.7	-5.1	-1.0	1.5	0.5	0.7	0.7	0.4

Sources: Central Bank of Bolivia, National Institute of Statistics and Fund staff calculations.

Table 5. Bolivia: Past Fund Policy Recommendations and Implementation

Recommendations	Status
Enhancing the Fiscal policy framework	
Improve the non-hydrocarbons balance	*Not implemented.* The non-hydrocarbons deficit continued to widen.
Adopt a medium-term fiscal framework	*In progress.* The authorities adopted a five-year development plan, required public enterprises to prepare multi-year budgets, and created a Macro-Fiscal Unit at the Ministry of Finance to produce fiscal projections.
Improving Monetary and Exchange Rate Policies	
Discontinue central bank lending to public enterprises	*Not implemented.* Central bank lending to public corporations has continued.
Gradually allow greater exchange rate flexibility	*Not implemented* . There has been a stable exchange rate vis-à-vis U.S. dollar since November 2011.
Safeguarding Financial Stability	
Continue strengthening supervision	*Partially implemented.* Credit registry coverage was expanded and the depositor protection fund was created. Regulatory requirements were strengthened, including the inclusion of market risks to capital requirements, increasing in the primary capital requirement (from 5 percent to 7 percent of risk-weighted assets and contingencies), and issuing guidance on operational and interest risks. The Financial Stability Council met for the first time in August 2015.
Modify interest rate caps and credit quotas.	*Limited progress.* Financial insitutions have been given five years to comply, with intermediate annual targets to guide the progress. The July 2015 decree watered down the meaning of productive sectors by allowing tourism and intellectual property-related loans to be included, and loans given to "nonproductive" sectors for productive purposes can now be classified as “productive.” Nevertheless, small lenders are experiencing difficulties in meeting the targets.
Increasing Potential Growth	
Resolve legal and regulatory uncertainty; ensure transparent and incentive compatible hydrocarbons and mining fiscal regimes	*Some progress.* The government approved a hydrocarbon incentives law in December 2015, which provides incentives for crude oil and condensates production (on a dollar per barrel of production basis). While likely to stimulate production from existing fields, the law falls short regarding making exploration investments substantially more attractive.

Source: Fund staff.

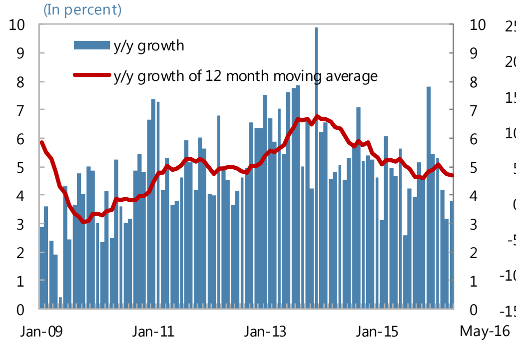
Table 6. Bolivia: Risk Assessment Matrix[1/]	
Source/Nature of Risk (Direction/Likelihood)	**Expected Impact and Recommended Response**
External Risks	
Persistently lower energy prices (↓/**Low**): Lower than expected energy prices would weigh on fiscal and external deficits, further eroding buffers. It would also reduce the attractiveness of much-needed private sector exploration and investment in the hydrocarbons sector.	**High**. Gradually introduce fiscal adjustment, allow greater exchange rate flexibility, and improve the business climate to help facilitate investment and diversification.
Slowdown in China (↓/**Low** to **Medium**) **and other large EMs/frontier economies including Brazil** (↓/**Medium**): A slowdown in China could affect exports (volumes and prices) for key export commodities including hydrocarbons and minerals. A slowdown in Brazil could affect exports (particularly for non-gas products).	**Medium** to **High**. Temporarily maintain accommodative monetary and fiscal policies as allowed by existing buffers. Permit some role for the exchange rate as a shock absorber by allowing some flexibility.
Sharp rise in risk premia with flight to safety and U.S. dollar appreciation (↓/**Medium**): Further appreciation would exacerbate the boliviano's overvaluation, limiting diversification. Higher interest rates could affect future placements of sovereign bonds and banks' credit quality (many loans are indexed to a variable reference rate).	**Low** to **Medium**. Gradual exchange rate flexibility can address overvaluation. Ensuring policy credibility will help preserve access to international financial markets. Close financial supervision will prevent risks from building in the financial sector.
Domestic Risks	
Distortions in the financial system (↓/**Medium**): Compliance with the Financial Services Law could lead to a credit crunch in the non-productive sector, or excessive lending to the productive sector and social housing could result in weaker credit quality.	**Low** to **Medium**. Modify key provisions of the law (interest rate caps, credit quotas, timelines for compliance) via decrees as needed if material risks emerge.
Larger impact of drought on agriculture (↓/**High**): Recent climate conditions have implications for growth, inflation, and non-traditional exports.	**Low** to **Medium**. Revise trade policies as needed to contain the inflationary impact; temporary and targeted support to contain growth impact.
Natural gas production and reserves (↓/**Medium**): The success of ongoing exploration activities is not assured and existing fields may be exhausted earlier than expected. Uncertainties may influence negotiations on the extension a supply contract with Brazil, which expires in 2019.	**Medium** to **High**. Improve the environment for private sector participation in the hydrocarbons sector. Move forward proactively on the Brazilian contract negotiations.
Delay in policy adjustment (↓/**High**): In the absence of consolidation, debt and external buffers could run down and raise questions on the sustainability of policies.	**Medium** to **High**. Narrow the non-hydrocarbon fiscal deficit to contain debt accumulation. The fiscal adjustment should also help narrow overall balance of payments deficits.

[1] The Risk Assessment Matrix (RAM) shows events that could materially alter the baseline path (the scenario most likely to materialize in the view of IMF staff). The relative likelihood is the staff's subjective assessment of the risks surrounding the baseline ("low" is meant to indicate a probability below 10 percent, "medium" a probability between 10 and 30 percent, and "high" a probability between 30 and 50 percent). The RAM reflects staff views on the source of risks and overall level of concern as of the time of discussions with the authorities. Non-mutually exclusive risks may interact and materialize jointly.

Figure 1. Bolivia: Real Sector Developments

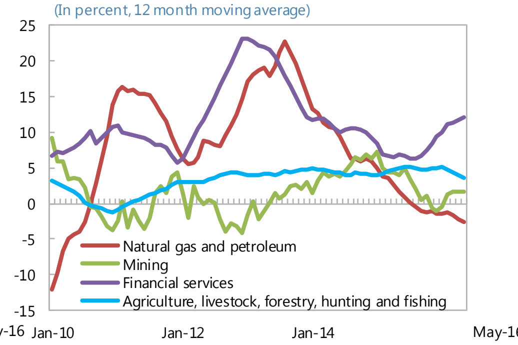
Economic activity is moderating but remains robust...

Index of Economic Activity
(In percent)



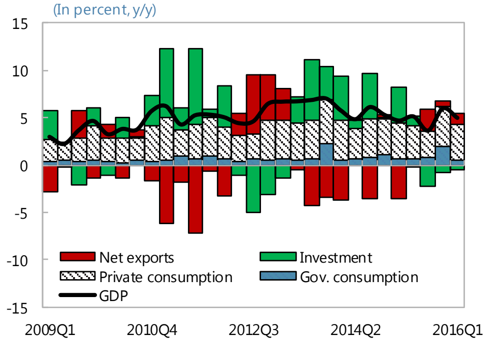
....with strong growth in financial services offsetting weakness in gas production.

Index of Economic Activity
(In percent, 12 month moving average)



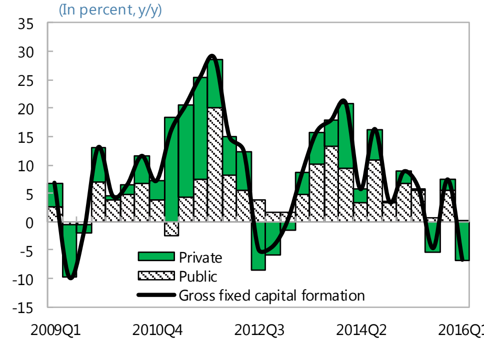
On the demand side, private consumption continues to be the main driver of growth...

Contributions to Real GDP Growth
(In percent, y/y)



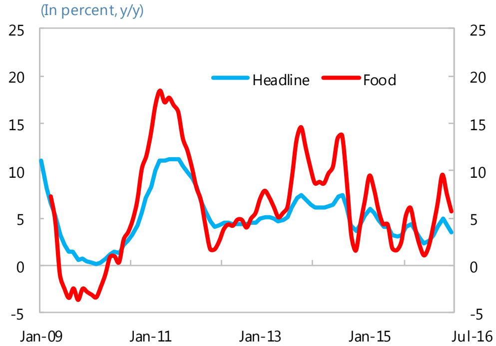
....while investment has turned negative, due to weakness in the private sector.

Contributions to Real Investment Growth
(In percent, y/y)



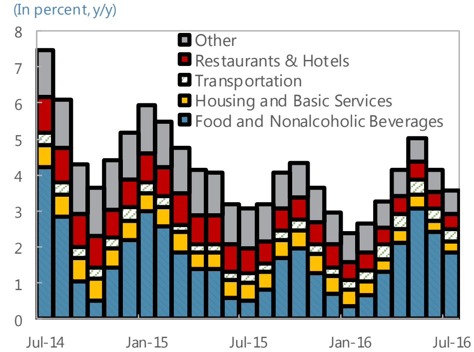
Inflation has remained at moderate levels despite some volatility in food prices....

CPI Inflation
(In percent, y/y)



...which dominate movements in the headline number given their large weight.

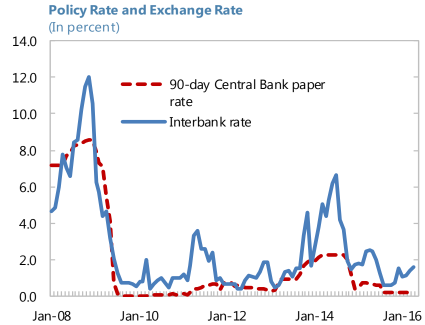
Contribution to CPI Inflation
(In percent, y/y)



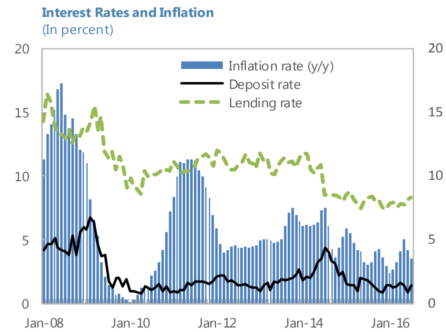
Sources: National Institute of Statistics, Central Bank of Bolivia, Haver Analytics, Inc., SEDLAC, World Bank, and Fund staff estimates.

Figure 2. Bolivia: Monetary Developments

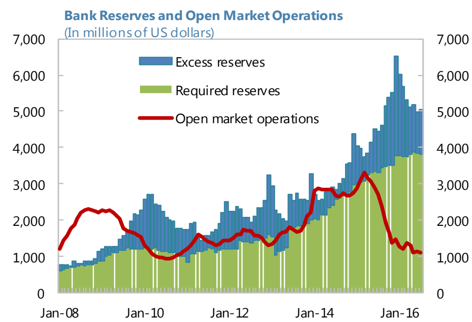
Rates on Central Bank paper have remained low while interbank rates have edged up from low levels.



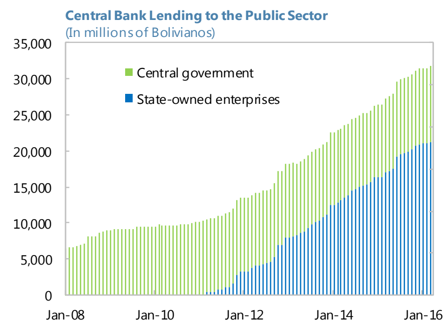
Real interest rates on deposits continue to be negative.



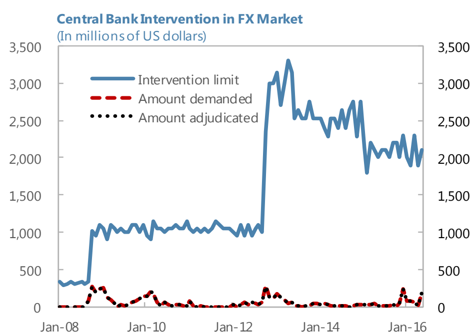
Declines in NFA have reduced banks' excess reserves and the need for BCB open market operations.



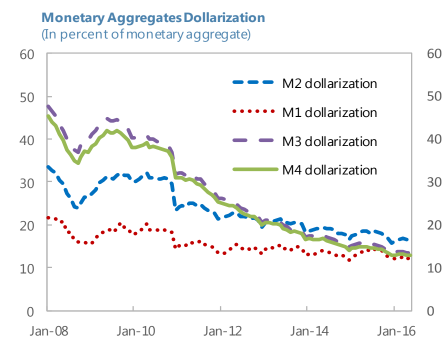
Central bank credit to state-owned enterprises continues to expand.



Central bank foreign exchange interventions remain low.



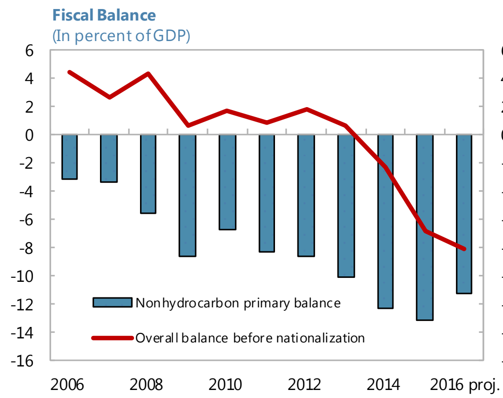
Dollarization ratios have stabilized at low levels.



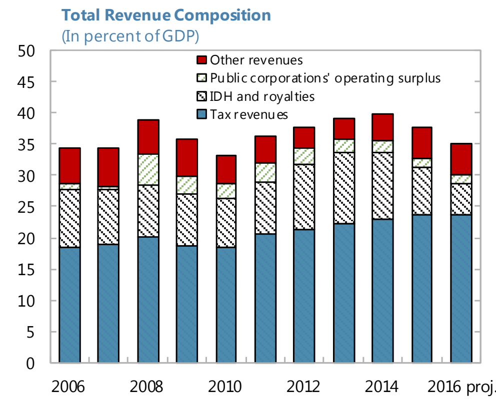
Sources: Central Bank of Bolivia, National Institute of Statistics, and Fund staff estimates.

Figure 3. Bolivia: Fiscal Developments

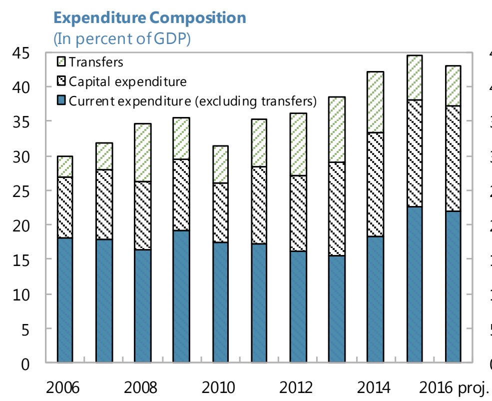
The overall fiscal surpluses in 2006-13 have turned into sizable deficits.



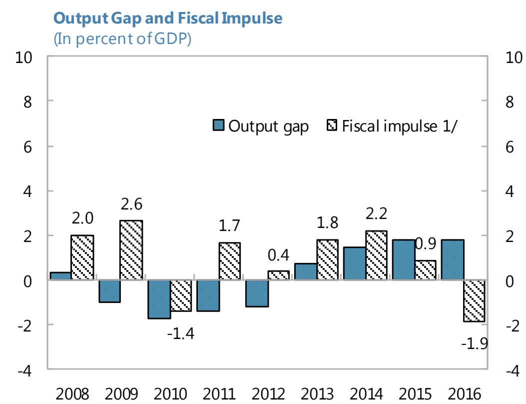
... reflecting sharp declines in hydrocarbon revenues ...



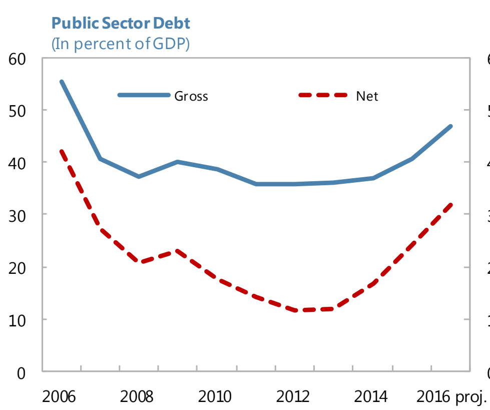
... and continuing high expenditures.



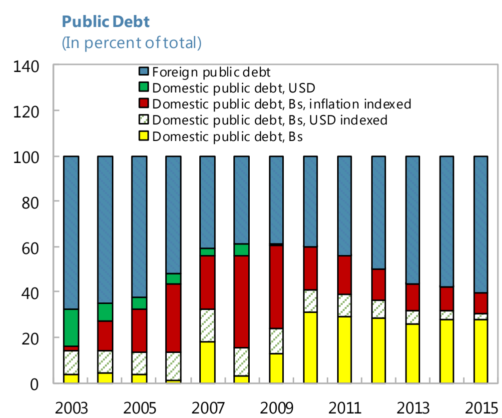
The non-hydrocarbon fiscal impulse is projected to be negative in 2016.



Public debt ratios have started to increase.



The shares of foreign debt and domestic debt in local currency without indexation have been increasing.

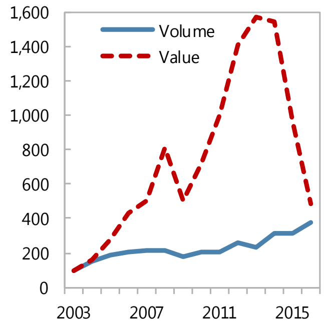


Sources: Ministry of the Economy and Public Finances, Central Bank of Bolivia and Fund staff estimates.
1/ The fiscal impulse is calculated as the change in the cyclically-adjusted and non-hydrocarbon primary fiscal balance.

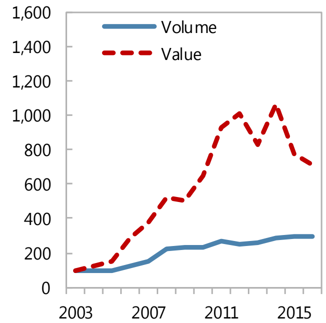
Figure 4. Bolivia: External Sector Developments

A plunge in commodity prices has sharply reduced the value of Bolivia's principal exports…

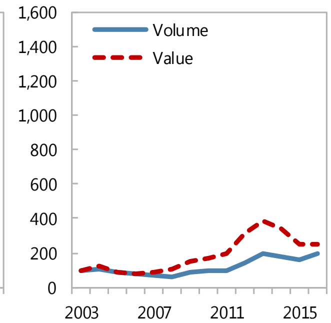
Natural Gas [1/]
(Indexes, 2003=100)



Minerals [1/]
(Indexes, 2003=100)

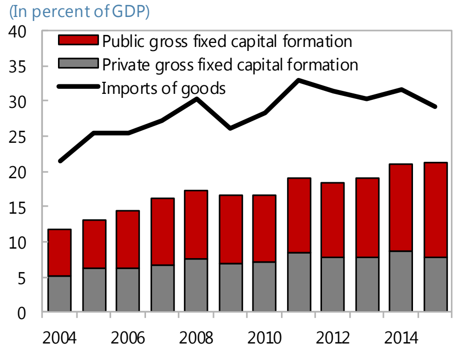


Soybeans and Derivatives [1/]
(Indexes, 2003=100)



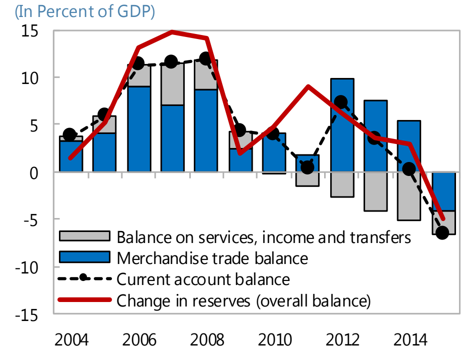
… at the same time, imports have compressed only a little, and are supported by high public investment…

Imports and Investment
(In percent of GDP)



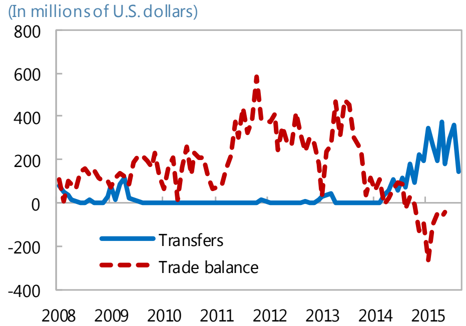
… causing the trade and current account balances to swing in to large deficits, and reserves to decrease.

Current Account and International Reserves
(In Percent of GDP)



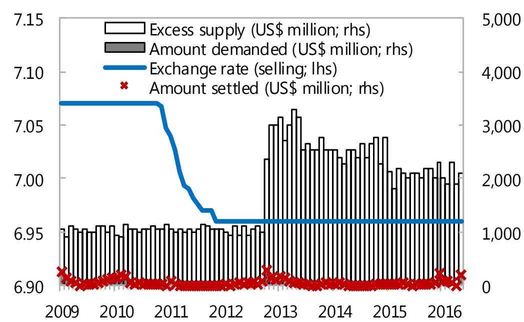
Reserves have been declining with increased transfers abroad related to the trade deficit…

Trade Balance and Central Bank Transfers Abroad
(In millions of U.S. dollars)



… while conditions at FX auctions have remained stable..

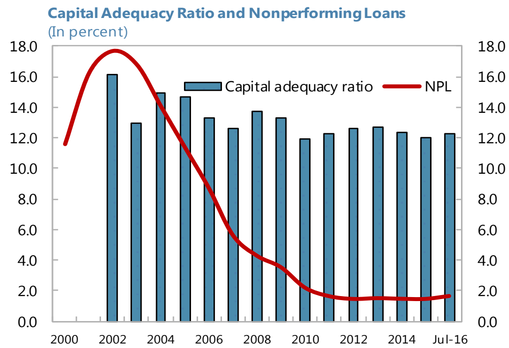
Bolsín Auction Results



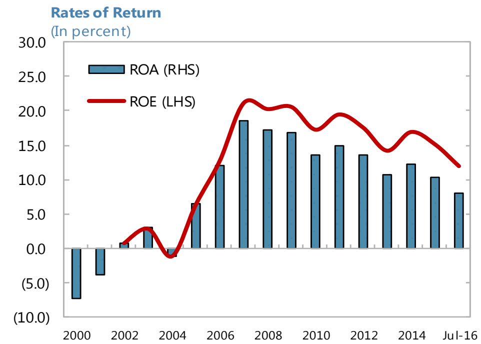
Sources: Banco Central de Bolivia and Fund staff estimates and calculations.
1/ Value for 2016 based on cumulative year/year growth rate for January-May.

Figure 5. Bolivia: Financial Sector Developments

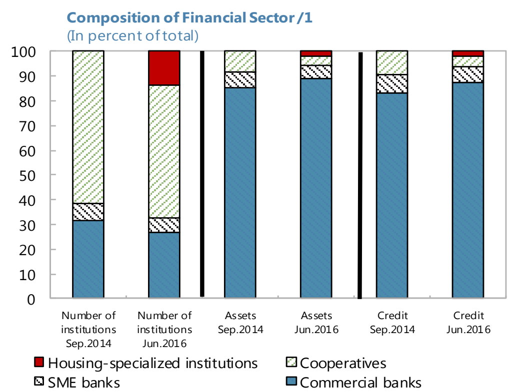
Capital adequacy ratios are above the regulatory minimum, while NPLs remain low...



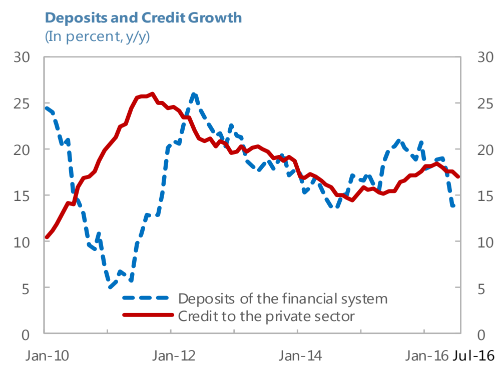
...however, bank profitability has been declining.



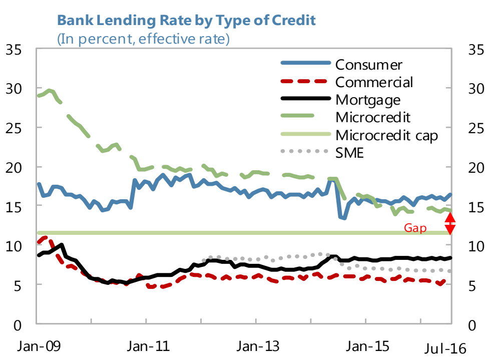
Commercial banks continue to dominate the financial sector...



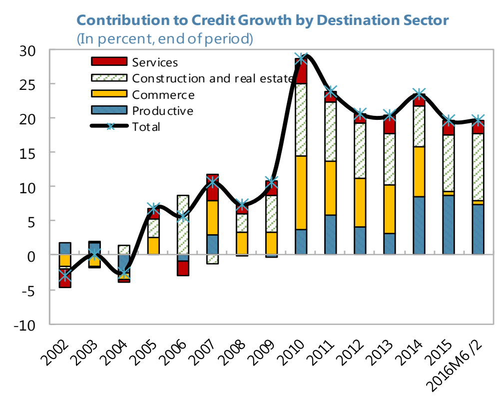
...while overall credit sector growth remains high.



The microcredit lending rate is the most affected by the FInancial Services law...



...while lending to 'non-productive' activities are slowing to create space for 'productive' lending.



Sources: ASFI and Fund staff calculations.
/1 Licensed institutions only.
/2 Contributions refer to 2016M6 over 2015M6 levels.

Annex I. Financial Stability Assessment

1. **Financial Soundness Indicators suggest vulnerabilities have increased to "medium" since the first half of 2015, driven by rapid credit growth.** However, banks' balance sheets remain healthy, with low structural risks. The deposit-to-loan ratio remains high, while foreign exchange exposure is limited given low deposit and credit dollarization. The leverage ratio remains at acceptable levels, and non-performing loans are low. Bank profitability has been declining, but still remains robust. Looking ahead, the financial services law may lead to new risks building up, and vigilance regarding asset quality and the speed of credit growth needs to be maintained.

Bolivia	2014Q3	2014Q4	2015Q1	2015Q2	2015Q3	2015Q4	2016Q1	2016Q2	Latest
Overall Financial Sector Rating	L	L	M	M	M	M	M	M	M
Credit cycle	L	L	M	H	H	H	H	H	H
Change in credit / GDP ratio (pp, annual)	2.4	2.8	3.5	4.4	6.2	7.7	8.0	8.0	8.0
Growth of credit / GDP (%, annual)	6.0	6.9	8.5	10.4	14.6	17.5	18.2	17.0	17.0
Credit-to-GDP gap (st. dev)	-0.5	0.1	0.0	2.1	2.9	2.9	1.8	1.8	1.8
Balance Sheet Soundness	L	L	L	L	L	L	L	L	L
Balance Sheet Structural Risk	L	L	L	L	L	L	L	L	L
Deposit-to-loan ratio	122.7	148.2	133.4	128.5	129.1	129.5	135.6	127.9	127.9
FX liabilities % (of total liabilities)	23.1	19.9	18.6	19.4	19.1	18.9	17.1	17.7	17.7
FX loans % (of total loans)	9.4	6.3	5.5	5.0	4.2	3.5	2.9	2.5	2.5
Balance Sheet Buffers	L	L	L	L	L	L	L	L	L
Leverage	L	L	L	L	L	L	L	L	L
Leverage ratio (%)	8.2	7.9	7.7	7.7	7.7	7.4	7.4	7.5	7.5
Profitability	L	L	L	L	L	L	L	L	L
ROA	1.2	1.2	1.1	1.0	1.0	1.0	0.8	0.8	0.8
ROE	16.0	16.9	14.8	13.8	13.8	15.1	11.3	11.9	11.9
Asset quality	L	L	L	L	L	L	L	n.a.	L
NPL ratio	1.6	1.5	1.7	1.0	1.6	1.5	1.7	1.6	1.6
NPL ratio change (%, annual)	-1.2	-2.6	4.3	-33.8	1.9	-0.7	-1.2	n.a.	-1.2

Vulnerability codes

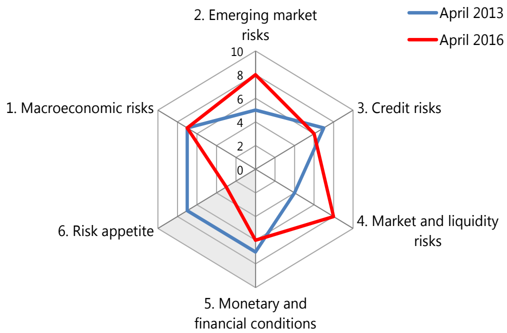
Low
Moderate
High

Sources: Bolivian authorities; and IMF staff estimates.

2. **Bolivia's financial stability map shows an increase in risks since Q1 2014.** Both macroeconomic and inward spillover risks have increased, reflecting emerging large fiscal and external deficits. Credit risks are on the rise, marked by strong credit growth, a slight increase in non-performing loans, and declining bank profitability. The level of overall macro-economic risks for Bolivia is now higher than the level of global risks reported in the April 2016 Global Financial Stability Report. Market and liquidity risks are lower than the level of global risks as Bolivian banks' deposit-to-loan ratios are higher than in those in other countries.

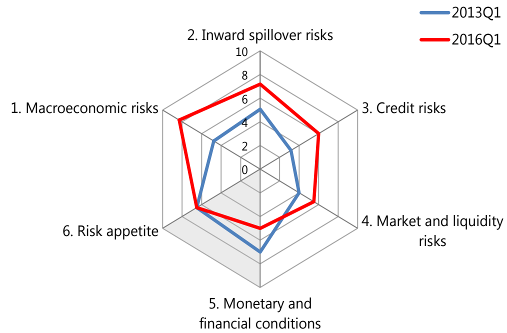
Financial Stability Maps

Comparable GFSR Global Financial Stability Map



Note: Away from center signifies higher risks, easier monetary and financial conditions, or higher risk appetite.

Country Financial Stability Map:Bolivia



Note: Away from center signifies higher risks, easier monetary and financial conditions, or higher risk appetite.

Annex II. Hydrocarbons Sector, Public Enterprises, and the Central Bank Balance Sheet

Hydrocarbons sector prospects

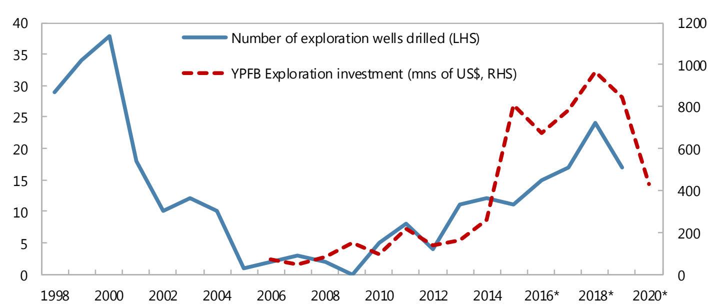
Following large natural gas discoveries in the late 1990s, and fueled by high prices, Bolivia increased gas production volumes eightfold over 1998–2014. The large increase in production made Bolivia a key regional gas supplier. At the peak in 2013–14, roughly 31 percent of fiscal revenues, 8 percent of GDP and over 50 percent of export revenues came from hydrocarbons.

Since 2014, gas production has been falling, as the fields discovered in the 1990s are nearing the end of their production cycles. Gas production fell by over 1 percent in 2015. It is expected to fall by another 1–2 percent in 2016 but should recover in 2017 as a new field (Incahuasi) came on stream in August 2016.

Exploratory activity has been limited over the past 10 years (graph). Incahuasi, which was discovered in 2004, was the last big field discovered in Bolivia. A high government tax take and the state oil company's (YPFB) focus on exploitation over exploration have been impediments to exploration. Proven reserves are now estimated at about 10 Tcf, equal to a maximum of 10 years of production at current volumes.

YPFB has recently ramped up exploration spending significantly,[1] however, and Bolivia remains an underexplored country with vast potential. YPFB estimates that the total potential of fields currently being explored is around 29–35 TCF, with expected discoveries of 5–10 TCF (applying subjective discovery probabilities). Crucially, the authorities are also trying to attract FDI into hydrocarbon exploration to complement YPFB's efforts. Foreign financing and know-how appear crucial to making exploration a success. The hydrocarbon investment law passed in late 2015 is a step in the right direction but more could be done to make costly and risky exploration activity attractive for international companies.[2]

Hydrocarbon Exploration Activity in Bolivia



Sources: Yacimientos Petroliferos Fiscales Bolivianos, Agencia Nacional de Hydrocarburos, and IMF staff calculations.
* Projections for 2016–20.

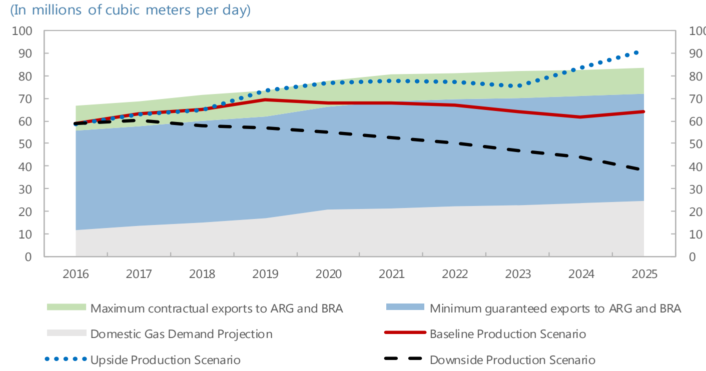
[1] See text figure. Data are for the sector as a whole. Total planned investment for 2016 was US$2,411 million, and exploration investment accounted for roughly 28 percent of total investment. For 2016, the scheduled total investment by YPBF headquarters, YPFB subsidiaries and private operators was 905.6, 942.7 and 562.6, respectively.

[2] For example, exploration spending could be allowed to be offset again hydrocarbon taxes.

Most of the potential for discoveries lies with a few large projects in non-traditional zones. The most promising prospects are *Huacareta* (being explored by BG-Shell); *Azero (*by Total); and *San Telmo (*by Petrobras). There is also some potential for additional discoveries in traditional production zones (mainly *Boyuy* and *Boycobo* by Repsol). It is important to keep in mind, however, that the timeline for projects in non-traditional zones is quite long, with discovery results not to be expected before 2018–19 and production at some point in the mid-2020s if drilling is successful. *Boyuy* or *Boycobo*, on the other hand, could be producing by 2019 if successful.

Staff projections show that there are risks to Bolivia's being able to meet internal and external gas demand over the period 2016–25. Using the current pipeline of exploratory projects and the likely production curve of existing fields, staff projected a baseline, as well as an upside and a downside scenario for Bolivian gas production. While production is expected to increase in the years until 2019, from currently about 60 million cubic meters per day to close to 70, Bolivia would struggle to meet internal demand and minimum contractual export volumes even under the baseline scenario after 2021.

Natural Gas Production Scenarios
(In millions of cubic meters per day)



Sources: Staff estimates and projection based on data by national authorities, authorities of Tarija, YPFB, Fundacion Jubileo, Petrobras, Total, Repsol and BG-Shell.

Industrialization projects

At the same time, the government is pursuing an ambitious program of downstream hydrocarbon industrialization and electricity generation to move into higher value-added sectors. A core element of the government's five-year development plan is to transform Bolivia into a South American energy hub, moving exports away from natural gas and into petrochemicals and electricity. Staff baseline projections currently envisage exports from industrialization projects to increase total goods exports by 2 percent in 2021 (in a best case scenario, exports could be higher by another 6 percent in 2021).

Industrialization investments are concentrated in a number of large projects executed by YPFB and the state-owned electricity company (ENDE). YPFB is investing roughly US$4.3 billion in gas separation plants and petrochemical plants to turn natural gas into fertilizers and plastic (Table A1). Half of the amount is already executed with the largest project, a polyethylene (plastic) plant, still outstanding. ENDE is investing heavily in thermoelectric and hydroelectric power generation to be able to generate excess capacity to be exported to Bolivia's neighbors (Table A2).

While there are significant upside risks associated with a successful implementation of these projects, there are also a number of downside risks. In particular, a potential shortage in gas as an input is a concern, as are the elevated costs, logistical issues and a lack of guaranteed markets. Overall, the financial viability of the projects is not clear from available information.

Risks to Financial Health of Public Enterprises and the Central Bank Balance Sheet

Most of the financing for the industrialization projects comes directly from the central bank (Table A5). Apart from large loans to YPFB and ENDE for the above mentioned projects, the BCB is also lending to the state mining company, COMIBOL (table). Loans to SOEs are issued in *bolivianos* at highly concessional terms, including subsidized interest rates (averaging less than 1 percent), generous grace periods (3 to 7 years) both for principal and interest payments, and relatively long maturities (18 to 30 years). Loans to ENDE and COMIBOL are ultimately guaranteed by the Treasury with TGN securities.[3]

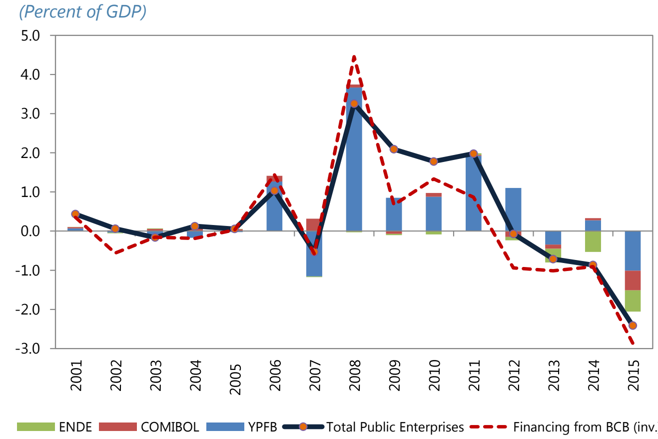
Outstanding Amount of BCB Loans to Public Enterprises

	YPFB	ENDE	COMIBOL
In millions of Bolivianos	12,563	4,612	2,149
In percent of BCB's capital	1,000	367	171

The fall in hydrocarbon prices is putting pressure on the financial health of key public enterprises. Largely due to the industrialization projects and exploration activity, public enterprises have ramped up their spending (Table A3). However, the increase in spending combined with the sharp fall in hydrocarbon prices has recently tipped these' enterprises' balance into negative territory. By virtue of its size, YPFP accounts for the bulk of the overall deficit in the consolidated public enterprise sector. Almost the entire deficit of the sector has been financed by the central bank (chart).

Overall Fiscal Balance

(Percent of GDP)

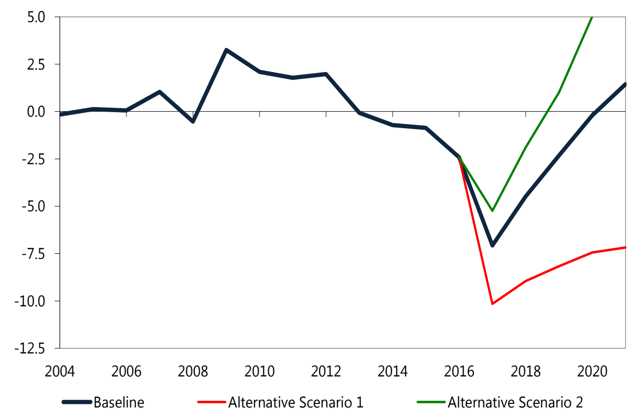


Sources: Bolivian authorities; and IMF staff calculations.
Note: excludes subsidiaries of SOEs.

[3] Loans to YPFB are guaranteed by the company itself through YPFB account receivables.

Scenario analysis suggests that public enterprises face important income risks going forward. Stress tests are performed using three scenarios based on different hydrocarbon price assumptions. Current revenues of YPFB are linked to the international oil prices. Current expenditures and other revenues move in line with nominal GDP, whereas the capital spending follows announced public investment plans and historical implementation rates (70–80 percent). Under the baseline scenario,[4] given current low oil price levels, the overall sector's balance deteriorates sharply this year (to -6½ percent of GDP), and only turns positive by 2019 (Figure). This entails a cumulative financing need of Bs 47 billion (about 11 percent of GDP) over the next five years. Under a more severe scenario, in which oil prices remain at US$30 per barrel over the next five years, the cumulative deficit would be around Bs 117 billion. Finally, only under a more benign scenario, in which oil prices recover to US$78 per barrel by 2020, would the overall balance turn positive after four years.

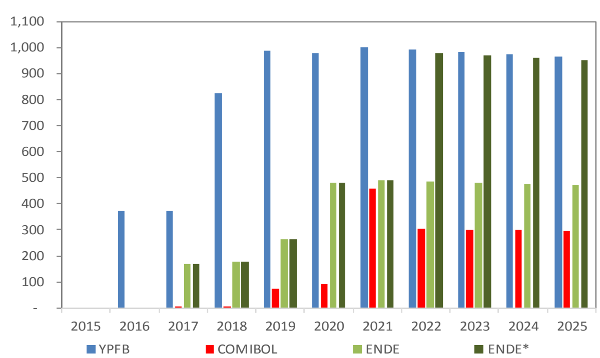
Public Enterprises: Consolidated Fiscal Balance
(Percent of GDP)



Source: Bolivian authorities; and IMF staff calculations.

These financial strains are compounded by the growing fiscal deficits of public enterprises' subsidiaries outside of the NFPS and the future repayment schedule. Subsidiaries have also engaged in large investment projects, whose costs cannot be financed by current operating profits (Table A4), and have thus increased the indebtness of public enterprises. These include "mixed state enterprises" (*empresas estatales mixtas*) and "mixed enterprises" (*empresas mixtas*), partially owned by large SOEs, such as YPBF and ENDE, but outside the definition of the NFPS. In addition, public enterprises face substantial repayment schedules over the coming years (Figure), and as early as 2016–17 for YPFB. These risks are compounded by the large number of loans that have been approved but not yet disbursed by

Public Enterprises Estimated Repayment Schedule
(millions of Bolivianos)



Source: Central Bank of Bolivia; reported financial accounts of YPFB, COMIBOL, and ENDE; and IMF staff calculations. Note: ENDE* includes loans that have been approved, but for which the BCB had not disbursed any sums as of December 31, 2105.

[4] The baseline scenario is based on the current WEO projections, with global oil prices rising smoothly from current levels to US$56.29 per barrel by the end of 2020.

the BCB which, if fully implemented, would add further pressures to their repayment schedule in outer years, particularly ENDE.

Loans to public enterprises are likely to hinder the BCB's ability to generate positive net income. For every dollar lent, the central bank would only receive the subsidized interest rate from public enterprises. Equally, the central bank will have to: (i) likely pay a higher interest rate on its own securities (for sterilization purposes),[5] or (ii) forgo interest income owing to a reduction in NIR (in line with public enterprises' demand for imported capital goods). Interest rates on central bank securities are currently low, but historically these have been higher than rates on loans to public enterprises, and the expected normalization in U.S. interest rates will put upward pressure on BCB's interest rates. These factors would adversely affect the central bank's net interest income over the coming years.[6]

[5] A central bank could choose not to conduct the needed sterilization to minimize interest income losses, but this would be in direct conflict with its price stability objective.

[6] The computation of overall net income does not only depend on the loans to public enterprises. Other assets (e.g. NIR) also generate profits, while other liabilities generate losses. Over the past couple of years, about half of the BCB's revenues came from earnings on foreign assets, while half of its expenses (excluding transfers to the Treasury) were due to the cost of open market operations (i.e. interest payments on BCB securities).

Table A1. Bolivia: YPFB Industrialization Projects

YPFB executed projects	Progress	Estimated Start of Production	Cost and other information
Rio Grande liquid separation plant	Operational as of August 2013	Production started August 2013	80% of production for internal use. US$ 160 million financing from BCB.
Gran Chaco liquid separation plant	Operational as of August 2015	Production started August 2015	Cost of project US$ 688 million. Financed with BCB credits. Exports to Peru and Paraguay of LPG. Ethane and liquefied petroleum gas (LPG) for internal use as an input for downstream industry.
LNG	Operational as of February 2016	Production started in February 2016	Cost of project US $445 million. Part BCB financed. The project will allow delivery of gas to areas of the country not served well previously.
Ammonia and urea plant	Close to completion as of October 2016 (had been scheduled for early 2016)	Early 2017 but delays in railway construction (only 30-40% complete) could pose significant problems.	Cost of project 955 million USD, financed by BCB loans to YPFB.
Polyethylene plant	Construction scheduled to start in early 2017	Late 2021	Projected cost of project is US$ 2,089 million with US$ 1,847 million to come directly from the BCB.

Table A2. Bolivia: ENDE Investment Projects

Project	Progress	Estimated Start of Production	Projected capacity	Estimated cost	Other comments
Proyecto Termoelectrico de Entre Rios	Completed	Summer 2010	110 MW		
Planta Termoelectrica del Sur	Completed	2014	160 MW		
Planta Termoelectrica Warnes	Completed	Autumn 2015	200 MW		
Proyecto Eolico Qollpana	In Construction	Summer 2016	24 MW		
Proyecto Hidroelectrico Misicuni	In Construction	2017	120 MW	US$ 137 million	Financing from IDB and TGN
Proyecto Planta Solar Uyuni	In Construction	2017	60 MW	US$ 94 million	Financing from BCB.
Proyecto Planta Solar Oruro	In Construction	Summer 2017	50 MW	US$ 54.5 million	Financing from FINPRO
Proyecto Hidroelectrico San Jose	In Construction	Apr-18	124 MW	US$ 245 million	Financing from IDB and CAF
Ampliacion Planto Termoelectrica Entre Rios	Contract signed	Late 2019	380 MW	US$ 463 million	Financing from BCB.
Ampliacion Planta Termoelectrica del Sur	Contract signed	Late 2019	320 MW	US$ 463 million	Financing from BCB. Transmission line to Argentina (Yaguacua-Tartagal-San Juancito) being built during the same time
Ampliacion Planta Termoelectrica Warnes	Financing from BCB obtained	Late 2019	280 MW	US$ 406 million	Financing from BCB.
Proyecto Hidroelectrico Miguilas	In Construction	2020	200 MW	US$ 448 million	Financing from BCB.

Table A3. Bolivia: Operations of Consolidated Public Sector Enterprises

(In millions of Bolivianos)

Operations of the Consolidated Public Enterprises — Millions of Bolivianos	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total Revenue	**3,533**	**2,321**	**3,121**	**1,682**	**1,079**	**6,279**	**18,251**	**34,310**	**30,178**	**31,760**	**42,363**	**51,682**	**62,752**	**68,309**	**54,516**
Current revenue	3,507	2,295	3,102	1,661	1,054	6,224	18,110	33,959	29,849	31,555	41,186	51,486	61,794	66,268	52,612
of which YPFB	3,214	1,983	2,826	1,297	715	5,716	15,900	30,748	26,737	27,642	35,136	45,162	54,097	56,741	42,774
of which COMIBOL	45	75	84	110	76	162	962	1,059	912	1,248	1,813	1,581	1,864	1,995	1,571
of which ENDE	30	35	40	40	45	49	60	69	86	122	239	249	423	725	1,053
Investment revenue	25	26	18	21	25	55	141	351	329	205	1,177	195	958	2,041	1,904
of which YPFB	0	0	0	0	0	0	0	2	0	0	126	59	66	108	78
of which COMIBOL	0	14	3	2	4	18	10	117	3	9	10	8	4	10	1
of which ENDE	14	9	12	17	13	5	4	26	73	1	211	0	98	728	381
Total Expenditure	**3,299**	**2,285**	**3,221**	**1,594**	**1,036**	**5,332**	**18,799**	**30,382**	**27,633**	**29,309**	**39,073**	**51,814**	**64,263**	**70,285**	**60,020**
Current expenditure	3,207	2,182	3,166	1,535	944	5,240	17,733	27,994	26,224	28,125	35,916	46,585	57,517	61,907	49,296
of which YPFB	3,170	1,999	2,893	1,412	701	4,522	16,202	24,415	25,123	25,821	30,341	39,890	50,181	52,126	40,707
of which COMIBOL	23	63	49	36	30	36	623	942	869	1,048	1,362	1,468	1,412	1,422	1,239
of which ENDE	39	45	39	38	45	52	52	59	68	132	108	175	315	927	648
Capital expenditure	92	102	55	59	91	92	1,066	2,388	1,410	1,184	3,157	5,229	6,746	8,378	10,723
of which YPFB	6	5	7	2	33	31	890	1,911	577	613	1,726	3,268	4,715	4,095	4,447
of which COMIBOL	5	15	1	3	15	13	21	138	133	77	423	396	675	458	1,477
of which ENDE	3	10	6	13	3	2	32	72	130	108	270	244	953	1,741	2,026
Overall Balance	**233**	**36**	**-101**	**88**	**43**	**947**	**-548**	**3,928**	**2,545**	**2,451**	**3,290**	**-132**	**-1,511**	**-1,975**	**-5,503**
of which YPFB	38	-21	-74	-118	-18	1,163	-1,192	4,425	1,037	1,208	3,195	2,064	-733	628	-2,302
of which COMIBOL	17	11	36	72	35	132	328	96	-88	132	38	-274	-218	125	-1,145
of which ENDE	2	-11	8	7	10	-1	-21	-36	-39	-117	71	-169	-748	-1,215	-1,240
Net Financing	**-233**	**-36**	**101**	**-88**	**-43**	**-947**	**548**	**-3,928**	**-2,545**	**-2,451**	**-3,290**	**132**	**1,511**	**1,975**	**5,503**
of which from the Central Bank	-189	319	95	130	-24	-1,324	596	-5,373	-817	-1,840	-1,438	1,756	2,143	2,076	6,523
Memorandum items:															
Crude oil price (in US$ per bbl)	25.9	26.1	31.1	41.4	56.5	66.1	72.4	99.6	61.7	79.4	95.1	94.2	97.9	93.3	48.7

Sources: Bolivian authorities; and IMF staff calculations.

Note: These numbers relate to the public enterprises included in the consolidated non-financial public sector accounts only; they exclude the subsidiaries (mixed enterprises and mixed state enterprises) of these public enterprises

Table A4. Bolivia: Profit and Loss Accounts of Selected Subsidiaries of Public Enterprises

(In millions of Bolivianos)

		2012	2013	2014	2015		2012	2013	2014	2015
	YPFB Group					**ENDE Group**				
(1)	Net profits before tax	6,347	6,799	7,055	1,311	Net profits before tax	168	198	807	1,435
(2)	Net profits after tax	6,347	6,799	7,055	1,311	Net profits after tax	168	198	807	1,435
(3)	Acquisition of fixed assets	3,301	3,682	4,198	4,379	Acquisition of fixed assets	401	685	905	1,595
(4)=(2)-(3)	*Difference*	3,045	3,117	2,857	-3,068	*Difference*	-233	-487	-97	-160
	YPFB Transporte					**ENDE Empresa Electrica Valle Hermoso**				
(1)	Net profits before tax	594	627	658	615	Net profits before tax	14	21	8	30
(2)	Net profits after tax	518	557	511	503	Net profits after tax	14	21	8	30
(3)	Acquisition of fixed assets	1,072	889	648	471	Acquisition of fixed assets	77	73	45	20
(4)=(2)-(3)	*Difference*	-554	-332	-137	33	*Difference*	-62	-52	-38	10
	YPFB Chaco					**ENDE Andina**				
(1)	Net profits before tax	1,085	647	945	481	Net profits before tax	1	5	10	23
(2)	Net profits after tax	867	415	762	414	Net profits after tax	1	5	10	22
(3)	Acquisition of fixed assets	661	992	643	620	Acquisition of fixed assets	392	930	633	324
(4)=(2)-(3)	*Difference*	205	-577	119	-206	*Difference*	-392	-925	-623	-302
	YPFB Refinacion					**Corani (ENDE)**				
(1)	Net profits before tax	254	674	471	505	Net profits before tax	72	57	63	
(2)	Net profits after tax	254	674	471	505	Net profits after tax	57	49	51	
(3)	Acquisition of fixed assets	171	415	1,034	1,500	Acquisition of fixed assets	16	83	43	
(4)=(2)-(3)	*Difference*	82	259	-563	-995	*Difference*	42	-34	9	
	YPFB Andina									
(1)	Net profits before tax	1,258	1,456	2,086	1,299					
(2)	Net profits after tax	790	1,061	1,495	875					
(3)	Acquisition of fixed assets	1,411	1,110	933	1,122					
(4)=(2)-(3)	*Difference*	-621	-50	561	-247					

Sources: Annual financial reports of public enterprises and subsidiaries; and IMF staff calculations.

Notes: YPFB's ownership share is 98.6 percent of YPFB Transporte, 99.3 percent of YPFB Chaco, 99.9 percent of YPFB Refinacion, and 51 percent of YPFB Andina. ENDE's ownership share is 100 percent of Empresa Electrica Valle Hermoso, 60 percent of ENDE Andina, and 100 percent of ENDE Corani. All these subsidiaries are not included in the consolidated non-financial public sector accounts.

Annex III. Debt Sustainability Analysis—Baseline Scenario

Staff's analysis applying the Public DSA framework for Market-Access Countries suggests that risks to Bolivia's public debt are moderate in the medium term (2016–21). At 43 percent of GDP in August 2016, Bolivia's public debt is moderate by international standards, but it has grown significantly in recent years and is projected to reach about 52 percent of GDP in 2021. Medium-term risks remain manageable if the authorities continue their pragmatic approach to implementing public investment plans (as under the baseline projections), with the financing need remaining below the respective benchmark under most standard macroeconomic shocks through 2021 (except for 2016, when the financing need is 10.2 percent); under the primary balance shock, the gross financing need is projected to exceed 10 percent of GDP in 2017–18.

Definition and debt profile: Public sector debt in this DSA includes all financial obligations of the central government and subnational governments as well as liabilities of non-financial state-owned enterprises to the central bank (BCB). After declining to 35.7 percent of GDP in 2012, public sector debt increased to 40.6 percent of GDP in 2015. The BCB's lending to SOEs increased from 1.9 percent of GDP in 2011 to 9.2 percent of GDP in 2015. There was a 3.6 percentage point of GDP increase in gross public debt in 2015 relative to 2014, due mainly to an increase in external debt and BCB lending to SOEs. External debt accounted for about 47 percent of total debt at end-2015. Net public debt (gross debt excluding deposits of the general government and SOEs at the BCB) stood at 28 percent of GDP at end-August 2016.

Staff macroeconomic and fiscal assumptions: Growth is projected at about 3.7 percent and 3.9 percent in 2016 and 2017, respectively, and at 3.5 percent thereafter. Inflation is projected at about 5 percent in the medium term. The GDP deflator is projected to decline by about 2 percent in 2016, increase by about 7 percent in 2017, and increase by at 4.2–5.2 percent in 2018–21. The fiscal position is projected to improve, with the primary deficit declining to 3.4 percent of GDP in 2021 from 7 percent of GDP in 2016, as the limited financing and capacity constraints will restrict the authorities' ability to carry out their capital expenditure plan. With an expected tightening of monetary policy in the US, interest rates are expected to increase. However, given the maturity structure of the outstanding debt stock, the impact of higher interest rates on new loans on the effective interest rate is gradual and limited. Under these assumptions, the gross financing needs of the public sector are projected to fall to about 8 percent of GDP in 2019–21 from about 10 percent of GDP in 2016. The public debt-to GDP ratio is projected to increase to about 52 percent in 2021.

Stress tests:

Primary balance shock. The primary balance in 2017–18 is hit by a shock equal to 1.9 percent of GDP (50 percent of the 10-year historical standard deviation of the primary balance-to-GDP ratio). The debt/GDP ratio increases to 52.6 percent in 2018 and then gradually increases to 55.7 percent in 2021, about 3.7 percentage points higher than baseline debt in 2021.

Growth shock. Real GDP growth rates are 1 percentage point lower in 2017–18 (100 percent of the 10-year historical standard deviation of real GDP growth rates). The debt-to-GDP ratio increases to 51.3 in 2018 and then gradually increases to 54.4 percent in 2021 (2.4 percentage points higher than in the baseline).

Interest rate shock. Real interest rates increase by about 330 basis points during 2017–21 (the difference between the average real interest rate in 2006–15 and the highest historical real interest rate). The debt-to-GDP ratio gradually increases to 54.3 percent in 2021 (2.3 percentage points higher than the baseline).

Exchange rate shock. The real effective exchange rate depreciates by 20 percent in 2017. The debt-to-GDP ratio increases to 50.1 percent in 2017 and then gradually increase to 54.2 (2.2 percentage points higher than the baseline).

Combined shock. A simultaneous combination of the previous four shocks would result in an increasing debt-to-GDP ratio, rising to 55.3 percent in 2017, 58.9 percent in 2018, and 63.1 percent in 2021 (11.1 percentage points higher than the baseline).

Contingent liability shock. A one-time increase in non-interest expenditures equivalent in 2017 to 10 percent of banking sector assets, combined with lower growth and lower inflation in 2017–18 (i.e., growth is reduced by 1 standard deviation), results in the debt-to-GDP ratio peaking at 55.9 percent in 2018, followed by a gradual increase to 58.9 percent in 2021 (6.9 percentage points higher than the baseline).

Public Sector Debt Sustainability Analysis (DSA)—Baseline Scenario

(In percent of GDP, unless otherwise indicated)

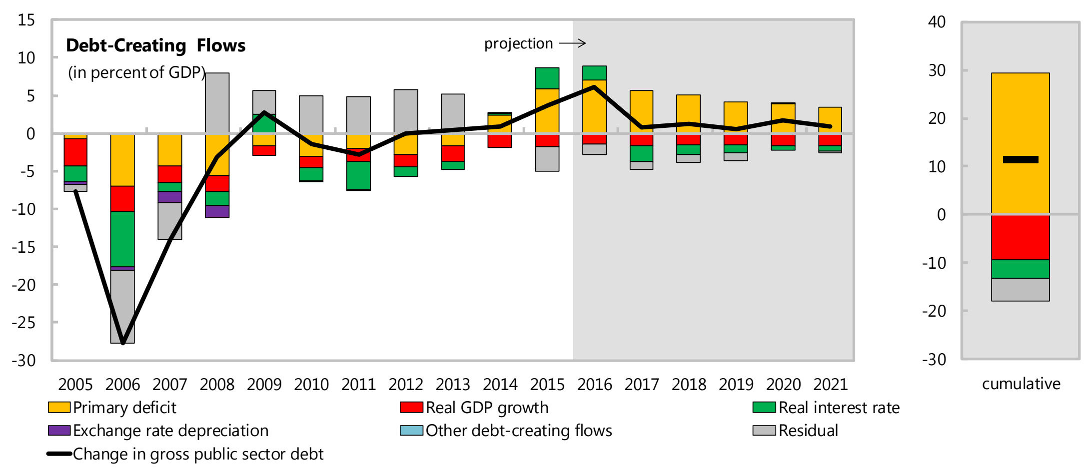
Debt, Economic and Market Indicators [1/]

	Actual			Projections					
	2005-2013 [2/]	2014	2015	2016	2017	2018	2019	2020	2021
Nominal gross public debt	44.4	37.0	40.6	46.7	47.6	48.8	49.4	51.2	52.0
Public gross financing needs	1.0	4.2	8.0	10.2	9.0	8.5	7.8	7.9	7.8
Real GDP growth (in percent)	4.9	5.5	4.8	3.7	3.9	3.5	3.5	3.5	3.5
Inflation (GDP deflator, in percent)	7.9	2.0	-4.6	-2.0	7.1	5.2	4.8	4.2	4.7
Nominal GDP growth (in percent)	13.3	7.6	0.0	1.7	11.3	8.8	8.5	7.8	8.7
Effective interest rate (in percent) [4/]	4.1	2.9	2.7	2.5	2.5	2.5	2.7	3.0	3.3

As of June 29, 2016		
Sovereign Spreads		
EMBIG (bp) 3/		184
5Y CDS (bp)		n.a.
Ratings	Foreign	Local
Moody's	Baa3	Baa3
S&Ps	BB	BB
Fitch	BB	BB

Contribution to Changes in Public Debt

	Actual			Projections							
	2005-2013	2014	2015	2016	2017	2018	2019	2020	2021	cumulative	debt-stabilizing
Change in gross public sector debt	-6.0	0.9	3.6	6.1	0.8	1.3	0.6	1.7	0.9	11.4	primary
Identified debt-creating flows	-7.8	0.8	6.9	7.4	2.0	2.3	1.6	1.7	1.1	16.0	balance [9/]
Primary deficit	-3.2	2.4	5.9	7.0	5.7	5.1	4.2	3.9	3.4	29.3	-2.4
Primary (noninterest) revenue and gra	35.6	39.9	37.7	35.0	35.2	34.5	34.6	33.9	33.6	206.8	
Primary (noninterest) expenditure	32.4	42.3	43.6	42.0	40.8	39.6	38.8	37.8	37.1	236.1	
Automatic debt dynamics [5/]	-4.6	-1.6	1.0	0.4	-3.7	-2.8	-2.6	-2.2	-2.4	-13.3	
Interest rate/growth differential [6/]	-4.1	-1.6	1.0	0.4	-3.7	-2.8	-2.6	-2.2	-2.4	-13.3	
Of which: real interest rate	-2.0	0.2	2.8	1.8	-2.0	-1.2	-1.0	-0.6	-0.7	-3.8	
Of which: real GDP growth	-2.1	-1.8	-1.8	-1.5	-1.6	-1.5	-1.6	-1.6	-1.7	-9.5	
Exchange rate depreciation [7/]	-0.5	0.0	0.0	…	…	…	…	…	…	…	
Other identified debt-creating flows	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Contingent liabilities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Please specify (2) (e.g., ESM and Euro	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Residual, including asset changes [8/]	1.8	0.1	-3.2	-1.3	-1.1	-1.1	-1.0	0.0	-0.1	-4.6	



Source: IMF staff.

1/ Public sector is defined as the consolidated public sector. Public debt includes SOEs' borrowing from the BCB but not from other domestic instituions.

2/ Based on available data.

3/ EMBIG.

4/ Defined as interest payments divided by debt stock (excluding guarantees) at the end of previous year.

5/ Derived as [(r - π(1+g) - g + ae(1+r)]/(1+g+π+gπ)) times previous period debt ratio, with r = interest rate; π = growth rate of GDP deflator; g = real GDP growth rate; a = share of foreign-currency denominated debt; and e = nominal exchange rate depreciation (measured by increase in local currency value of U.S. dollar).

6/ The real interest rate contribution is derived from the numerator in footnote 5 as r - π (1+g) and the real growth contribution as -g.

7/ The exchange rate contribution is derived from the numerator in footnote 5 as ae(1+r).

8/ Includes asset changes and interest revenues (if any). For projections, includes exchange rate changes during the projection period.

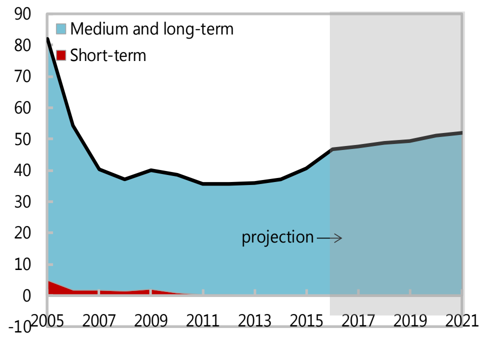
9/ Assumes that key variables (real GDP growth, real interest rate, and other identified debt-creating flows) remain at the level of the last projection year.

Public DSA—Composition of Public Debt and Alternative Scenarios

Composition of Public Debt

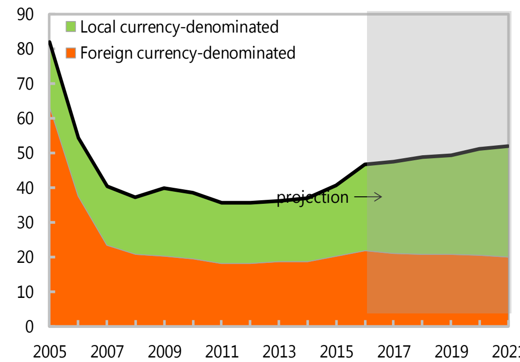
By Maturity

(in percent of GDP)



By Currency

(in percent of GDP)

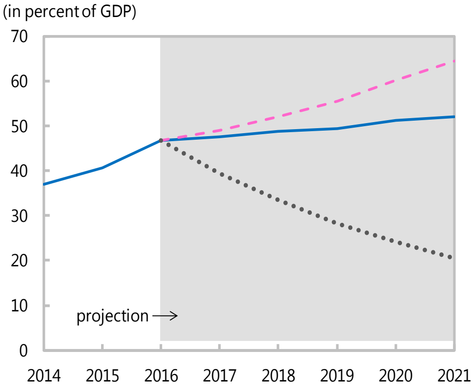


Alternative Scenarios

Baseline   Historical   Constant Primary Balance

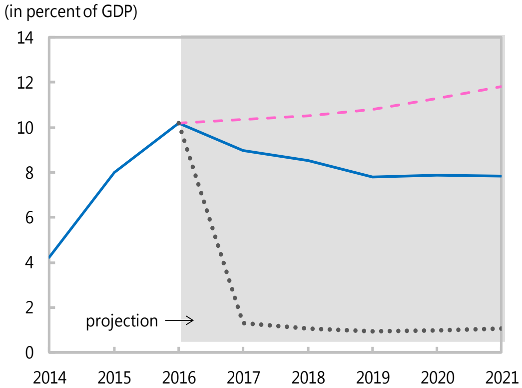
Gross Nominal Public Debt

(in percent of GDP)



Public Gross Financing Needs

(in percent of GDP)



Underlying Assumptions

(in percent)

Baseline Scenario	2016	2017	2018	2019	2020	2021
Real GDP growth	3.7	3.9	3.5	3.5	3.5	3.5
Inflation	-2.0	7.1	5.2	4.8	4.2	4.7
Primary Balance	-7.0	-5.7	-5.1	-4.2	-3.9	-3.4
Effective interest rate	2.5	2.5	2.5	2.7	3.0	3.3
Constant Primary Balance Scenario						
Real GDP growth	3.7	3.9	3.5	3.5	3.5	3.5
Inflation	-2.0	7.1	5.2	4.8	4.2	4.7
Primary Balance	-7.0	-7.0	-7.0	-7.0	-7.0	-7.0
Effective interest rate	2.5	2.5	2.6	2.9	3.2	3.6

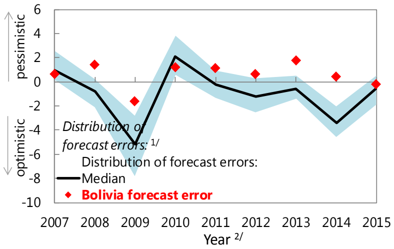
Historical Scenario	2016	2017	2018	2019	2020	2021
Real GDP growth	3.7	5.0	5.0	5.0	5.0	5.0
Inflation	-2.0	7.1	5.2	4.8	4.2	4.7
Primary Balance	-7.0	2.0	2.0	2.0	2.0	2.0
Effective interest rate	2.5	2.5	2.2	2.0	1.8	1.8

Source: IMF staff.

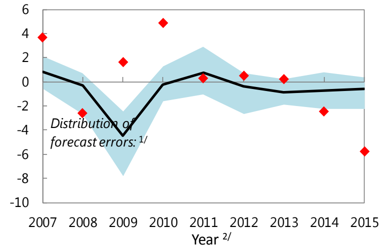
Public DSA—Realism of Baseline Assumptions

Forecast Track Record, versus surveillance countries

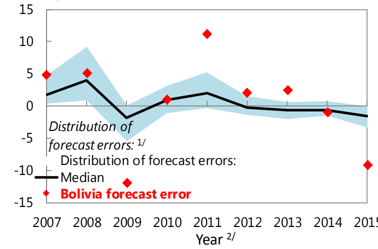
Real GDP Growth
(in percent, actual-projection)
Bolivia median forecast error, 2007-2015: **0.66**
Has a percentile rank of: **94%**



Primary Balance
(in percent of GDP, actual-projection)
Bolivia median forecast error, 2007-2015: **0.31**
Has a percentile rank of: **78%**

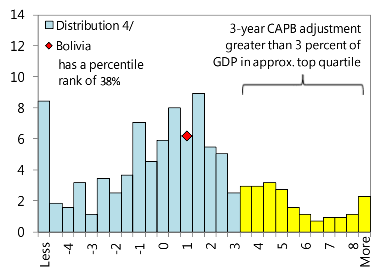


Inflation (Deflator)
(in percent, actual-projection)
Bolivia median forecast error, 2007-2015: **2.01**
Has a percentile rank of: **83%**

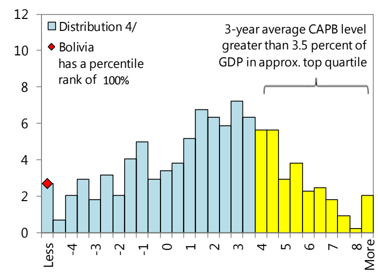


Assessing the Realism of Projected Fiscal Adjustment

3-Year Adjustment in Cyclically-Adjusted Primary Balance (CAPB)
(Percent of GDP)

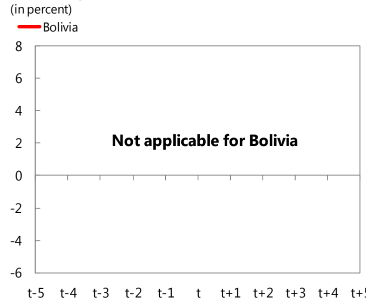


3-Year Average Level of Cyclically-Adjusted Primary Balance (CAPB)
(Percent of GDP)



Boom-Bust Analysis 3/

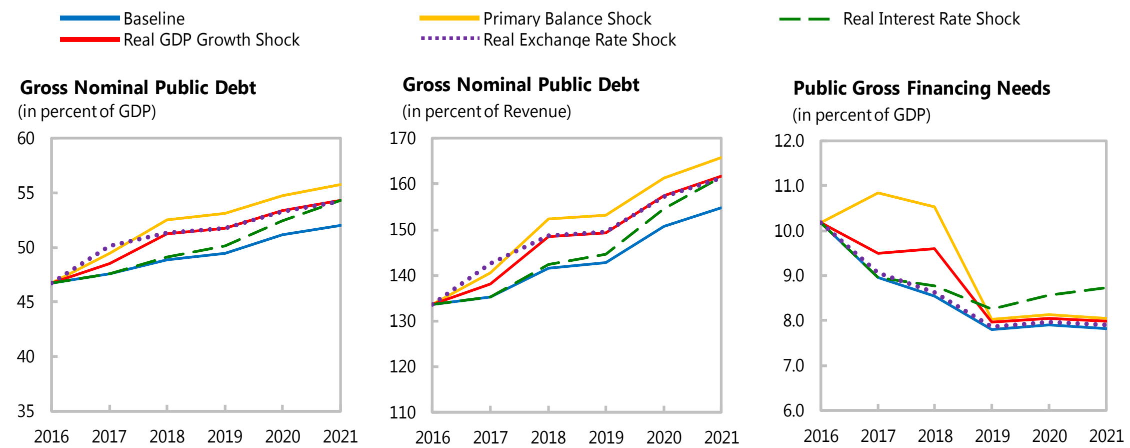
Real GDP growth
(in percent)



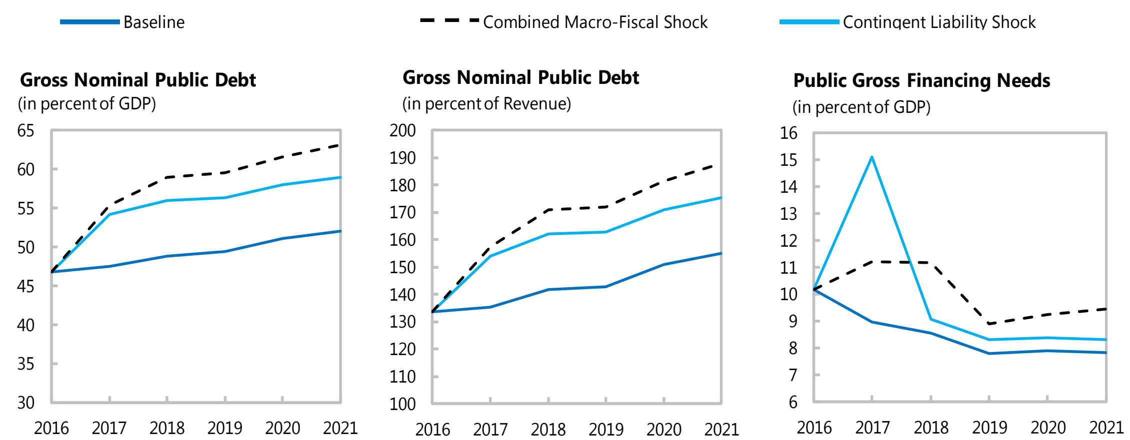
Source : IMF Staff.
1/ Plotted distribution includes surveillance countries, percentile rank refers to all countries.
2/ Projections made in the spring WEO vintage of the preceding year.
3/ Not applicable for Bolivia, as it meets neither the positive output gap criterion nor the private credit growth criterion.
4/ Data cover annual obervations from 1990 to 2011 for advanced and emerging economies with debt greater than 60 percent of GDP. Percent of sample on vertical axis.

Public DSA—Stress Tests

Macro-Fiscal Stress Tests



Additional Stress Tests



Underlying Assumptions
(in percent)

Primary Balance Shock	2016	2017	2018	2019	2020	2021
Real GDP growth	3.7	3.9	3.5	3.5	3.5	3.5
Inflation	-2.0	7.1	5.2	4.8	4.2	4.7
Primary balance	-7.0	-7.5	-7.0	-4.2	-3.9	-3.4
Effective interest rate	2.5	2.5	2.7	3.0	3.2	3.5
Real Interest Rate Shock						
Real GDP growth	3.7	3.9	3.5	3.5	3.5	3.5
Inflation	-2.0	7.1	5.2	4.8	4.2	4.7
Primary balance	-7.0	-5.7	-5.1	-4.2	-3.9	-3.4
Effective interest rate	2.5	2.5	3.1	3.8	4.4	5.1
Combined Shock						
Real GDP growth	3.7	2.9	2.5	3.5	3.5	3.5
Inflation	-2.0	6.9	4.9	4.8	4.2	4.7
Primary balance	-7.0	-7.5	-7.0	-4.2	-3.9	-3.4
Effective interest rate	2.5	2.8	3.1	3.9	4.4	5.1

Real GDP Growth Shock	2016	2017	2018	2019	2020	2021
Real GDP growth	3.7	2.9	2.5	3.5	3.5	3.5
Inflation	-2.0	6.9	4.9	4.8	4.2	4.7
Primary balance	-7.0	-6.1	-6.1	-4.2	-3.9	-3.4
Effective interest rate	2.5	2.5	2.6	2.9	3.1	3.4
Real Exchange Rate Shock						
Real GDP growth	3.7	3.9	3.5	3.5	3.5	3.5
Inflation	-2.0	13.8	5.2	4.8	4.2	4.7
Primary balance	-7.0	-5.7	-5.1	-4.2	-3.9	-3.4
Effective interest rate	2.5	2.8	2.5	2.7	2.9	3.2
Contingent Liability Shock						
Real GDP growth	3.7	2.9	2.5	3.5	3.5	3.5
Inflation	-2.0	6.9	4.9	4.8	4.2	4.7
Primary balance	-7.0	-11.6	-5.1	-4.2	-3.9	-3.4
Effective interest rate	2.5	2.8	3.1	3.3	3.4	3.7

Source: IMF staff.

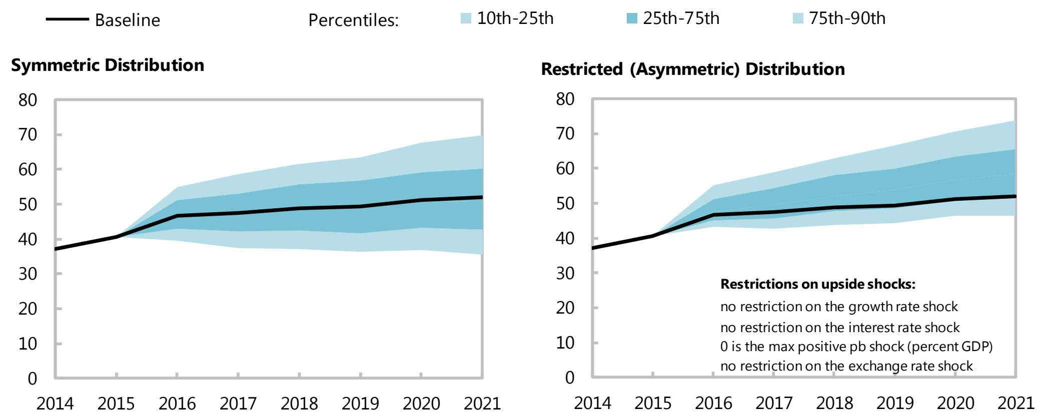
Public DSA—Risk Assessment

Heat Map

Debt level [1/]	Real GDP Growth Shock	Primary Balance Shock	Real Interest Rate Shock	Exchange Rate Shock	Contingent Liability shock
Gross financing needs [2/]	Real GDP Growth Shock	Primary Balance Shock	Real Interest Rate Shock	Exchange Rate Shock	Contingent Liability Shock
Debt profile [3/]	Market Perception	External Financing Requirements	Change in the Share of Short-Term Debt	Public Debt Held by Non-Residents	Foreign Currency Debt

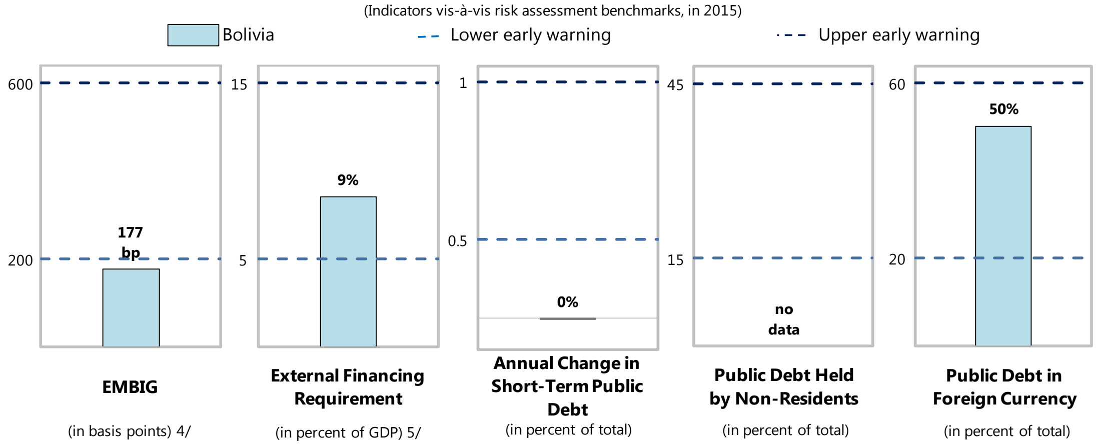
Evolution of Predictive Densities of Gross Nominal Public Debt

(in percent of GDP)



Debt Profile Vulnerabilities

(Indicators vis-à-vis risk assessment benchmarks, in 2015)



Source: IMF staff.

1/ The cell is highlighted in green if debt burden benchmark of 70% is not exceeded under the specific shock or baseline, yellow if exceeded under specific shock but not baseline, red if benchmark is exceeded under baseline, white if stress test is not relevant.

2/ The cell is highlighted in green if gross financing needs benchmark of 15% is not exceeded under the specific shock or baseline, yellow if exceeded under specific shock but not baseline, red if benchmark is exceeded under baseline, white if stress test is not relevant.

3/ The cell is highlighted in green if country value is less than the lower risk-assessment benchmark, red if country value exceeds the upper risk-assessment benchmark, yellow if country value is between the lower and upper risk-assessment benchmarks. If data are unavailable or indicator is not relevant, cell is white.
Lower and upper risk-assessment benchmarks are:

200 and 600 basis points for bond spreads; 5 and 15 percent of GDP for external financing requirement; 0.5 and 1 percent for change in the share of short-term debt; 15 and 45 percent for the public debt held by non-residents; and 20 and 60 percent for the share of foreign-currency denominated debt.

4/ EMBIG, an average over the last 3 months, 31-Mar-16 through 29-Jun-16.

5/ External financing requirement is defined as the sum of current account deficit, amortization of medium and long-term total external debt, and short-term total external debt at the end of previous period.

External Debt Sustainability Framework, 2011–21

(In percent of GDP, unless otherwise indicated)

	Actual							Projections						
	2011	2012	2013	2014	2015			2016	2017	2018	2019	2020	2021	**Debt-stabilizing non-interest current account 6/**
Baseline: External debt	18.7	18.6	19.7	19.9	21.7			**23.0**	**22.4**	**22.3**	**22.2**	**22.0**	**21.6**	**-4.7**
Change in external debt	-1.7	-0.1	1.0	0.2	1.8			1.3	-0.6	-0.1	-0.1	-0.2	-0.4	
Identified external debt-creating flows (4+8+9)	-7.6	-13.3	-10.3	-3.5	4.3			5.1	1.2	-0.4	-1.2	-1.8	-2.0	
Current account deficit, excluding interest payments	-0.8	-7.6	-2.8	-0.7	5.3			6.4	4.7	3.7	2.7	2.2	1.7	
Deficit in balance of goods and services	-0.3	-8.6	-4.5	-2.1	5.8			6.7	4.8	3.7	2.6	1.9	1.5	
Exports	38.3	44.9	41.5	40.7	28.5			26.5	27.0	26.2	25.6	24.8	24.0	
Imports	38.0	36.4	37.0	38.7	34.2			33.2	31.8	29.9	28.1	26.7	25.6	
Net non-debt creating capital inflows (negative)	-3.6	-3.9	-5.7	-1.9	-1.5			-1.1	-3.2	-3.8	-3.7	-3.7	-3.4	
Automatic debt dynamics 1/	-3.2	-1.8	-1.8	-0.9	0.5			-0.3	-0.3	-0.2	-0.3	-0.3	-0.3	
Contribution from nominal interest rate	0.5	0.3	0.4	0.5	0.5			0.5	0.5	0.5	0.5	0.4	0.4	
Contribution from real GDP growth	-0.9	-0.8	-1.1	-1.0	-1.0			-0.8	-0.8	-0.7	-0.7	-0.7	-0.7	
Contribution from price and exchange rate changes 2/	-2.8	-1.3	-1.1	-0.4	1.0			...	...	...	...	...	...	
Residual, incl. change in gross foreign assets (2-3) 3/	5.8	13.2	11.3	3.7	-2.5			-3.8	-1.8	0.2	1.1	1.6	1.6	
External debt-to-exports ratio (in percent)	48.8	41.5	47.5	48.8	76.3			86.7	83.1	85.1	86.9	88.6	89.8	
Gross external financing need (in billions of US dollars) 4/	1.0	-0.6	0.0	0.7	2.8			3.3	2.9	2.7	2.5	2.4	2.3	
in percent of GDP	4.3	-2.2	0.0	2.0	8.5	10-Year	10-Year	9.6	7.7	6.7	5.6	5.0	4.4	
Scenario with key variables at their historical averages 5/								**23.0**	**12.2**	**3.9**	**-2.9**	**-8.9**	**-14.3**	**-1.7**
Key Macroeconomic Assumptions Underlying Baseline						Historical Average	Standard Deviation							
Real GDP growth (in percent)	5.2	5.1	6.8	5.5	4.8	5.0	1.0	3.7	3.9	3.5	3.5	3.5	3.5	
GDP deflator in US dollars (change in percent)	15.9	7.5	6.0	2.0	-4.6	8.1	7.5	-2.0	7.1	5.2	4.8	4.2	4.7	
Nominal external interest rate (in percent)	3.0	2.1	2.4	2.6	2.7	2.7	0.6	2.5	2.4	2.3	2.2	2.1	2.1	
Growth of exports (US dollar terms, in percent)	28.8	32.7	4.4	5.8	-30.2	13.7	24.4	-5.2	13.2	5.7	5.7	4.7	4.9	
Growth of imports (US dollar terms, in percent)	38.6	8.2	15.0	12.6	-11.5	15.5	16.5	-1.3	6.6	2.2	2.1	2.4	3.7	
Current account balance, excluding interest payments	0.8	7.6	2.8	0.7	-5.3	5.3	6.0	-6.4	-4.7	-3.7	-2.7	-2.2	-1.7	
Net non-debt creating capital inflows	3.6	3.9	5.7	1.9	1.5	3.1	1.2	1.1	3.2	3.8	3.7	3.7	3.4	

1/ Derived as [r - g - r(1+g) + ea(1+r)]/(1+g+r+gr) times previous period debt stock, with r = nominal effective interest rate on external debt; r = change in domestic GDP deflator in US dollar terms, g = real GDP growth rate, e = nominal appreciation (increase in dollar value of domestic currency), and a = share of domestic-currency denominated debt in total external debt.

2/ The contribution from price and exchange rate changes is defined as [-r(1+g) + ea(1+r)]/(1+g+r+gr) times previous period debt stock. r increases with an appreciating domestic currency (e > 0) and rising inflation (based on GDP deflator).

3/ For projection, line includes the impact of price and exchange rate changes.

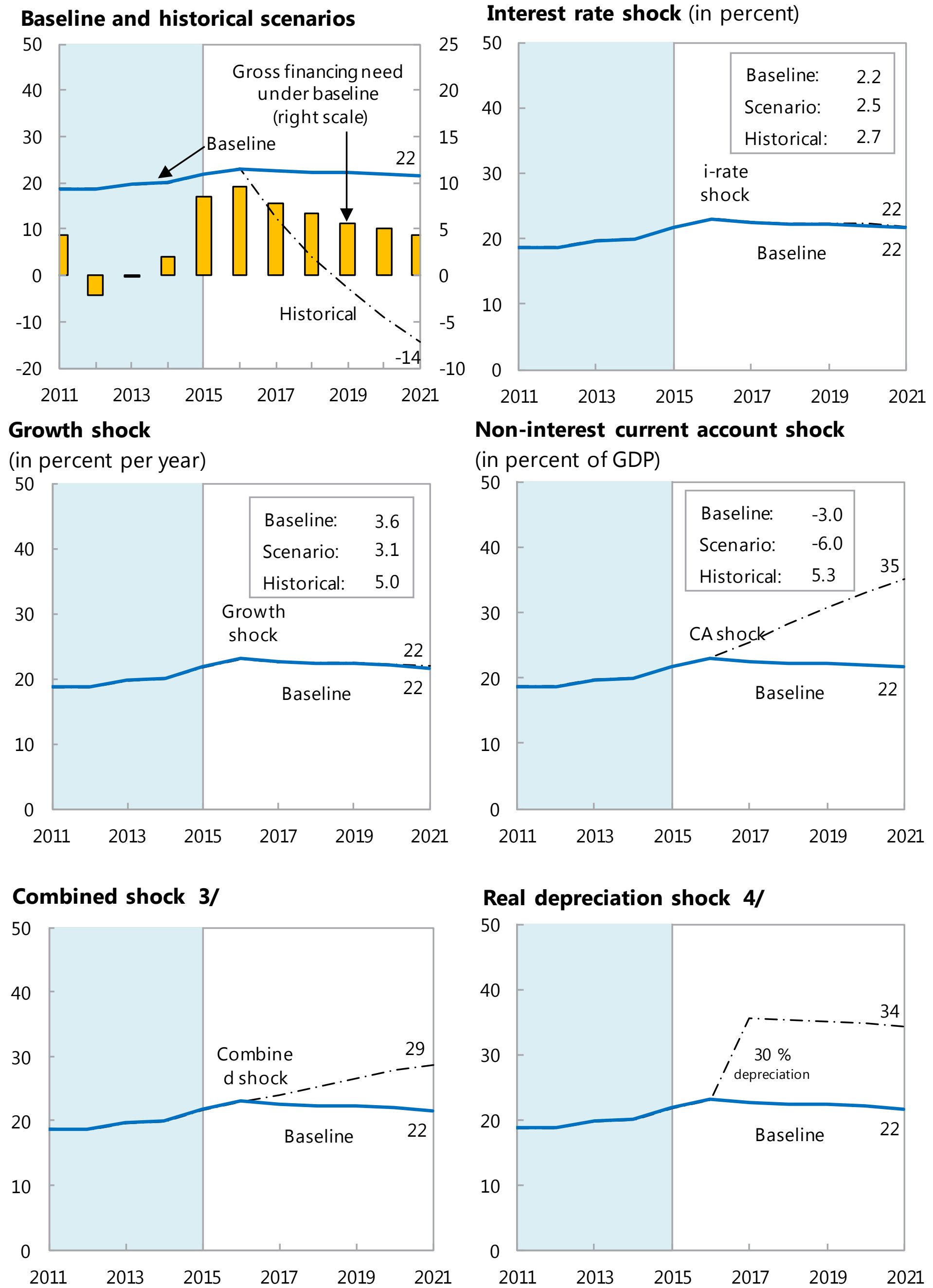
4/ Defined as current account deficit, plus amortization on medium- and long-term debt, plus short-term debt at end of previous period.

5/ The key variables include real GDP growth; nominal interest rate; dollar deflator growth; and both non-interest current account and non-debt inflows in percent of GDP.

6/ Long-run, constant balance that stabilizes the debt ratio assuming that key variables (real GDP growth, nominal interest rate, dollar deflator growth, and non-debt inflows in percent of GDP) remain at their levels of the last projection year.

External Debt Sustainability: Bound Tests 1/ 2/

(External debt in percent of GDP)



Sources: International Monetary Fund, Country desk data, and staff estimates.
1/ Shaded areas represent actual data. Individual shocks are permanent one-half standard deviation shocks. Figures in the boxes represent average projections for the respective variables in the baseline and scenario being presented. Ten-year historical average for the variable is also shown.
2/ For historical scenarios, the historical averages are calculated over the ten-year period, and the information is used to project debt dynamics five years ahead.
3/ Permanent 1/4 standard deviation shocks applied to real interest rate, growth rate, and current account balance.
4/ One-time real depreciation of 30 percent occurs in 2010.

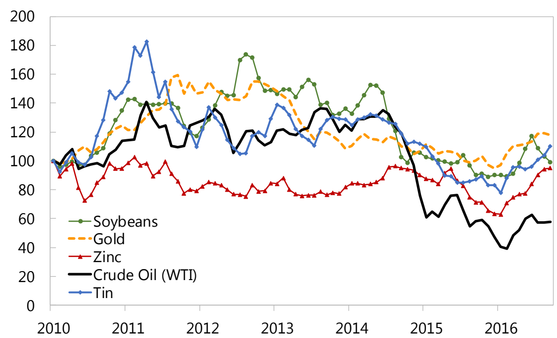
Annex IV. External Stability Assessment

Key factors affecting Bolivia's external sector—lower commodity prices and real effective exchange rate appreciation—have persisted since last year. As a consequence, the real exchange rate is assessed as stronger than warranted by medium-term fundamentals and desirable policies in 2016. Additionally, Bolivia's performance in other measures of competitiveness slipped from already weak levels. In the absence of progress on relative price adjustments and the structural environment, gains in diversification away from natural resources has languished. A wide current account deficit opened up in 2015, and is set to continue going forward, sustained in part by import demand related to planned public investment. With limited capital and financial account flows, a drawdown in reserves has financed a large portion of the recent current account deficits. Still, reserves remain more than adequate by standard metrics.

A. Challenges Affecting the External Sector

1. **International prices for Bolivia's major exports have only partially recovered.** The plunge in commodity prices dealt Bolivia one of its largest terms-of-trade shocks in its history. Peak to trough declines in prices ranged between 30 to 71 percent for hydrocarbons, metals, and soybeans and derivatives. Together, these goods accounted for more than three-quarters of Bolivia's exports in 2015. Since bottoming out, there have been gains ranging between 11 and 51 percent, but prices remain below peak levels. Going forward, futures contracts indicate that prices for these commodities will strengthen only modestly over the next five years.

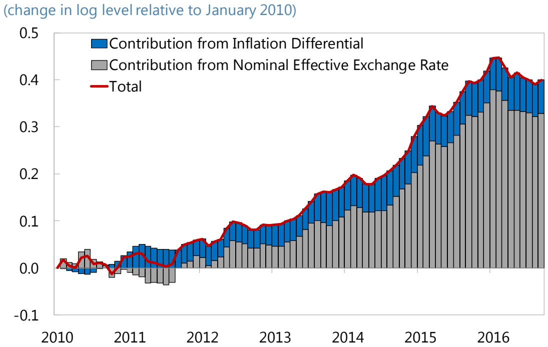
Commodity Prices
(indexes, January 2010=100)



Sources: Haver Analytics; Fund staff calculations.

2. **The real effective exchange rate has been on an appreciating trend.** The real value of the Boliviano has surged, principally reflecting sharp depreciations of major trading partners' exchange rates (including Brazil and Argentina). As these countries' currencies have been stabilizing in recent months, the Bolivian REER has slightly depreciated. As of September 2016, it depreciated 1.9 percent from a year ago, but the REER remains 49 percent appreciated relative to the January 2010 level.

Real Effective Exchange Rate
(change in log level relative to January 2010)



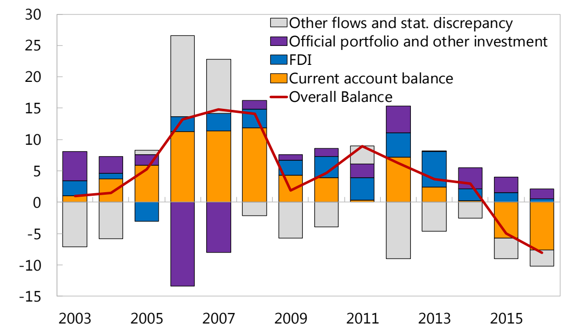
Sources: Information Notice System and Fund staff calculations.

3. **Recent supply shocks in the hydrocarbon and agriculture sectors will be a drag on exports this year.** Shipments of natural gas decreased temporarily mid-year, reflecting challenges at existing fields. The launch of operations at a new field in August restored output to normal levels,

but overall natural gas export quantities are expected to be lower this year. In the agriculture sector, a major drought has been adversely affecting crop output, which is expected to decrease 4 percent this year.

4. **Last year's large current account deficit will likely widen this year, and remain substantial over the next few years.** This year, the current account deficit will reach 7.6 percent of GDP. Exports are expected to decline, reflecting the full-year impact of commodity prices and the supply shocks in the agriculture and hydrocarbon sectors. Imports will remain high this year and into the medium term, driven by the authorities' investment plans. Over the next few years, staff forecasts annual current account deficits to decrease but remain significant, declining to 2⅓ percent of GDP in 2021.

Bolivia: Overall Balance of Payments
(Percent of GDP)



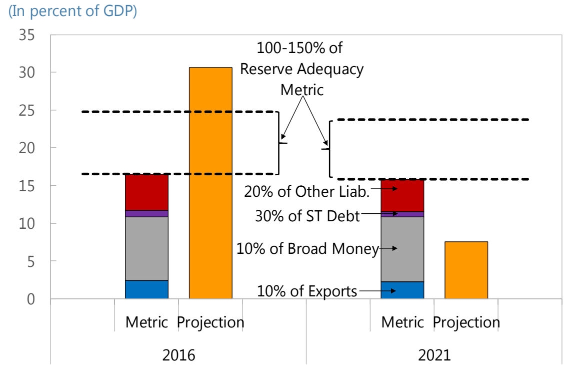
Sources: National Authorities and Fund staff calculations and projections.

B. Reserves Remain Fully Adequate

5. **A drawdown in NIR has largely been financing recent current account deficits.** Although public sector external borrowing and foreign direct investment provided some offset, capital and financial account flows have not been fully financing the recent current account deficits, implying a drawdown in reserves. In 2015, reserves decreased US$2.1 billion and so far in 2016, they have come down another US$2.3 billion. Nevertheless, at US$10¾ billion through mid-October 2016, or around 32 percent of GDP, they remain high. Going forward, however, in the absence of policy adjustment, external deficits would persist, and reserves would continue trending down.

6. **Still-high NIR levels remain more than adequate.** Even with staff's projection of a large current account deficit for 2016, reserves would decrease to still-elevated 30½ percent of GDP and cover 11.6 months of imports. At that level, reserves would be well above 100–150 percent of the Assessing Reserve Adequacy benchmark (applicable to countries with inflexible exchange rates), which stands at 16 percent of GDP. Reserves in excess of the benchmark are warranted in a country like Bolivia, because it is a commodity exporter that is vulnerable to price shocks. While buffers are ample in the near term, staff's baseline has reserves falling below recommended levels in the medium term. This possibility underscores the need for adjustment.

International Reserves and Adequacy Metrics
(In percent of GDP)

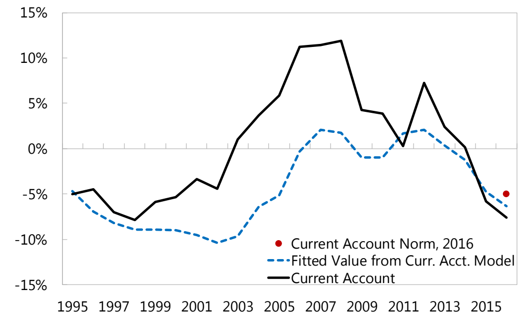


Sources: Fund staff calculations.

C. Real Exchange Rate Assessment

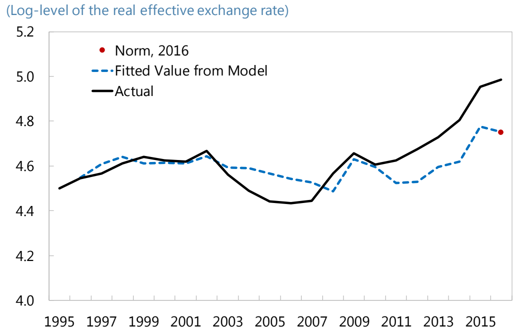
7. **Various techniques point to a real exchange rate that is stronger than fundamentals and desirable policies.** The two EBA-lite approaches have been tailored to resource-rich countries and maintain common assumptions on appropriate levels of private credit, change in reserves, and capital controls.[1] The additional assumptions specific to each approach and results include:

EBA-Lite Current Account Model
(Percent of GDP)



- Current account: Desirable policies under this approach also entail a moderate fiscal deficit that allows the government to tackle pressing development needs but still stabilizes debt at prudent levels. On this basis, the framework finds that the current account norm is about -5 percent of GDP. To close the gap between that level and the expected 2016 outturn of -7.6 percent of GDP, the real exchange rate would need to depreciate by about 17½ percent.

EBA-Lite: Real Effective Exchange Rate Model
(Log-level of the real effective exchange rate)



- Real effective exchange rate: The REER model assumes that the actual and optimal real interest rates coincide. With these assumptions, this approach finds an even larger REER overvaluation of 24 percent.

8. **A depreciated real exchange rate would also be consistent with a stabilized net foreign asset position.** Bolivia's net international investment position (NIIP) is currently strong, after a significant improvement that coincided with debt relief, previous fiscal surpluses, and reserves accumulation. As of 2015, Bolivia held a slight net asset position against the rest of the world. Maintaining this high level into the medium to longer term (right chart; scenario 1) would require a current account surplus of 0.2 percent of GDP—a level consistent with a real depreciation of almost 17¼ percent. In light of Bolivia's development needs, stabilizing the net position at a lower level may be appropriate. A stabilized net foreign asset level of -11.3 percent of GDP would be broadly consistent with the average level that prevailed in 2007, after the debt relief transactions concluded (HIPC and MDRI). In order to adhere to this level over the longer run (right chart; scenario 2), the current account would need to narrow to a deficit of around 2⅓ percent of GDP, entailing a real depreciation of about 10 percent.

[1] In particular, the settings for private credit are observed levels; zero for the change in foreign reserves; and the international average for capital controls.

EBA-Lite Methodologies: Summary Results for Exchange Rate Assessment 1/

	Percent of GDP				
	Current account norm	Current account balance 2/	Gap	Elasticity	REER 3/
Current Account	-5.0	-7.6	-2.6	-0.15	17.4
REER	…	…	…	…	23.7
External Stability					
Scenario 1: Stabilize 2015 NFA level	0.2	-2.3	-2.6	-0.15	17.2
Scenario 2: Stabilize at 2007 level (11.3% of GDP)	-0.8	-2.3	-1.5	-0.15	10.1

Source: Fund staff estimates.

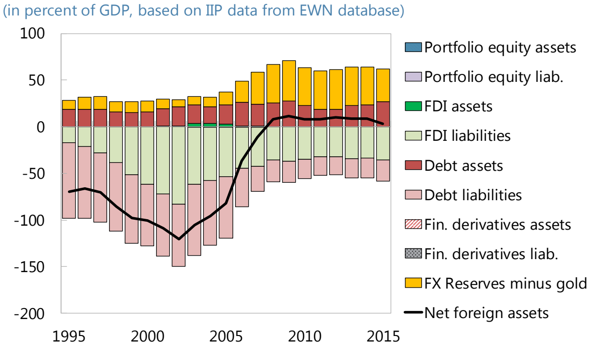
1/ Based on data for 2015 and projections for 2016. Regressions use sample restricted to oil and gas exporting countries only.

2/ For the current account approach, the current account corresponds to the projection for 2016. For the external sustainability approaches, the value corresponds to the projection for 2021.

3/ A positive number indicates overvaluation.

IIP Composition, by Instrument

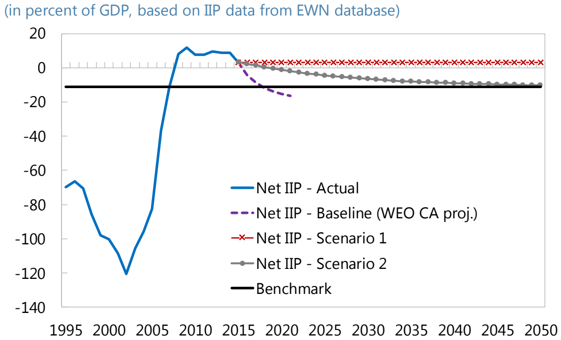
(in percent of GDP, based on IIP data from EWN database)



Source: Lane and Milesi-Ferretti's External Wealth of Nations Dataset, IMF WEO, Banco Central de Bolivia, and Fund staff calculations.

Net IIP: Actual & Projected

(in percent of GDP, based on IIP data from EWN database)

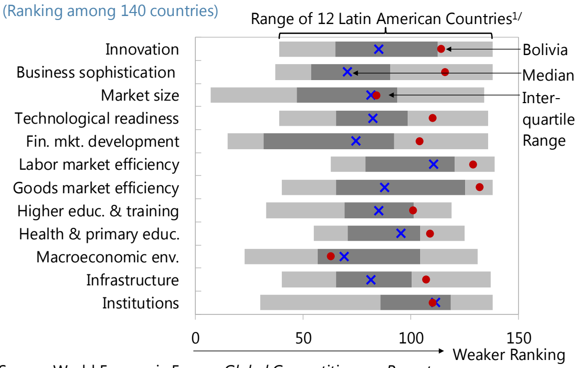


Source: Lane and Milesi-Ferretti's External Wealth of Nations Dataset, IMF WEO, Banco Central de Bolivia, and Fund staff estimates and projections.

D. Weakening Performance in Other Measures of Competitiveness

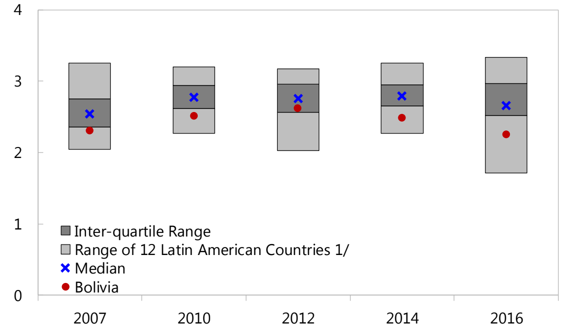
9. **Bolivia's rankings on international comparisons of competitiveness have slipped.** Bolivia's placement in the World Economic Forum's Global Competitiveness Index deteriorated from 105th place in 2014–15 to 117th place in 2015–16. Among the twelve subcategories, Bolivia performed above the median for Latin American countries in two areas, macroeconomic environment and institutions. Labor and goods market efficiency as well as business sophistication and innovation were particularly weak, underscoring the importance of reforms give the private sector a greater role in the economy. Perceptions of Bolivia's logistics capability are also weaker than the median for Latin America and they have been declining over the past several years. Respondents were particularly critical of the quality and competence of logistics providers as well as customs, with both having even weaker ratings in the 2016 survey than in 2014. On the other hand, shipments and timeliness both improved a little.

Competitiveness Indicators
(Ranking among 140 countries)



Source: World Economic Forum, *Global Competitiveness Report*.
1/ Latin America & Caribbean WEO group, excluding small states and Venezuela.

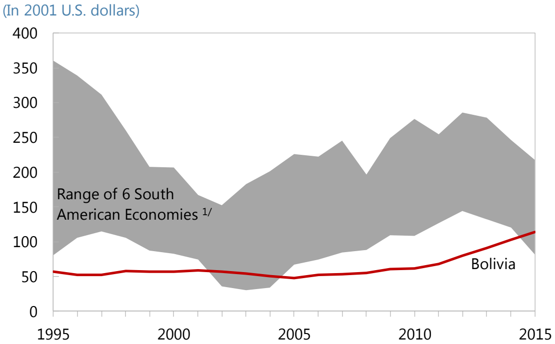
Logistics Performance Index
(scores on index from very low (1) to very high (5))



Sources: World Bank.
1/ Latin America & Caribbean WEO group excluding small states and Venezuela.

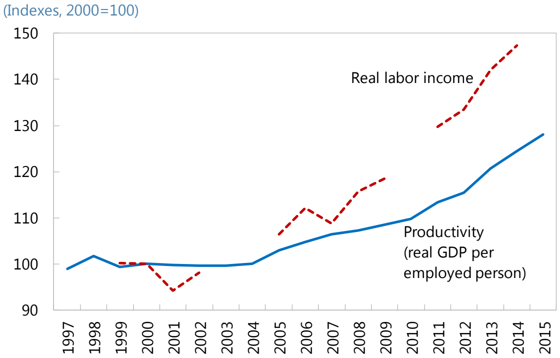
10. **Real wages continue to grow ahead of productivity.** Bolivia has closed the gap between its real minimum wage (measured in U.S. dollars) and those of other Latin American countries. This convergence largely reflects hikes in the nominal minimum wage in local currency. In Bolivia, this growth averaged 14.2 percent over the past 10 years, with only Uruguay having slightly faster nominal growth (14.9 percent). Other Bolivian wage policies have also driven rapid increases in labor incomes. Overall, real labor incomes have risen about 47 percent over 2000–14. However, labor productivity (real output per employed person) has grown less rapidly over this period (24 percent), causing a drag on competitiveness.

Real Minimum Wages in Selected Comparitor Economies
(In 2001 U.S. dollars)



Sources: ILO; National Authorities; IFS; Haver Analytics; and Fund staff calculations.
1/Brazil, Chile, Ecuador, Paraguay, Peru and Uruguay. Ecuador data begin in 2001.

Labor Productivity and Real Labor Income
(Indexes, 2000=100)



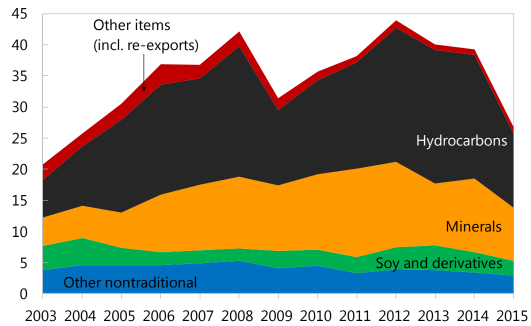
Sources: SEDLAC; ILO; and Fund staff calculations.

11. **These trends are likely holding back progress on diversification and expanding exports:**

- Diversification and complexity: The authorities' objectives include diversification and production of higher value-added commodities. Each objective has been linked with higher longer-run growth empirically. To advance this agenda, they have advanced certain initiatives that have expanded certain non-traditional exports. However, overall, the share of nontraditional exports has changed little over the past 12 years. Instead, exports have remained principally concentrated in natural resource extraction (hydrocarbons and minerals).

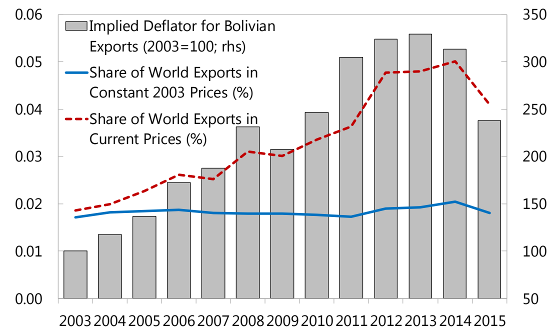
- Market share: Bolivia's share of world exports has risen, largely reflecting increases in its main export commodities (hydrocarbons, minerals, and soy). However, its share of world real exports has remained broadly stable for some time. This indicates that Bolivia has been able to expand exports broadly in line with the world average.

Exports, by Type of Product
(In percent of GDP)



Sources: Banco Central de Bolivia.

Exports: Shares and Prices



Sources: World Economic Outlook; Haver Analytics; and Fund staff estimates.

Annex V. Stress Tests of the Bolivian Banking System

This annex provides background on the stress tests of the Bolivian banking system. Loan growth has picked up significantly, resulting in a fourfold increase in total lending since 2009. Although part of it reflects strong demand from a growing economy, it also points to potentially higher risks in the future. Thus, stress tests were performed to assess both the solvency and liquidity stance of banking sector in the face of potential shocks. These tests were conducted on the 13 general license banks ("Bancos Múltiples") and the relatively large state-owned bank (Banco Union), on a bank-by-bank basis, using publically available balance sheet data and complementary data provided by the authorities as of end-June 2016. This annex provides details on the methodologies and assumptions used to derive the stress test results discussed earlier within this report.

Credit Risk

Reported data present some differences in reported and implied provisions, requiring some initial adjustments. Reported system-wide capital adequacy ratio (CAR) stands at 12.4 percent of total risk-weighted assets, with all 14 banks above the regulatory minimum ratio of 10 percent (Figure B1). However, in some cases, the reported levels of provisions appear to be lower than that required by existing loan classification. Thus, banks capital ratios were adjusted by the amount of "underprovisioning" derived from the reported loan classification and provisioning rates, lowering the system's CAR to 12 percent, with no bank below the 10 percent threshold.[1]

Credit risk was modeled as a function of a set of macroeconomic variables. The NPL-ratio is modeled as a function of real GDP growth, real (lending) interest rates, and the real effective exchange rate (REER). To ensure that the model only produces predictions for the NPL-ratio between 0 and 100 percent, the following logit transformation is applied:

$$Y_t = \ln\left(\frac{\mathrm{NPL_t}}{1-\mathrm{NPL_t}}\right) \qquad \text{for } t = 1, \dots, T \qquad [1]$$

This logit transformation is then assumed to be a linear function of the three macroeconomic factors, and estimation model can be expressed as:

$$Y_{i,t} = \alpha + \beta_1 X_{1,t} + \beta_2 X_{2,t} + \beta_3 X_{3,t} + \mu_i + \epsilon_{i,t} \qquad \text{for } t = 1, \dots, T \qquad [2]$$

where $\mu_i$captures the bank specific fixed effects, $\epsilon_{i,t}$ is a well-behaved error term, and α and the β_i's are parameters estimated using standard fixed-effects panel data techniques on quarterly data for the period 2001Q1 to 2016Q1 (Table 1).[2]

[1] The reported capital may still suffer from additional deficiencies, reflecting in part limitations in quality of supervision, including issues related to the appropriate classification of loans, treatment of restructured loans, valuation of collateral and investment assets, dealing with related-party lending and on-lending practices, etc.

[2] To minimize any endogeneity issues, the dependent variable takes end-of-period (quarter) values, while the explanatory variables represent averages over the quarter. Robustness tests were also conducted using lags of the explanatory variables.

Table 1. Results of NPL Estimation Model

Dependent variable: Logit transformation of NPL ratio

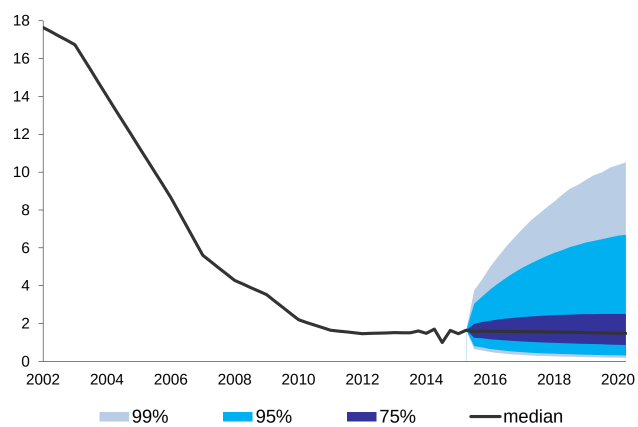
VARIABLES	(1)	(2)	(3)	(4)
Real GDP growth	-0.538***			-0.294***
	(0.056)			(0.057)
Real interest rate		0.182***		0.081***
		(0.012)		(0.017)
REER, log			-3.708***	-2.531***
			(0.343)	(0.346)
Constant	-1.096***	-4.747***	14.455***	9.603***
	(0.273)	(0.091)	(1.677)	(1.852)
Observations	229	242	242	229
R-squared	0.302	0.490	0.340	0.608
Number of Banks	14	14	14	14

Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Source: IMF staff calculations.

An econometric model was used to simulate the joint distribution of possible paths for the explanatory variables and NPL-ratio. A vector autoregressive (VAR) model was used to estimate the joint historical behavior of real output growth, the real interest rate, and the REER. After the estimation of parameters, Monte Carlo simulations provide the possible future (joint) paths of the three explanatory variables. Then, the corresponding elasticities are used to project the future distribution of the NPL-ratio, which embeds the effect of combined shocks to real output growth, and interest and exchange rates (Figure).

Distribution of NPLs in Response to Macroecomic Shocks
(percent of total loans)



Source: ASFI; and IMF staff calculations. Note: the distribution and confidence intervals (percentiles) above were generated using one million repetitions.

Currency Risk

Direct and indirect currency risks are currently low in the Bolivian banking system. Existing regulation places limits on the net open FX positions of banks.[3] Most banks present a fairly small net open FX position, and—with roughly half of the banks presenting a small long position, and the other half a small short position—there are no signs of one-sided FX speculation. Stress tests

[3] Essentially, the current limit for an overall net long (short) open FX position is 30 percent (60 percent) of regulatory capital.

suggest that direct credit risks are low, and even under an extreme scenario (25 percent depreciation), the implied losses would be fairly small (180 million Bolivianos, or less than 0.1 percent of GDP). Moreover, levels of dollarization have fallen rapidly in recent years. Roughly 15–16 percent of assets and liabilities are currently denominated in U.S. dollars. On the asset side, most FX-denominated assets are made of cash and high-quality liquid assets, while credit dollarization represents a mere 2 percent of total loans. FX loans are generally provided to borrowers that receive hard currency income. However, by virtue of the small amounts involved, the presence of any "unhedged borrowers" is unlikely to pose a systemic risk.

Concentration Risk

Concentration risk was assessed based on the hypothetical default of the largest borrowers. In most banks, the largest single exposure represents an important share of total regulatory capital (Table 2). In particular, the largest exposure in two small banks is close to the regulatory minimum (20 percent of capital). Although for most banks the reported amount of collateral pledged against a large loan exceeds the amount of the loan, it does not eliminate the underlying risk as the collateral might suffer from valuation deficiencies or practical limitations (e.g. costly legal process, large execution times, etc.), or might be somewhat encumbered (e.g. syndicated loans). Stress tests show that the default of the single largest borrower would lead to system-wide losses of around 543 million Bolivianos,[4] with the resulting capitalization of all banks above the 10 percent minimum. Whereas the hypothetical default of the largest 5 borrowers would lead to losses of about 1.86bn Bolivianos (0.8 percent of GDP) and would result in the undercapitalization of 6 banks.

Table 2. Largest Credit Exposures in the Banking System

(In percent of total regulatory capital)

	All Banks	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13	B14
Largest borrower	**11.4**	16.6	19.5	18.7	14.7	16.8	16.1	3.3	13.7	14.5	19.0	9.0	0.8	0.1	12.8
Largest 5 borrowers	**46.4**	64.1	91.9	81.3	41.6	79.9	65.7	10.1	57.3	47.5	76.5	37.4	3.2	0.4	59.3
Largest 10 borrowers	**76.4**	100.3	139.1	129.2	59.8	141.9	117.0	15.3	90.9	79.1	94.3	63.0	5.0	0.7	101.5

Sources: Bolivian authorities; and IMF staff calculations.

Liquidity Risk

The assessment of the banking sector liquidity stance is based on the use of liquidity coverage metrics. Liquidity Coverage Ratio (LCR)-type proxies were constructed using bank-by-bank balance sheet data and assumptions in the spirit of Basel III. The LCR measures the banks' potential net outflows over the next 30 days, and the counterbalancing capacity of the banks—i.e. the amount of available liquid assets ("liquidity buffer")—to be able to cover these potential outflows. Banks should maintain an LCR above 100 percent. Specific deposit run-off rates and asset haircuts are included to

[4] Stress tests assumed a recovery rate of 50 percent on the reported collateral value.

emulate stress conditions. The assumptions embedded in the LCR proxy were based on the calibration suggested by Basel III. Furthermore, we construct an additional LCR-proxy calibrated on historically observed deposit run-off rates in Bolivia, which are much larger than the standard run-off rates embedded in the Basel III LCR (Table 3).

Table 3. Assumptions Used in Computation of LCR Proxies

	Basel III	Bolivia-specific
Liquid Assets ("Liquidity Buffer")	*assumed haircuts:*	
Cash	**0**	**0**
Deposits at Central Bank	**0**	**0**
Central Bank securities	**0**	**0**
Government securities	**15**	**15**
Interbank claims	**100**	**100**
Loans (performing) maturing within 1 month	**50**	**50**
Other assets maturing within 1 month	**50**	**50**
Potential Outflows	*assumed run-off rates:*	
Interbank deposits	**100**	**100**
Customer Deposits		
Stable deposits	**5**	**25**
Less stable deposits	**10**	**50**
Term deposits, RM > 1 month	**0**	**5**
Other deposits 1/	**40**	**40**
Non-deposit liabilities maturing within 1 month	**100**	**100**

1/ Include desposits from large non-financial corporates, sovereigns, central banks, and SOEs.

Source: IMF staff calculations.

INTERNATIONAL MONETARY FUND

BOLIVIA

November 23, 2016

STAFF REPORT FOR THE 2016 ARTICLE IV CONSULTATION—INFORMATIONAL ANNEX

Prepared By | The Western Hemisphere Department
(In Consultation with Other Departments)

CONTENTS

FUND RELATIONS

(As of September 30, 2016)

Membership Status: Joined December 27, 1945; accepted its obligations under Article VIII, sections 2, 3, and 4 on June 5, 1967. The exchange system is free of restrictions on current international payments and transfers.

General Resources Account

	SDR Million	% Quota
Quota	171.50	100.00
Fund holdings of currency (Exchange Rate)	162.64	94.83
Reserve Tranche Position	8.87	5.17

SDR Department

	SDR Million	% Quota
Net cumulative allocation	164.13	100.00
Holdings	166.70	101.56

Outstanding Purchases and Loans: None

Latest Financial Arrangements (In SDR Millions)

Type	Date of Arrangement	Expiration Date	Amount Approved (SDR Million)	Amount Drawn (SDR Million)
Stand-By Arrangement	Apr 02, 2003	Mar 31, 2006	145.78	111.50
ECF[1]	Sep 18, 1998	Jun 07, 2002	100.96	63.86
ECF[1]	Dec 19, 1994	Sep 09, 1998	100.96	100.96

Projected Payments to the Fund[2]
(SDR Million; Based on existing use of resources and present holdings of SDRs)

	2016	2017	2018	2019	2012
Principal					
Charges/Interest		0.01	0.01	0.01	0.01
Total		**0.01**	**0.01**	**0.01**	**0.01**

Safeguards Assessment. Under the Fund's safeguards assessment policy, the Central Bank of Bolivia (CBB) was subject to an assessment with respect to the April 2, 2003 Stand-By Arrangement (SBA). A safeguards assessment was completed on June 27, 2003, and while no systemic risks with the CBB's safeguards were identified, uncertainties were expressed about the de facto lack of

[1] Formerly PRGF.

[2] When a member has overdue financial obligations outstanding for more than three months, the amount of such arrears will be shown in this section.

operational independence and program monetary data. An update assessment was completed on September 27, 2004 in conjunction with an augmentation of the SBA. This assessment confirmed that measures had been implemented to address all previously identified vulnerabilities, except for those requiring a change in the central bank law. Currently, CBB is not subject to the policy.

Exchange Arrangement: The Bolivian currency is the Boliviano and the de jure exchange rate regime is crawling peg to the U.S. dollar. Within the scope of the official crawling peg exchange rate regime, in an external environment characterized by market exchange rate volatility and decreasing external inflation, the sliding rate was set to zero to anchor the public's expectations. Consequently, the boliviano stabilized against the U.S. dollar since November 2011. Accordingly, the de facto exchange rate arrangement has been retroactively reclassified to a stabilized arrangement from a crawling peg, effective November 2, 2011. The exchange regime is free of restrictions and multiple currency practices.

Article IV Consultation: The last Article IV consultation was completed by the Executive Board on November 20, 2015 (Country Report No. 15/334). Bolivia is on a standard 12-month consultation cycle.

Implementation of HIPC Initiative

	Original Framework	Enhanced Framework	Total
Commitment of HIPC assistance			
Decision point date	Sep 1997	Feb 2000	
Assistance committed by all creditors (US$ million)[3]	448.00	854.00	
Of which: IMF assistance (US$ million)	29.00	55.32	
(SDR equivalent in millions)	21.25	41.14	
Completion point date	Sep 1998	Jun 2001	
Disbursement of IMF assistance (SDR million)			
Assistance disbursed to the member	21.25	41.14	62.39
Interim assistance	...	...	...
Completion point balance	21.25	41.14	62.39
Additional disbursement of interest income[4]	...	3.09	3.09
Total disbursements	**21.25**	**44.23**	**65.48**
Implementation of MDRI Assistance			
Total debt relief (SDR Million)[5]			160.93
Financed by: MDRI Trust			154.82
Remaining HIPC resources			6.11
Debt relief by facility (SDR Million)			

Debt Relief by Facility (SDR Million)

	Eligible Debt		
Delivery Date	GRA	PRGF	Total
January 2006	83.08	N/A	83.08
January 2006	6.70	71.15	77.85

Implementation of Post-Catastrophe Debt Relief (PCDR): Not Applicable

[3] Assistance committed under the original framework is expressed in net present value (NPV) terms at the completion point, and assistance committed under the enhanced framework is expressed in NPV terms at the decision point. Hence these two amounts cannot be added.

[4] Under the enhanced framework, an additional disbursement is made at the completion point corresponding to interest income earned on the amount committed at the decision point but not disbursed during the interim period.

[5] The Multilateral Debt Relief Initiative (MDRI) provides 100 percent debt relief to eligible member countries that are qualified for the assistance. Grant assistance from the MDRI Trust and HIPC resources provide debt relief to cover the full stock of debt owed to the Fund as of end-2004 that remains outstanding at the time the member qualifies for such debt relief.

Technical Assistance, 2010–15

Department	Purpose	Date
FAD	Treasury management and sub national debt control	May 10
FAD	Development of a medium-term macro fiscal framework	May 10
FAD	Institutional strengthening of tax and customs administration	Jun. 10
FAD	Integration of tax and customs administrations	Jan. 11
STA	National accounts	Feb. 11
MCM	Road map for the Issuance of Sovereign Bonds	Nov. 11
LEG	AML/CFT regulatory and institutional framework	Jan. 12
STA	Government Finance Statistics	Feb. 12
LEG	AML/CFT regulatory and institutional framework	Jul. 12
FAD	Integration of tax and customs administrations	Aug. 12
FAD	Tax policy (mining code reform)	Dec. 12
LEG	AML/CFT regulatory and institutional framework	Apr. 13
FAD	ROSC Evaluation of fiscal transparency	Apr. 13
MCM	Medium-term debt strategy	Apr. 13
FAD	Institutional strengthening of tax and customs administration	Jul. 13
FAD	Tax policy (international taxation, personal income tax and tax expenditure)	Jul. 13
STA	SDDS assessment	Oct. 13
STA	National accounts	Oct. 13
FAD	VAT gap and tax expenditure	Feb. 14
FAD	Auditing and evaluation of TA for the national tax service)	Feb. 14
LEG	Structure and tools for strengthening AML/CFT institutional, regulatory and supervisory framework of the ASFI	Feb 14
LEG	Development of a national strategy and structures and tools for strengthening the overall AML/CFT regime of the pension and insurance supervisor	Ago. 14
FAD	Special schemes for small taxpayers and personal income tax	Oct. 14
FAD	Strategies for transfer pricing and control of medium and small taxpayers	Oct. 14
FAD	Medium-term fiscal framework	Nov. 14
LEG	Structures and tools for strengthening the overall AML/CFT supervisory regime of the pension and insurance supervisor	Nov. 14
STA	Government finance statistics	Dec. 14
STA	Price statistics	Feb. 15
LEG	Follow-up in development of a national strategy and structures and tools for strengthening the overall AML/CFT regime of the pension and insurance supervisor	Apr. 154
LEG	Follow-up in development of a national strategy and structures and tools for strengthening the overall AML/CFT regime of the pension and insurance supervisor	Aug. 15
FAD	Customs administration modernization (risk management)	Aug. 15

Technical Assistance, 2010–15 (concluded)

STA	External sector statistics	Sep. 15
LEG	Follow-up in development of a national strategy and structures and tools for strengthening the overall AML/CFT regime of the pension and insurance supervisor	Oct. 15
STA	Reporting and dissemination of FSIs	Dec. 15
FAD	Follow-up to customs administration modernization (risk management)	Jan. 16
FAD	Assessment of the current organization and operation of the GRACOS offices	Jan. 16
FAD	Follow-up tax administration	Jan. 16
STA	External sector statistics	Apr. 16
STA	Price statistics	Apr. 16
LEG	Follow-up in development of a national strategy and structures and tools for strengthening the overall AML/CFT regime of the pension and insurance supervisor	Jul. 16
FAD	Advice on techniques for planning and executing tax auditing of large taxpayers in the financial sector	Aug. 16
FAD	Tax administration	Oct. 16
LEG	Follow-up in development of a national strategy and structures and tools for strengthening the overall AML/CFT regime of the pension and insurance supervisor	Oct. 16
STA	Follow-up to external sector statistics	Oct. 16

RELATIONS WITH THE WORLD BANK AND BANK-FUND COLLABORATION UNDER THE JMAP

A. Relations with the World Bank Group

The ongoing Country Partnership Framework (CPF) for the fiscal period 2016–20 constitutes the umbrella for World Bank Group (WBG) support to Bolivia. The CPF was discussed by the Board of Executive Directors in December 2015. The program under the CPF aims at maximizing the impact of WBG interventions on poverty reduction and the promotion of shared prosperity, the WBG Twin Goals. Three selectivity filters were used to frame the program: (a) broad consistency with the priority constraints identified in the WBG Systematic Country Diagnostic (SCD); (b) alignment with the Government's development plans and demands; and (c) the WBG comparative advantage in sustaining Bolivia's progress in moving toward the Twin Goals. Despite the filters, the WBG engagement in Bolivia will remain flexible with respect to the evolution of the country's growth trajectory and new demands that may arise from the authorities.

The WBG program under the CPF is comprised of two pillars and five objectives that will provide general direction to the WBG's engagement. The CPF has the following two pillars: (1) promote broad-based and inclusive growth; and (2) support environmental and fiscal sustainability, and resilience to climate change and economic shocks. Within each pillar, the following inter-linked objectives guide the WBG's engagement: (i) reduce transport costs and increase connectivity of isolated and vulnerable communities to the national road network; (ii) increase access to selected quality basic services for the poorest rural and urban communities; (iii) improve opportunities for income generation, market access and sustainable intensification (Pillar 1); (iv) strengthen capacity to manage climate change and reduce vulnerability to natural disasters; and (v) strengthen institutional capacity to improve public resource management and the business environment (Pillar 2). The formulation of the pillars and objectives reflect the current portfolio and allow space for nascent government demands.

Bolivia will continue receiving financing from both the International Bank for Reconstruction and Development (IBRD) and the International Development Association (IDA) during the CPF period. The Bolivia CPF reflects an indicative lending volume of up to US$2 billion during the 2016–20 period. The Special Drawing Rights (SDR) 146 million (approx. US$208 million) of the IDA17 allocation for FY2015–17 was front-loaded and is already fully committed. The IDA Scale-up Facility allocated US$30 million to Bolivia that will be committed in late 2016. The CPF envisioned the transition of Bolivia to an IBRD-only status by the end of the IDA17 cycle at the end of FY2017. However, under ongoing discussions with regard to IDA financing, it is proposed that Bolivia, together with other three IDA graduate countries, will receive transitional support from IDA equivalent to ⅔ of the IDA17 allocation during the IDA18 cycle (FY2018–20).

The CPF takes into account the existing portfolio as much of the impact on the CPF objectives will be derived from the legacy portfolio. The World Bank active portfolio in Bolivia comprises 10 investment project financing worth US$766 million, of which US$486 million remain undisbursed

(Table 1). The existing trend of a steady state number of projects (about 11–13) is expected to continue. The portfolio supports projects in the following areas: transport, rural development and agriculture, statistical capacity building, energy, urban development, climate change and employment. The first Development Policy Financing (DPF) in a decade, approved in FY2015 underpinned by a solid policy program in Disaster Risk Management, closed in mid-July. There are currently no plans to follow up with additional DFP financing.

The WBG's engagement is defined for fiscal years 2017–19. The pipeline comprises five investment project financing and two additional financing for US$965 million. The authorities are prioritizing investments in the water sector, including drinking water, irrigation, basic sanitation and wastewater treatment plants, in line with the Government's Economic and Social Development Plan for 2016–20. Transport, energy, rural and urban development areas continue to be priorities for Bank engagement. The tentative lending program for part of FY2019 and FY2020 is open and flexible to respond to emerging demands and reflects the findings of a Performance and Learning Review (PLR) that is planned for FY2018. The PLR will offer a critical stocktaking exercise and allow the WBG to adjust course as necessary.

Table 1. World Bank Investment Portfolio in Bolivia (as of October 2016)

Project	Commitment (US$ million)	Disbursed (US$ million)	Undisbursed* (US$ million)	Closing Date
Access and Renewable Energy	50.0	0.40	44.31	December 2021
Pilot Program for Climate Resilience (PPCR) Phase 2 – Integrated Basin Management	45.5	1.06	44.44	June 2020
Agricultural Innovation and Services	39.0	33.6	1.87	February 2017
Community Investment in Rural Areas	100.0	33.62	63.35	November 2019
Rural Alliances Project II	50.0	33.85	12.39	November 2017
Strengthening Statistical Capacity & Information for Evidence-Based Planning	73.3	58.93	10.62	December 2017
Improving Employability and Labor Income of Youth	20.0	1.04	17.22	December 2020
Urban Infrastructure Project	53.94	44.03	10.03	December 2016
National Roads & Airport Infrastructure	109.5	39.12	58.24	December 2016
Road Sector Capacity Development	225.0	0.41	224.30	June 2022
Total	**766.24**	**246.06**	**486.78**	

*Undisbursed balances differ from the difference between committed and disbursed amounts due to variations in the exchange rates between SDRs and U.S. dollars.

The International Finance Corporation (IFC) will continue supporting opportunities for private sector development under the CPF. The IFC portfolio comprises nine projects worth US$31.8 million in commitments. Last year, the IFC approved two long-term financing operations in Bolivia's banking sector, the first ones in over a decade. These credit facilities aim to help banks strengthen their position to finance local Small and Medium Enterprises (SMEs). In addition, the IFC has lent to a firm in the wood manufacturing sector. In the next five years, IFC will work to strengthen its relations with clients in the private sector, focusing on finance, agribusiness, and services. As for Advisory Services (AS), the IFC is implementing projects in strategic sectors to maximize employment, simplify business creation and income generation by low-income people, and protect the environment. In addition, dialogue with partners in new sectors is underway. As for the Multilateral Investment Guarantee Agency (MIGA), it remains open to supporting foreign direct investments via its political risk insurance products.

In addition, the World Bank will continue providing Advisory Services and Analytics (ASA). In the next years ASAs will focus on those areas where the World Bank can provide value added, respond to Government needs and in alignment with the knowledge gaps identified in the Systematic Country Diagnostic. Table 2 presents the list of ongoing ASA. The program is kept open to respond to emerging requirements.

Table 2. Ongoing ASA FY2017

	Product
Strengthening Delivery of Sustainable Water Services for the Most Disadvantaged in Bolivia	TA
Intermediate Cities Development	TA
Private Investment Note	TA
Policy Note in the Energy Sector	TA

Trust funds (TF) continue to be used to support policy dialogue and to pilot innovative ideas. The current TF portfolio (Table 3) includes three grants in areas such as community-driven development in remote areas, institutional capacity in the public investment cycle, and the capacity to develop and implement a system of statistical indicators to measure well-being in a multi-dimensional sense.

Table 3. World Bank Trust Fund Portfolio in Bolivia (as of October 2015)

Project	**Amount (US$ million)**
Living Well Indicators	0.30
Integrated Community-Driven Territorial Development for Remote Communities in the Amazon (JSDF)	2.21
Strengthening of Planning, Investment, Fiduciary and Procurement Capacities	0.52
TOTAL	**3.03**

B. IMF Relations with the World Bank Under JMAP

The following priorities were identified for the coordinated work-plan on Bolivia:

- **Reducing poverty and inequality:** Significant challenges remain in poverty reduction and inequality. The share of the population living in poverty has stagnated at around 38 percent between 2013 and 2015. Similarly, the reduction in income inequality has stopped since 2011, with a Gini of 0.47 in both 2011 and 2015.

- **Expanding access to basic services:** Access to basic services, particularly in rural areas, remains a challenge. Access to water and sanitation, health, education, and social protection are in the agenda.

- **Promoting private investment:** Private investment, both domestic and foreign direct investment, is below regional levels and has decreased after commodity prices plummeted.

- **Enhancing macroeconomic and fiscal framework**: Strengthening Bolivia's macroeconomic and fiscal management may help in dealing with the challenges brought by low commodity prices.

It was agreed that the teams continue with the following division of labor:

- **Poverty and social protection:** The Bank has been providing technical assistance on poverty measurement, including monetary poverty and multidimensional well-being indicators. This complements the support provided to generate high quality statistical information through a STATCAP project. These tools would support both diagnosis and targeting of population that fails to reach minimum standards of multidimensional welfare. In addition, the Bank continues supporting improvements in the access to sustainable basic productive infrastructure for the most disadvantaged rural communities, the employability of vulnerable youth in urban and peri-urban areas, and will support the dialogue on key health issues.

- **Basic and social services:** The Bank provides support to expand access to energy in unserved rural areas. It will also support the access to water, both for drinking and irrigation purposes in rural areas, as well as water and basic sanitation in peri-urban unserved areas. Support in the transport sector aims to increase connectivity not only for economic purposes but to facilitate access to services.

- **Private sector development**: The IFC is providing credit lines to financial institutions in an on-lending program to SMEs. Additionally, the IFC provides short-term credit lines to guarantee trade operations. The corporation is also aiming to expand its activities to other sectors such as food, agro-industry, and education. Similarly, the IFC is providing technical assistance to promote more efficient processes to improve the business climate at both national and sub-national levels.

- **Macroeconomic and fiscal management:** The Bank continues to be open to a government requirement to support activities based on previous technical assistance in debt management, multi-year budgeting and planning, public finance management, and public investment, including at the sub-national level.

RELATIONS WITH THE INTER-AMERICAN DEVELOPMENT BANK

As of September 30, 2016, the Inter-American Development Bank (IDB) had approved loans to Bolivia amounting to US$6.64 billion, with disbursements totaling US$4.91 billion. Bolivia's outstanding debt to the IDB was US$2,165 million with undisbursed approved funds of US$1,325 million. During the year, net cash flows to the country were positive for an eight year in a row, a trend expected to continue in the baseline scenario to 2017. At the end of 2007, the IDB unilaterally joined the IMF-WB MDRI initiative, by writing off a total of US$741.1 million in principal payments and US$307.3 million of future interest payments, generating an estimated annual fiscal space of more than US$18.0 million on average.

In order to make the IDB's concessional assistance to its poorest and most vulnerable member countries (Bolivia, Guyana, Honduras, and Nicaragua) sustainable, the Board of Executive Directors and Management have resolved the transfer of the resources of the Fund of Special Operations (FSO) into the Ordinary Capital (OC). Modifications to the eligibility criteria and financial structure for providing concessional lending to eligible borrowing members have also been approved. This transfer and modifications will be effective and implemented on January 1, 2017 and will allow Bolivia to keep having access to concessional borrowing.

The IDB and Bolivia approved at end-2015 a new country strategy for the period 2016–20. Under the country strategy, the IDB has decided to increase financial flows to Bolivia. While in 2011 the approval of new loans was US$252 million; it reached US$475.1 million in 2015 and will reach US$680.73 million in 2016 (US$633.4 million of blend financing and US$47.33 million from a one-time Grant Leverage Mechanism). The country strategy also contemplates a scenario where after 2016 the approval of new loans could go back to 2015´s levels given a new FSO performance-based allocation exercise.

The actions provided in the new Bank´s country strategy are consistent with Bolivia´s National Development Plan 2016–20. The strategy will help in the medium and long term development of Bolivia supporting three priority areas: (i) increasing productivity and diversifying the economy, (ii) closing social gaps, and (iii) improving of public management.

As of September 30, 2016, the portfolio of sovereign guaranteed operations in Bolivia consisted of 34 operations, totaling US$2.17 billion, of which 38.8 percent had been disbursed. The current executing portfolio supports mostly transport, water and sanitation and energy infrastructure interventions. The non-sovereign guaranteed executing portfolio consists of 15 loans equaling to US$81.7 million.

STATISTICAL ISSUES

(As of November 22, 2016)

A. Assessment of Data Adequacy for Surveillance

General. Data provision has some shortcomings, but is broadly adequate for surveillance. Progress has been made to strengthen the quality of statistics, including working towards full subscription of the Special Data Dissemination Standard (SDDS). Timely publication of macroeconomic data according to a pre-announced schedule, improving data on quasi-fiscal activities of subsidiaries of SOEs outside of the fiscal accounts, and publishing a real estate price index would be further important steps to improve transparency.

National Accounts. The National Institute of Statistics (INE) is working on updating of the base year of the national accounts (from 1990 to 2010, with mobile base) which includes the implementation of the System of National Accounts 1993 (SNA 1993) and some of the most relevant recommendations of the SNA 2008. The INE plans to release series for years 2010–15 in mid-2017, and then gradually release historic quarterly and regional national accounts from 1990,

Labor market. The quality of household and employment surveys has declined in the last few years, due mainly to financial constraints. The quarterly employment survey was discontinued in 2010, leading to a lack of quarterly information on unemployment, employment and wages. Yearly information on wages is still compiled by the INE. Currently, the INE is working on new household and employment surveys to be published next year with information since 2015.

Prices statistics. Industrial producer price indices (PPI) and external trade unit values are compiled by the INE, but are in need of revision as regards concepts and definitions consistent with SNA 1993, as well as treatment of seasonal products, missing items, quality changes, and introduction of new products. Two PPI TA visited Bolivia in 2015 and 2016. The INE is updating the CPI base year to be released during the first quarter of 2017; and preparing a new producer price index and a wholesale price index, both planned to be published in 2017.

Government finance statistics. Annual data on the operations of the consolidated central government do not cover all operations of decentralized agencies and operations channeled through special funds. The ongoing implementation of a comprehensive financial management system, with funding from the IADB/WB, will help ensure proper monitoring of public sector financial operations including subnational fiscal operations, debt and social spending. It will also be important to improve on the reporting of the operations and debt of public enterprises.

Balance of payments. In November 2016, the BCB began publishing balance of payments and international investment position data according to the *Balance of Payments Manual, sixth edition* (BPM6). The transition to BPM6 accounting principles took place along with a technical assistance program provided by the Fund and financed by the sub-account of the Government of Belgium. These revised external sector statistics (ESS) contain a number of methodological enhancements including improved coverage in the financial account and IIP, better classifications of institutional sectors and financial instruments, and a more comprehensive method to account for processing services performed on certain types of Bolivia's exports, among others. SDDS requirements for ESS are almost met, except for the publication of a calendar with data release dates.

B. Data Standards and Quality

Bolivia has participated in the General Data Dissemination System (GDDS) since November 2002. Data ROSC published on August 13, 2007.

Bolivia: Indicators Required for Surveillance

(As of November 22, 2016)

	Date of Latest Observation	Date Received	Frequency of Data[1]	Frequency of Reporting[1]	Frequency of Publication[1]	Memo Items: Data Quality– Methodological Soundness[10]	Memo Items: Data Quality– Accuracy and Reliability[11]
Exchange Rates	Daily	Daily	D	D	D		
International Reserve Assets and Reserve Liabilities of the Monetary Authorities[2]	Daily	Daily	D	D	D		
Reserve/Base Money	Aug. 2016	Oct. 2016	M	M	M	O, LO, LO, O	O, O, O, O, O
Broad Money	Aug. 2016	Oct. 2016	M	M	M		
Central Bank Balance Sheet	Aug. 2016	Oct. 2016	M	M	M		
Consolidated Balance Sheet of the Banking System	July. 2016	Oct. 2016	M	M	M		
Interest Rates[3]	Sep. 2016	Oct. 2016	W	W	W		
Consumer Price Index	Oct. 2016	Nov. 2016	M	M	M	LO, O, LO, O	O, LO, LNO, O, LO
Revenue, Expenditure, Balance and Composition of Financing[4] – General Government[5]	May. 2016	July. 2016	M	M	M	LO, LO, LNO, LO	LO, O, O, O, LO
Revenue, Expenditure, Balance and Composition of Financing[4]– Central Government[6]	May. 2016	July. 2016	M	M	M		
Stock of Central Government and Central Government-Guaranteed Debt[7]	Aug. 2016	Oct. 2016	M	M	M		
External Current Account Balance	Q2 2016	Nov. 2016	Q	Q	Q	O, LO, LO, LO	LO, O, LO, O, LO
Exports and Imports of Goods and Services[8]	Q1 2016	Oct. 2016	Q	Q	Q		
GDP/GNP	Q2 2016	Oct. 2016	Q	Q	Q	LO, LO, LO, O	LNO, LO, LNO, O, LO
Gross External Debt	Oct. 2016	Nov. 2016	M	M	M		
International Investment Position[9]	Q2 2016	Nov. 2016	Q	Q	Q		

[1] Daily (D), Weekly (W), Monthly (M), Quarterly (Q), Annually (A); Irregular (I); Not Available (NA).

[2] Any reserve assets that are pledged or otherwise encumbered should be specified separately. Also, data should comprise short-term liabilities linked to a foreign currency but settled by other means as well as the notional values of financial derivatives to pay and to receive foreign currency, including those linked to a foreign currency but settled by other means.

[3] Both market-based and officially-determined, including discount rates, money market rates, rates on treasury bills, notes and bonds.

[4] Foreign, domestic bank, and domestic nonbank financing.

[5] The general government consists of the central government (budgetary funds, extra budgetary funds, and social security funds) and state and local governments.

[6] Bolivia does not compile central government fiscal data.

[7] Guaranteed non-financial public sector debt. Including currency and maturity composition.

[8] Monthly frequencies for goods only.

[9] Includes external gross financial asset and liability positions vis-à-vis nonresidents.

[10] Reflects the assessment provided in the data ROSC (published on August 13, 2007, and based on the findings of the mission that took place during January 24–February 7, 2007) for the dataset corresponding to the variable in each row. The assessment indicates whether international standards concerning concepts and definitions, scope, classification/sectorization, and basis for recording are fully observed (O); largely observed (LO); largely not observed (LNO); not observed (NO); and not available (NA).

[11] Same as footnote 10, except referring to international standards concerning (respectively) source data, assessment of source data, statistical techniques, assessment and validation of intermediate data and statistical outputs, and revision studies.

Statement by the IMF Staff Representative on Bolivia
December 9, 2016

1. This statement reports on information that has become available since the staff report was issued. It does not alter the thrust of the staff appraisal.

2. **The government declared a state of emergency in response to severe water shortages in some areas across Bolivia, principally La Paz.** The shortages, linked to the current drought—the worst in 25 years—as well as underlying vulnerabilities from climate change, have left many Bolivians without reliable access to water. The government has introduced rationing measures, formed a working group of senior officials to oversee the response to the crisis, and announced an early end to the school year. Officials are considering other measures to alleviate the situation going forward including constructing additional water infrastructure, although these will take some time to yield results. Overall, these developments suggest that the drought may be having more severe and wider-reaching effects than envisaged in staff's baseline projections.

3. **The fiscal balance through September is running well below levels a year ago, in line with staff's forecast of a wide deficit for 2016.** The non-financial public sector has posted a deficit of 2 percent of GDP so far this year, substantially worse than the small surplus recorded in the same period a year ago. Weakening revenues, which mainly reflect the full-year impact of lower petroleum prices on hydrocarbon taxes, as well as higher capital spending are driving the deficit, notwithstanding restraint in current expenditures.

4. **Newly published balance of payments data contain important methodological improvements, but continue pointing to external imbalances.** The latest release showed a current account deficit of 6½ percent of GDP in the first half of 2016, with small but positive revisions to 2014–15. On this basis, staff is maintaining its outlook for the current account and international reserves, which have fallen $2.6 billion or 7.8 percent of GDP through November 25, 2016. Thus, staff's assessment that the real exchange rate is stronger than warranted by fundamentals and desirable policies remains valid. However, for the first time, the authorities issued the data using the methods of the *Balance of Payments Manual, 6th Edition*, significantly impacting key components (see attached table). In the current account, improved accounting of processing services and free-on-board imports valuation, and other needed reclassifications substantially impact goods and services trade balances, among other revisions. With these changes, the merchandise trade balance is about 3⅓ percentage points of GDP higher, while the services balance is about 2¾ percentage points lower on average during 2014–15. In the financial account, expanded coverage of sectors and instruments are major steps, although the authorities are still taking decisions regarding the treatment of debt issued abroad but held locally.

Bolivia: Balance of Payments Summary

	2014	2015	2016 Q1	2016 Q2	2016 H1	2014	2015	2016 Q1	2016 Q2	2016 H1
BPM 6 Methodology										
	(millions of U.S. dollars)					(percent of GDP)				
Current account	478	-1,854	-569	-450	-1,019	1.4	-5.6	-7.4	-5.7	-6.5
Goods	2,922	-331	-251	-189	-439	8.8	-1.0	-3.3	-2.4	-2.8
Exports	12,810	8,673	1,588	1,708	3,296	38.5	26.1	20.7	21.6	21.1
Imports	9,888	9,004	1,839	1,897	3,735	29.7	27.1	23.9	24.0	24.0
Services	-1,833	-1,568	-416	-400	-816	-5.5	-4.7	-5.4	-5.1	-5.2
Exports	1,190	1,242	265	259	524	3.6	3.7	3.5	3.3	3.4
Imports	3,024	2,810	682	659	1,340	9.1	8.5	8.9	8.3	8.6
Primary income, net	-1,696	-1,124	-199	-126	-325	-5.1	-3.4	-2.6	-1.6	-2.1
Secondary income, net	1,086	1,169	297	265	562	3.3	3.5	3.9	3.4	3.6
Capital account	5	5	1	1	2	0.0	0.0	0.0	0.0	0.0
Financial account	483	-2,650	-868	-1,203	-2,071	1.5	-8.0	-11.3	-15.2	-13.3
Foreign direct investment, net	-690	-495	-14	-157	-170	-2.1	-1.5	-0.2	-2.0	-1.1
Portfolio investment, net	406	804	224	129	352	1.2	2.4	2.9	1.6	2.3
Other investment, net 1/	-166	-1,338	-184	-214	-397	-0.5	-4.0	-2.4	-2.7	-2.5
Change in reserve assets	932	-1,620	-894	-962	-1,856	2.8	-4.9	-11.6	-12.2	-11.9
Net errors and omissions	-1	-801	-300	-755	-1,055	0.0	-2.4	-3.9	-9.6	-6.8
BPM 5 Methodology										
Current account	61	-1,923	-541	n.a.	n.a.	0.2	-5.8	-7.0	n.a.	n.a.
Goods	1,783	-1,384	-471	n.a.	n.a.	5.4	-4.2	-6.1	n.a.	n.a.
Exports	12,301	8,302	1,503	n.a.	n.a.	37.0	25.0	19.6	n.a.	n.a.
Imports 2/	10,518	9,686	1,974	n.a.	n.a.	31.6	29.1	25.7	n.a.	n.a.
Services	-1,099	-535	-167	n.a.	n.a.	-3.3	-1.6	-2.2	n.a.	n.a.
Exports	1,242	1,154	251	n.a.	n.a.	3.7	3.5	3.3	n.a.	n.a.
Imports 2/	2,341	1,689	418	n.a.	n.a.	7.0	5.1	5.4	n.a.	n.a.
Income, net	-1,707	-1,173	-199	n.a.	n.a.	-5.1	-3.5	-2.6	n.a.	n.a.
Transfers, net	1,084	1,169	296	n.a.	n.a.	3.3	3.5	3.9	n.a.	n.a.
Capital account	5	5	1	n.a.	n.a.	0.0	0.0	0.0	n.a.	n.a.
Financial account 2/ 3/	-561	-917	328	n.a.	n.a.	-1.7	-2.8	4.3	n.a.	n.a.
Foreign direct investment, net 2/	-648	-503	-122	n.a.	n.a.	-1.9	-1.5	-1.6	n.a.	n.a.
Portfolio investment, net 2/	561	917	16	n.a.	n.a.	1.7	2.8	0.2	n.a.	n.a.
Other investment, net 1/ 2/	202	326	434	n.a.	n.a.	0.6	1.0	5.7	n.a.	n.a.
Change in reserve assets 2/	971	-1,643	-876	n.a.	n.a.	2.9	-4.9	-11.4	n.a.	n.a.
Net errors and omissions	1,018	1,015	-8	n.a.	n.a.	3.1	3.1	-0.1	n.a.	n.a.

Source: Central Bank of Bolivia, National Institute of Statistics, and Fund staff calculations.

1/ Includes multilateral and bilateral loans to the public sector.

2/ Inverted (multiplied by -1) for ease of comparison with similar items in BPM6 presentation.

3/ Excludes errors and omissions and change in reserve assets.

Statement by Mr. Torres, Executive Director for Bolivia, and Mr. De la Barra, Advisor to the Executive Director December 9, 2016

The authorities had frank conversations with the staff. As you will note below, they have several differences with the staff's assessment and recommendations contained in the report. Nevertheless, they appreciate the staff's hard work and thank them for their report. We turn now to the authorities' views.

Bolivia has taken important strides in reforming its economy and its macroeconomic stability has largely strengthened in recent years, as underscored in the staff report and at previous Board meetings. While the external environment affected Bolivia through the trade channel in 2015, clear positive growth has been achieved (4.8 percent), coupled with social policies that include ample social programs aimed at reducing inequality in income distribution and poverty. Going forward, Bolivia's macroeconomic outlook looks stable. In order to further consolidate macro stability, achieve sustainable higher growth and inclusive development, the government will expand public investment to facilitate the industrialization of domestic raw materials.

The Economic and Social Development Plan (PDES) 2016–2020 focuses on the industrialization to further expand the output base. It therefore envisages fiscal and current account deficits in the short-term, consistent with the need to diversify income sources. This stance relies on the fiscal and external buffers accumulated in previous years thanks to sound macroeconomic policies. Nevertheless, the authorities remain cognizant of the challenges that still lie ahead.

The staff has its doubts about PDES' sustainability. However, the authorities are persuaded that those doubts are unwarranted as the PDES projections and consistency analysis is solid. The Bolivian government prioritizes macroeconomic stability along with sustained growth. PDES scenarios count on reasonable assumptions about oil price and other relevant variables and according to the authorities, scenarios do not lead to a fiscal deficit of 15–20 percent of GDP, and public debt does not reach half of the level that the staff projects.

Growth Outlook and Risks

The staff underestimates Bolivia's growth for 2016—as it has been the case in the last 10 years—which calls for a revision of the methodology. The authorities believe that the staff projections do not fully internalize the results of public investment projects in the short and medium term. In addition, projections on export prices do not follow recent trends, particularly regarding minerals and agro industrial products, such as soy beans.

The Bolivian authorities do not see a significant deceleration as growth is above historic average (3.2 percent, 1986–2005) and around the observed growth rate in the last 10 years (5 percent). Therefore, growth is still strong mainly due to the dynamics of the internal demand. During the first semester of 2016 almost all sectors had a positive growth, except hydrocarbons; even agriculture grew 1.4 percent in spite of adverse climate events. Although the Bolivian authorities do not attach high likelihood to the downside risks pointed by the staff, they are adopting several measures in order to address them.

In the agricultural sector, measures include an Action Plan to deal with El Niño and La Niña effects, financial and technical assistance for farmers, and agricultural insurance against drought and floods, among others. Moreover, according to the International Institute for Climate and Society Investigation, it is likely that climate conditions will normalize in 2017. Considering that there is a seasonal greater dynamism in the second half of the year, growth in 2016 will be around 4.7 percent, which is among the highest in the region.

The average potential growth estimated through econometric models is around the observed level in recent years. Although real growth in 2014 and 2015 was smaller compared to growth in 2013 (6.8 percent), growth in 2015 was around the average in the last 10 years, which signals that the potential output should not have deteriorated substantially. In 2014, the staff estimated Bolivia's potential output to be around 5 percent. The last estimation has been changed to 3.5 percent, which appears inconsistent and downward biased.

The authorities do not share the staff's pessimistic view regarding the decline in natural gas production, given that gas fields Incahuasi and Margarita Huacaya II will add gas volume in late 2016 and 2017. Exploration continues in several places with high hydrocarbons potential, which may enter into production before 2020. The authorities have fully taken into account the current level of international oil price into the 2016 and 2017 budget; and yet GDP growth would be around 4.7 percent in 2017. The authorities also expect a recovery in oil price in 2017 as a result of the recent agreement reached among OPEP and other leading producers to cut global oil production, which will improve the profile of oil income in Bolivia.

Fiscal Policy

Bolivia will incur in fiscal deficits in the near future. Nevertheless, the projected fiscal deficit must be analyzed considering its composition and its relation with PDES 2016–2020. Public investment is the main component of public expenditure and it obviously includes investments in State Owned Enterprises (SOEs)—particularly in hydrocarbons, electricity, and industry—as well as public works by the Bolivian Road Agency and by sub-national entities such as municipalities and regional governments. The Central Administration's deficit was only 0.9 percent of GDP in 2015. Therefore, the presence of higher fiscal deficits is of temporary nature, given the objective of achieving a higher potential for the economy going forward.

The staff's pessimistic medium-term fiscal deficit forecasts do not include revenues from diversification envisaged in the PDES—especially from industrialization in energy and mining sectors. Non-financial Public Sector (NFPS) current expenditure increased moderately in the period 2005–2015 due to the startup of some SOEs, while Central Government current expenditure remained almost constant as it reached 16.3 percent of GDP in 2015, similar to 16.2 percent recorded in 2005.

Regarding the consequences of falling oil revenues for sub-national administrations, it is important to remark that these entities apply automatic adjustments when their revenues decrease. Moreover, resources coming from hydrocarbon royalties and taxes have to be dedicated to investment. As for municipalities, they can offset hydrocarbon-related revenues fall with the current tax sharing schemes financed by domestic tax collection and accumulated savings in their accounts.

Execution capacity for public investment has continued to improve since 2009, albeit some setbacks at the subnational level in 2014 due mainly to the electoral process. The National Government has put in place the new State Integral Planning System in early 2016 aiming to better coordinate among regional and local plans within the PDES framework, which strengthens public investment execution capacity, and consequently the potential for economic growth.

Public investment financing is secured as the State counts on fiscal buffers at the national and sub-national level. In addition, international financing sources from both bilateral and multilateral are open. Bilateral financing negotiations are underway (China and some countries from the European Union), and Bolivia already counts with open financing channels to multilateral financial organizations such as CAF, BID, AIF, IDA, and the World Bank. In addition, given Bolivia's track record, the country has no problem in tapping international financial markets. These financial sources (whether potential or secured) have already been considered in the PDES.

Considering SOE's debt to the Central Bank of Bolivia (CBB) as part of public debt is not appropriate, since intra-government debt does not affect public debt sustainability; otherwise, SOE deposits in the CBB should be subtracted for consistency. In sum, concerns about public debt in Bolivia are overstated as it is moderate and fiscal deficits are financed out of government deposits at the CBB.

The staff emphasizes the need to reduce the non-hydrocarbon deficit as a means to advance fiscal consolidation. The Bolivian authorities have been committed to macroeconomic stability for a long time; indeed, they have applied a sound fiscal policy during the last 10 years, building up substantial fiscal buffers. Their commitment remains unchanged. However, at this juncture there is a need to strengthen the resilience of the economy by pursuing public investment in a sustained way. In the authorities' view, this could be afforded without compromising macroeconomic stability, gains in potential growth or improvements in fighting poverty thanks to the fiscal buffers built before. Moreover, as underscored earlier, the fiscal deficit is of temporary nature.

As for revenue policy, the staff suggests to introduce bold tax measures, which are not suitable for the Bolivian economy as they may affect macroeconomic stability and be counterproductive for growth. At the subnational level, provisions of the Autonomy Law and the Constitution allow subnational administrations to apply tax policies according to their competences, which have already been exercised in several municipalities. Additional excise tax on hydrocarbons consumptions cannot be applied because the current Hydrocarbon Direct Tax, Special Hydrocarbon Tax and Value Added Tax covers the whole spectrum of hydrocarbon production and commercialization. As for tax policy on electricity consumption, the staff's proposal could hamper the goal of ensuring that electricity coverage reach every household in the country. To boost fiscal revenue, the authorities are committed to continuously improve the efficiency of the tax-collecting agencies dealing with customs and domestic taxes. They also intend to diminish the share of oil revenues in fiscal revenue through higher diversification of economic activity both for domestic and exporting sectors.

Exchange Rate and Competitiveness

Raw materials (hydrocarbons and minerals) are an important part of Bolivia's exports. High export prices have compounded the concentration of Bolivia's export basket in raw material. This is not a new issue to Bolivia and therefore it is not explained by the recent appreciation of its domestic currency. In the same vein, measuring the Boliviano appreciation requires a more careful approach regarding the chosen period. If the evaluation period was February 2009–September 2016, the outcome would show an appreciation less than half of what the staff estimated. Wage increases for productivity analysis should consider not only the pace but also the level and the departing point.

As noted above, the staff and the authorities have different views regarding the exchange rate. The staff has advocated in the last ten years for greater exchange rate flexibility even when devaluation expectations would have been exacerbated, reversing de-dollarization and leading to loses in international reserves, contrary to the staff and the authorities' objectives. While in several occasions the staff has acknowledged those unwanted effects, it has expressed that they would be short-lived and would eventually turn favorable (in the long-term). The authorities could not support staff's recommendations as they were not persuaded by staff's long-term projections.

The authorities have had frank discussion with Management and the Western Hemisphere Department on recommendations about the exchange rate policy. In those discussions, the authorities noted that differences on this issue are market sensitive and should not be included in Article IV staff reports. The staff was told that devaluation expectations in Bolivia are easily formed and they are tremendously damaging to de-dollarization and international reserves, as observed in 2008 and 2009. The Bolivian authorities extensively explained their exchange rate policy, its consistency with the overall economic policy, as well as the negative effects that an estimation about a possible exchange rate appreciation would cause on expectations. They find that staff's recommendation is not properly justified and that it is regrettable that staff insists in laying down a value for the Boliviano in the report.

The ample range of the real exchange rate appreciation pointed out by the staff illustrates how imprecise such estimation could be since the outcome is sensible to the type of method, the chosen period and data from other countries included in the evaluation. CBB estimations using the staff's method shows that the real effective exchange rate is in accordance with its fundamentals. Real appreciation since January 2010 is 31.3 percent as opposed to 49 percent calculated by the staff (even inflation data for neighboring countries could be downward biased). If the chosen period was December 2015–September 2016, there would be a 4 percent real depreciation. In the authorities' view, the staff should have explained why it chose such period when there was a pronounced depreciation in the period immediately before.

As noted before, Bolivia's limited export basket is not a consequence of the exchange rate policy, but reflects a structural condition of a country rich in natural resources and highly efficient in producing raw materials. Moreover, export diversification was greater during the exchange rate stability period than during depreciation periods.

It is not accurate to measure competitiveness using only nominal or real exchange rate developments. Since 2008, the Global Economic Forum abandoned it as an indicator of competitiveness. In the same token, the 2016–2017 Global Competitiveness Report mentions that many countries did not increase exports even though they depreciated their currencies, and export elasticity to exchange rate would have decreased.

In recent months, pressures on the exchange rate market in Bolivia were subdued while inflation is currently low and expectations are anchored, backing the expansionary monetary policy. The stable exchange rate confers confidence to the economic agents.

Wages in Bolivia are among the lowest in the region, and wage increases aim to reach the lower wage brackets in order to reduce inequality and strengthen domestic demand, enhancing the output base and domestic market. Wage increase policy has not affected costs across the board as attested by price stability. For productivity analysis, wage increases should consider not only the pace but also the departing low base. Reducing inequality should not be questioned.

Central Bank Independence

Credit from CBB to SOEs—which does not finance current expenditure—does not compromise price stability, as disbursements are fully considered in the financial program. As for CBB's independence advocated by the IMF, there are cases that illustrate that central bank independence led to unwanted outcomes, such as periods of high inflation and rising interest rates coinciding with growth deceleration. These pro-cyclical policies affected their economies. In the authorities' views, benefits from policy coordination outweigh costs and better suit Bolivia. The authorities believe that on this issue the staff's recommendations do not appropriately ponder countries' idiosyncrasies.

Central Banks normally incur in losses due to low yields in reserves and high costs for their monetary liabilities; however, CBB is having positive net income because interest rates for loans to SOEs are higher than yields on international reserves, and even higher than monetary policy operations (policy rates are close to zero). Therefore, net assets with NFPS and the financial system yield positively to CBB. Forecasting an unfavorable scenario because of credit to SOEs is not justifiable.

External Sector

The industrialization process requires capital and intermediate goods imports which are the main driver of the current account deficits (they count for 80 percent of imports). Therefore, this deficit must be put in context of the new PDES. It is important to highlight that although exports have fallen between January–September 2016, because of lower commodity prices, export volumes for minerals, agro industrial and industry products have increased by 10, 16, and 20 percent, respectively.

The staff projections for net international reserves (NIR) seem downward biased given that they only include capital projects outlays in PDES. In the same vein, the staff keeps exports at 20.2 percent of GDP flat during 2016–2021 assuming that there would not be changes stemming from public investment megaprojects. This is not coherent. Moreover, FDI projections are pessimistic (only 1.8 percent flat during 2016–2021) even though—as of September 2016—FDI doubles staff's projection, the staff emphasizes risks coming from losing NIR and lower domestic buffers, but it does not consider committed financing from international investors. The deterioration of terms-of-trade projected for 2021 is inconsistent with an increase in oil price projected by the staff for the same year.

Financial Sector

The Financial Services Law (FSL) aims to infuse greater dynamism in financial intermediation to support economic activity and ultimately growth. Historically, financial intermediation in Bolivia was stagnant because financial institutions were unduly risk-adverse depriving vast sectors access to credit; therefore, there was high inefficiency in financial intermediation from the economic development perspective. Contrary to the staff's assertion, credit growth in Bolivia is being driven by microfinance institutions. The authorities do not see the need for quota flexibility at this time, since banking and other financial entities do not confront difficulties to comply with them.

Conversely to what the staff is implying for the health of the financial system, Bolivia's is among the strongest in the region as credit portfolio as percentage of GDP is moderate and non-performing loans (NPL) rate is low compared to historic records and for regional and global standards, while provisions are at 100 percent. It comes to the attention of the authorities that Article IV Reports for other countries with higher NPL rate do not question or even comment on the matter.

The staff highlights that higher subordinated debt would be financing fast credit growth; however, the increase in subordinated debt is marginal, given that growing deposits and liquidity holdings are the main financing sources for credit. The FSL seeks that credit be channeled to housing and productive sectors; however, in seeking those goals there has not been a deterioration of credit quality, because the financial institutions continue to evaluate repayment capacity in the same manner that they did before the approval of FSL and more generally, Bolivia still enjoys a strong growth which creates space for credit expansion.

Based on stress tests and experiences of other countries, the staff puts forth a gloomy forecast for the system, apparently without considering its current strong performance as a departing point neither the appropriate regulation for banking supervision or the macroeconomic policy outlook. It is surprising that the staff's econometric model for NPLs does not include credit growth as an explanatory variable, while the staff concludes that portfolio quality deterioration would come mainly from accelerated credit growth.

The staff does not elaborate on how shocks are transmitted to banks' balance sheets and CAR, yet it is necessary to analyze how increases in NPLs affect credit portfolio rating, provisions and profits (the outcome could be quite different depending on the assumptions). The staff should also explain whether it is including or not cyclical provisions, given that they are a cushion to shocks' effects on net worth.

On the remaining stress test, the staff does not find systemic issues but it insists in amplifying some vulnerabilities that would cause limited impact.

Historically, the financial system has had a low level of financial inclusion but the supervisory authority is implementing measures to boost it, such as credit fairs and financial education events aiming to reach 75 percent of financial services users. It is hard to determine if FSL is producing negative effects in financial inclusion; more evidence is needed. On disintermediation in microcredit sector, there is not sufficient evidence to make such assertion given that microcredit has grown 9.6 percent so far in 2016 and small and micro credit user's participation rate is above 50 percent.

According to the staff, the FSL's interest rates ceilings would not be reflecting risks and cost of doing business in the financial sector; however, the free market would not either; otherwise the 2008 financial crisis would have not occurred. Better access to credit following pure market rules is not guaranteed; on the contrary, with the FSL in place there has been a significant increase of borrowers that leads to think that previously access was not better.

Currently, the concentration risk in the Bolivian financial system has decreased, given that a higher number of institutions are operating while solvency and liquidity risks are completely manageable, as one can appreciate looking at the indicators coming from the stress test performed by the staff. Hydrocarbon and mining sectors have been affected by the external environment of lower commodity prices; though regulated credit quota has driven credit to non-commodity related sectors, such as manufacturing (43 percent) and construction and agriculture (23 percent).

Policies for Sustainable Economic Development

Wage policy in Bolivia has allowed to improve income distribution and, therefore, reduce inequality; however, the authorities have carefully monitored developments in the labor market and productivity. The United Nations Economic Commission for Latin America (ECLAC) data shows that average wage in Bolivia is the lowest in South America. Given wage stability in Bolivia, it would not be accurate to say that wage policy is an obstacle for private sector and competitiveness. We reiterate that public investment is focused on improving physical infrastructure (energy, transportation, communications), which supports greater competitiveness for both public and private sectors.

Development of the hydrocarbons sector is still a key factor for Bolivia's future and for attaining a sustainable reduction in poverty levels. The authorities are aware of this and are doing their utmost to put in place a framework of incentives for exploration and additional production of oil and natural gas, given the potential of the hydrocarbons reserves, allowing room for private investment. Within this framework, several foreign corporations operating in Bolivia have announced investments in exploration ($2.3 billion) and expansion of production capacity, amounting also $2.3 billion.

Mining is another key sector for the Bolivian economy. In addition to traditional minerals production which is showing signs of expansion, the Government has made progress towards industrialization of lithium. Bolivia is considered to hold half of the world's lithium reserves from the *Salar de Uyuni* located in Potosi, in the high plateau region. As for electricity, the authorities plan to execute large projects to reach a substantial increase in generation capacity. As a result of the impulse of public investment, the Bolivian authorities expect to induce greater growth rate vis-à-vis 2016, throughout the whole economy. In this vein, the Bolivian government attaches great importance to the diversification of the economy to gradually reduce, in the future, the relative dependence on the hydrocarbon and mining sectors and, consequently, lessen the economy’s vulnerability to external shocks.

The Bolivian authorities highlight the need to attain greater equality, transparency, and accountability underpinned by cautious macroeconomic policies. Social programs will continue to be applied and improved to provide better living conditions particularly for the poor. Slight lower growth in the last 2 years has not put at risk the progress achieved in the fight against poverty. All social programs have been designed pursuing their sustainability as the Bolivian authorities consider paramount to finance the improvement of education, health, and sanitation that will help reduce poverty and inequality.

In concluding, the overall performance of Bolivia’s economy in recent years is deeply rooted in its macroeconomic and development policies. Social inclusion has reigned in the policy agenda and will remain a key pillar of the government economic strategy. The current administration is fully committed on the same path of fiscal discipline and pro-poor and pro-growth development policies. Brighter economic prospects will lie ahead.